

MEMO

To: Mr. Chris Black, U.S. EPA
From: Mr. Francis Biehl, PE and Mr. Adam C. Near
CC: Mr. Grant Trigger, RACER Trust; Mr. David Favero, RACER Trust
Date: September 4, 2014

Project #: R2330012
Re: RACER Van Buren Landfill Site – Phase III Site Investigation

The Mannik & Smith Group, Inc. (MSG) has been performing site investigation activities at the Van Buren Landfill (VBL) Property located northeast of the Ecorse Road/Michigan Avenue intersection in Van Buren Township, Wayne County, Michigan (Site) on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust. These activities are being performed to ensure compliance with the Executed Performance-based Voluntary Agreement dated September 30, 2011 between the United States Environmental Protection Agency (USEPA) and RACER Trust. *Figure 1, Site Location Map*, depicts the location of the Site relative to nearby roads and major topographic features.

Three completed phases of this investigation were documented in the report "Phase IA Site Investigation", dated February 19, 2013 and the memos "RACER Van Buren Landfill Site – Phase IB Site Investigation" and "RACER Van Buren Landfill Site – Phase II Site Investigation" submitted to you on October 7, 2013 and March 12, 2014, respectively. The Phase IB Site Investigation memo was resubmitted to you on November 20, 2013 after revisions were made in accordance with your review comments while the Phase II Site Investigation memo did not require any revisions since you did not have any review comments based on your March 18, 2014 e-mail correspondence to us.

Based on the Phase II findings, an additional phase of work (Phase III Investigation) was proposed in order to accomplish the following objectives:

- 1) Confirm ground water exceedances (arsenic, iron, and cyanide) south of the Site along Ecorse Road above Michigan Part 201 Non-residential health-based drinking water (DW) and/or ground water surface water interface (GSI) criteria, collected from temporary monitoring wells at SB-24, SB-25, SB-27 and SB-28 during the Phase II investigation, by installing and collecting samples from permanent monitoring wells at these locations. Additionally, permanent monitoring wells installed at these locations will assist in determining whether the wells are side/upgradient and whether the samples collected from the wells can be considered background samples.
- 2) Delineate ground water metals (arsenic, barium, and iron) and cyanide exceedances above Michigan Part 201 Non-residential health-based DW and/or GSI criteria north of the Site (Harold Smith Property (Parcel ID #83-023-99-0005-000)) detected in samples collected from soil boring locations SB-21 through SB-23 during the Phase II investigation along the northern perimeter of the Site, utilizing a "step out" approach. The "step out" approach entails collecting ground water samples from temporary wells (with rush chemical analysis), followed by the installation of permanent monitoring wells where appropriate.
- 3) Delineate benzene in ground water north of the Site (Harold Smith Property) above Michigan Part 201 Non-residential DW criteria detected in samples collected from SB-21, SB-29, SB-30 (during the Phase II investigation), and MW-10 by the installation and sampling of temporary monitoring wells utilizing the same "step out" approach detailed above, followed by the installation of permanent monitoring wells where appropriate.

- 4) Further delineate benzene on-site (and supplement the identification of source area(s)), detected in soil (SB-21, SB-29, SB-33, SB-34) and ground water (SB-21, SB-29, SB-30) samples collected during the Phase II investigation above Michigan Part 201 Non-residential cleanup criteria along the north perimeter of the Site, by the installation of five (5) additional soil borings, with corresponding soil sample collection and ground water sample collection from temporary monitoring wells.
- 5) Install a permanent monitoring well along the eastern border of the Site, midway between MW-3 and SB-28, in order to address iron in ground water above Michigan Part 201 Non-residential health-based DW criteria present at MW-4.
- 6) Install three (3) additional monitoring wells within the old landfill to be used for ground water elevation data collection and to supplement future updates to Ground Water Elevation Contour Maps, addressing data gaps in relation to ground water flow direction and confirming the suspected "bathtub effect" (water mounding) and corresponding radial ground water flow within the central portion of the Site.

PHASE III INVESTIGATION SCOPE OF WORK

The scope of work for the Phase III investigation associated with delineation of off-site ground water contaminant migration exceedances consisted of the advancement of soil borings, installation of temporary and/or permanent monitoring wells, and collection of ground water and soil samples at locations along the northern perimeter of the Site (inside the property line), within the field north of the Site (i.e. the Harold Smith Property), and within the Michigan Department of Transportation Right-of-Way (MDOT ROW) on the north and south sides of Ecorse Road. Three (3) additional monitoring wells were also installed within the old landfill to further assist in ground water flow assessment. Finally, the location and top of casing elevation of each permanent well installed during the Phase III investigation and spot elevations along the Michigan Avenue edge of pavement were surveyed.

The Phase III 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. Soil boring and associated permanent monitoring well locations are illustrated on *Figure 2, Site Schematic and Generalized Geologic Cross-Section Profile Locations*.

In total, twenty (20) soil borings (SB-16 through SB-20, SB-35 through SB-39, SB-40 through SB-42, SB-44 and SB-46 through SB-51) were advanced during the Phase III investigation activities, from a minimum depth of 15 feet below ground surface (bgs) and to a maximum depth of 25 feet bgs at select locations. Soil samples were collected from each soil boring location with the exceptions of SB-51 and where permanent monitoring wells were to be installed where soil/ground water samples had previously been collected during the 2013 Phase II investigation. Soil boring SB-51 was completed and permanent monitoring well MW-26 installed in order to provide adequate ground water elevation data coverage along the northern perimeter of the field north of the Site (metals exceedances in ground water had already been delineated during the "step out" approach, prior to deciding to install MW-26). Ground water samples were collected from temporary monitoring wells installed at select soil boring locations. Soil boring and monitoring well installation activities occurred from March 31 through April 30, 2014.

The Phase III investigation scope of work for the benzene and/or metals delineation north of the Site (Harold Smith Property) consisted of the advancement of eleven (11) soil borings (SB-16 through SB-20 and SB-46 through SB-51) to a depth of 15 feet bgs and the associated collection of one (1) soil sample per boring, the installation of temporary and/or permanent monitoring wells, and the collection of ground water samples (a permanent monitoring well was installed at soil boring location SB-51 without the collection of soil/ground water samples, as discussed above).

Due to the relocating and/or exclusion of proposed soil borings during the Phase III investigation due the "step out" approach applied by MSG, two (2) soil borings were re-numbered. Proposed soil borings SB-44 and SB-48, as depicted in the proposed Phase III investigation scope of work, were re-numbered as SB-47 and SB-46, respectively. Additionally, proposed soil boring SB-50 was relocated east of SB-20, SB-48 was relocated north of SB-50 (near the property boundary), and SB-49 relocated further north of its proposed location in order to provide further delineation of metals in ground water. Soil boring SB-51 was an out-of-scope boring/well location, and was installed near the end of the Phase III investigation activities.

A Hach DR 900 Multiparameter Colorimeter was utilized during the sampling of temporary monitoring wells at soil borings SB-48, SB-49, and SB-50, where samples were analyzed in the field for ferrous iron, in order to quickly determine the potential need for additional soil borings and/or monitoring wells further north of SB-48 and SB-49, and east of SB-50, in order to further delineate iron in ground water above Michigan Part 201 Non-residential health-based DW criteria. Six (6) permanent monitoring wells were installed at soil boring locations SB-17 (MW-23), SB-19 (MW-22), SB-46 (MW-24), SB-49 (MW-25), SB-50 (MW-21), and SB-51 (MW-26) in order to obtain water level measurements in support of and to supplement future updates to Ground Water Elevation Contour Maps prepared for the Site, as well as the inclusion of the monitoring wells in future ground water sampling events. Modifications to the original Phase III scope of work at the Harold Smith Property (specifically the number/location of soil borings and the arrangement of permanent monitoring well locations) were made to satisfy the Phase III investigation objectives.

The second part of the Phase III investigation consisted of the installation of soil borings SB-35 through SB-39 within and near the northern perimeter of the Site, in order to further delineate benzene that was identified during the Phase II investigation in soil at concentrations above Michigan Part 201 Non-residential drinking water protection (DWP) criteria and/or the soil vapor intrusion concentration screening level (SVI) at soil borings SB-21, SB-29, SB-33, and SB-34, and benzene detected in ground water at concentrations above Michigan Part 201 Non-residential DW at soil boring locations SB-21, SB-29, and SB-30. Soil boring depths ranged from 20 to 25 feet bgs, with the collection of soil samples, the installation of temporary monitoring wells, and subsequent collection of ground water samples at each location.

The third part of the Phase III investigation consisted of the installation of four (4) permanent monitoring wells south of the Site at soil boring locations (previously advanced during the December 2013 Phase II investigation) SB-24 (MW-18), SB-25 (MW-19) and SB-28 (MW-17). A permanent monitoring well was proposed to be installed at soil boring location SB-27 (also advanced during the Phase II investigation) north of Ecorse Road. However, it was relocated south of Ecorse road, and advanced/installed as SB-44/MW-20 due to reconfirmation of the iron concentrations in the ground water samples collected at SB-27 during the Phase II investigation, and the need to "step out" further south for delineation purposes. The permanent monitoring wells were installed to confirm ground water exceedances of metals (arsenic and iron) and cyanide south of the Site along Ecorse Road, above Michigan Part 201 Non-residential health-based DW and/or GSI criteria, detected in samples previously collected from temporary monitoring wells at soil boring locations SB-24, SB-25, SB-27, and SB-28 in December, 2013 as part of the Phase II site investigation, and assist in determining whether the wells are side/upgradient and whether the samples collected from the wells can be considered background samples.

Finally, the fourth and final part of the Phase III investigation consisted of the installation of additional monitoring wells (SB-40/MW-14, SB-41/MW-15, and SB-42/MW-16) inside the old landfill to be used for obtaining water level measurements, and in turn to supplement future updates to Ground Water Elevation Contour Maps and hydrologic assessments.

Due to the approximate 1,200 foot distance between MW-3 and SB-28/MW-17 and taking into account the iron exceedances present at MW-4, MSG proposed to place another soil boring (SB-43) and associated permanent monitoring well at the eastern Site boundary approximately mid-distance between MW-3 and SB-28/MW-17. However, due to drill rig access issues caused by standing water in this area, the proposed monitoring well was unable to be installed during the Phase III investigation activities. This soil boring (SB-43) and associated permanent monitoring well (MW-27) was installed on September 2, 2014.

In addition to the Phase III investigation efforts, an additional round of quarterly ground water sampling and analysis occurred in March of 2014 with sampling performed between March 24 and March 28, 2014. Surface water samples at locations SW-1 through SW-3 were collected during April 15, 2014. Additionally, once the permanent monitoring wells associated with the Phase III investigation were installed and developed, they were sampled utilizing appropriate low-flow techniques during May 19 and 20, 2014. As in the November 2013 ground water sampling event, total metals were collected in addition to dissolved metals for comparison purposes to confirm metals content in dissolved phase versus the amount present in the particulates in the samples.

GEOLOGY

Soil boring and monitoring well construction logs for this phase of the project are contained in *Attachment 1, Soil Boring and Monitoring Well Logs*, and their locations illustrated on Figure 2. Soil borings conducted within the MDOT ROW of Ecorse Road for the previous phases of the project including SB-24 through SB-28, which confirmed the local geologic conditions

determined during the Phase 1A and 1B investigation with the soil profile generally consisting of silty fine to coarse grained sand and gravel overlying a silty clay deposit which was encountered at depths ranging from 9.2 to 17.0 feet bgs. Soil boring SB-44, advanced during the Phase III investigation, further confirms the underlying lithology in this area.

Loose, brown to black silty fine to medium sand and/or brown to black sandy clay intermixed with fill including bricks, wood fragments, glass, concrete, paper, slag, generic municipal waste, plastic, and metal fragments was encountered overlying the lacustrine silty clay deposit in those borings that were a part of the benzene delineation scope and which were located inside of the former landfill perimeter (SB-35 through SB-39) based on the extent of earth disturbance illustrated on the April 26, 1970 aerial photograph of the Site. The lacustrine clay deposit in these borings was encountered at depths ranging from 19 to 24 feet bgs.

Soil profiles of borings advanced north of the Site (Harold Smith Property) during the Phase III investigation (SB-16 through SB-20, SB-46 through SB-49, SB-50 and SB-51) generally consisted of fine to coarse grained sand to a depth of 10 feet bgs overlying a silty clay deposit which was encountered at depths ranging from 11 to 14 feet bgs. Surficial intervals of clay and/or silt were encountered at soil boring locations SB-16 through SB-19, SB-47 (north of SB-16) and SB-46 (north of SB-47), at a thicknesses ranging from 1.5 to 7.5 feet, underlain by fine to coarse grained sand, followed by silty clay near the boring terminus.

As noted in the Phase 1B memo, our review of historical water supply well logs within approximately one (1) mile of the Site indicates that the regional geology consists of approximately 70 to 80 feet of lacustrine clay deposits underlain by approximately 8 to 13 feet of sand and gravel deposits which in turn are underlain by bedrock (noted as being approximately 90 to 97 feet bgs). Updated geologic cross-sections utilizing the lithologic information obtained from soil borings advanced during the Phase III investigation are provided within Figure 2, and illustrated on *Generalized Geologic Cross-sections A-A' through D-D'*.

SOIL SAMPLE RESULTS

Continuous soil sampling was performed at soil boring locations SB-16 through SB-20 and SB-35 through SB-39 to specifically address the detection of benzene in previous ground water samples collected from MW-10, and from soil and ground water samples collected during the 2013 Phase II investigation at soil boring locations SB-21, SB-29, SB-30, SB-33, and SB-34. The portion of the continuous soil sample which appeared to be most significantly impacted based on PID readings and sensory observations was submitted to ALS Global (ALS) for analytical testing. Soil sample analytical results are summarized in *Table 1, Summary of Soil Sample Analytical Results*. Soil sample laboratory analytical results that exceed Michigan Part 201 Non-residential DWP, GSIP and/or SVI criteria are presented and illustrated on *Figure 3, Summary of Soil Sample Exceedances*. Soil sample laboratory analytical results are included in *Attachment 2, Laboratory Analytical Data Reports*.

Based on a review of the soil sample laboratory analytical results as indicated in Table 1 and Figure 3, the soil samples from SB-36 and SB-39 contained exceedances for benzene above Michigan Part 201 Non-residential DWP and SVI criteria, which while not currently applicable could become so if buildings are constructed on the Site in the future. In addition, soil samples collected from SB-36 and SB-39 also contained ethylbenzene and xylenes above Michigan Part 201 DWP and GSIP criteria. Soil samples collected from the Harold Smith Property (north of the Site) did not contain volatile organic compounds (VOCs) above Michigan Part 201 Non-residential cleanup criteria. Furthermore, the soil sample collected from soil boring SB-41 (located further south, and not included in the benzene delineation soil borings cluster) contained tetrachloroethene above Michigan Part 201 Non-residential DWP criteria.

Soil sample analytical results from SB-35 through SB-39, soil samples collected north of the Site (SB-46, SB-47 and SB-48), soil samples collected near the center of the Site (SB-40 through SB-42), and soil samples from SB-44 located south of Ecorse Road contained multiple metals exceeding Michigan Part 201 Non-residential DWP and GSIP criteria, as listed on Table 1 and depicted on Figure 3.

HYDROGEOLOGY

Hydraulic monitoring data were collected on May 8, 2014 from all monitoring wells, including newly installed monitoring wells MW-14 through MW-26. Based on the May 8, 2014 data, ground water appears to flow radially from a local ground water high

in the central portion of the Site. A summary of the Site monitoring well construction and monitoring data is included in *Table 2, Monitoring Well Construction and Monitoring Data*. Ground water elevation contours and ground water flow from the May 8, 2014 ground water hydraulic monitoring data are illustrated on *Figure 4, Ground Water Elevation Contour Map (May 8, 2014)*.

MARCH AND MAY 2014 GROUND WATER SAMPLE RESULTS

Ground water samples were collected from MW-1 and MW-3 through MW-12 during the March 2014 quarterly ground water sampling event, excluding monitoring well MW-8 which was not sampled due to flooding in the area. Surface water sample locations SW-1 through SW-3 were sampled during April, 2014. In addition, upon completion of the additional monitoring well installations during the Phase III investigation activities, MW-17 through MW-26 were sampled during May, 2014. Sampling activities were conducted in general accordance with *USEPA Low-flow (Minimal Drawdown) Ground-Water Sampling Procedures* and the Site SAPI/QAPP. Ground water samples were analyzed for VOCs, semi-volatile organic compounds (SVOCs), amenable cyanide, and total and dissolved metals. Ground water sample analytical results in comparison to Michigan Part 201 Non-residential cleanup criteria are summarized in *Table 3, Summary of Ground Water Sample Results* and ground water sample analytical results in comparison to Michigan Part 201 Residential cleanup criteria are summarized in *Table 4*. Detailed ground water sample analytical results can be found in Attachment 2. Ground water sample exceedances are illustrated on *Figure 5, Summary of Ground Water Sample Exceedances* with off-site sample locations compared to residential cleanup criteria and on-site locations to non-residential cleanup criteria.

In summary, the ground water sample analytical results from the March 2014 event were very similar to previous quarterly ground water sampling results (November, 2013). In addition, the results for the total/unfiltered and dissolved/filtered metals analyses were very similar as well (excluding the results for aluminum). The results indicate that ground water samples collected to date from monitoring wells along the northern and western perimeter of the Site (monitoring wells MW-1, MW-5, MW-7, MW-9, and MW-11) contain exceedances for arsenic, barium, iron, and manganese above Michigan Part 201 Non-residential DWC, health-based DW, and/or GSI criteria. In addition, cyanide was detected in samples collected from MW-1 during March, 2014, exceeding GSI criteria. The ground water sample from monitoring well MW-10 (also on the northern Site perimeter) contained exceedances for barium, iron, and manganese above Michigan Part 201 Non-residential DWC, health-based DW, and/or GSI criteria, and the only VOC exceedance, benzene, above Michigan Part 201 Non-residential DWC. On the southern portion of the Site, ground water samples collected from monitoring wells MW-4, MW-6, and MW-12 contained exceedances for barium, iron, and manganese above Michigan Part 201 Non-residential DWC, health-based DW, and/or GSI criteria. The ground water samples collected from monitoring well MW-3 (located at the eastern border of the Site) contained aluminum and iron in exceedance of Michigan Part 201 Non-residential DWC during the March 2014 ground water sampling event.

Surface water samples collected during April 2014 contained metals in exceedance of Michigan Part 201 cleanup criteria. Specifically, samples collected from surface water seep location SW-1 (located off-site) contained cyanide above Michigan Part 201 Residential GSI criteria, and manganese above DWC. Samples collected from SW-2 (located on-site) contained manganese above Michigan Part 201 Non-residential DWC. Samples collected from SW-3 (located off-site) did not contain any constituents exceeding Michigan Part 201 Residential cleanup criteria.

During the May 2014 ground water sampling event of newly installed monitoring wells, off-site monitoring wells located north of the Site property boundary (MW-22 through MW-26) contained exceedances for aluminum, arsenic, iron, and/or manganese above Michigan Part 201 Residential DWC, health-based DW, and/or GSI criteria. Monitoring well MW-23 contained chlorobenzene above Michigan Part 201 Residential GSI criteria. Monitoring well MW-21 (also located north of the Site property boundary, approximately 150 feet north of MW-11) did not contain any exceedances of Michigan Part 201 Residential cleanup criteria. Monitoring wells located off-site and to the north (MW-17, previously SB-28) and south (MW-18, previously SB-24, MW-19, previously SB-25, and MW-20) of Ecorse Road contained exceedances for aluminum, iron, and/or manganese above Michigan Part 201 Residential DWC and/or health-based DW criteria. The metals exceedances present in permanent monitoring wells where ground water samples were collected from temporary monitoring wells during the December 2013 Phase II investigation confirms exceedances in ground water south of Ecorse Road. The relative difference in metals concentrations (and detected metals) between samples collected from temporary monitoring wells and those from permanent monitoring wells is potentially attributed to purging rate and suspended sediments present (soil adsorption) between both sample collection periods.

During the Phase III investigation ground water samples were collected from temporary monitoring wells screened within the sand layer at soil boring locations SB-16 through SB-20, SB-35 through SB-39, and SB-46 through SB-50. Temporary monitoring wells were installed within each soil boring and constructed of 1.5-inch diameter Schedule 40 polyvinyl chloride (PVC) casing with either a 5-foot long or 10-foot long 0.010-inch slotted (10-slot) 1.5-inch diameter PVC well screen. Ground water samples were collected from each soil boring location through the temporary well using a properly decontaminated Geotech® 0.85-inch diameter stainless steel bladder pump, a Teflon® bladder, and Teflon®-lined polyethylene tubing. Ground water samples were analyzed for VOCs, SVOCs, amenable cyanide, and total and dissolved metals. Dissolved metals ground water samples were collected using a 0.45-um in-line filter. Ground water sample analytical results are summarized in Table 3 and Table 4 and illustrated on Figure 5. Detailed ground water sample analytical results can be found in Attachment 2.

Ground water samples from SB-16 through SB-20 (located on the Harold Smith Property) were collected to specifically address the detection of benzene in previous ground water samples collected from MW-10 and soil borings SB-21, SB-29, and SB-30 (collected during the Phase II investigation) in order to delineate benzene in ground water off-site and north of MW-10. Of the above mentioned soil borings, none contained VOCs exceeding Michigan Part 201 Residential cleanup criteria. Metals exceeding Michigan Part 201 Residential DWC, health-based DW, and/or GSI criteria in samples collected from these wells included aluminum, arsenic, iron, manganese, and/or zinc. Soil borings advanced further north of SB-16 through SB-20 where ground water samples were collected include SB-46 through SB-50, which were installed in order to assess metals concentrations in ground water migrating towards Michigan Avenue. Metals exceeding Michigan Part 201 Residential DWC, health-based DW, and/or GSI criteria in samples collected from these wells included aluminum, iron, manganese, lead, and/or selenium.

Ground water samples from SB-35 through SB-39 (located within the north portion of the Site) were collected in order to address the detection of benzene exceeding Michigan Part 201 Non-residential cleanup criteria in previous ground water samples collected at MW-10 and soil borings advanced during the Phase II investigation (SB-21, SB-29, SB-30) and identify/further isolate the benzene source area(s). Benzene was detected in samples collected at soil boring locations SB-35 and SB-39, exceeding Michigan Part 201 Non-residential DWC. Chlorobenzene was also detected in ground water samples collected at SB-39, above Michigan Part 201 Non-residential GSI criteria. Metals exceeding Michigan Part 201 Non-residential DWC, health-based DW, and/or GSI criteria in samples collected from SB-35 through SB-39 included aluminum, barium, arsenic, iron manganese, and/or cyanide.

SUMMARY AND RECOMMENDATIONS

The Phase III investigation efforts were proposed in order to:

- 1) Confirm ground water exceedances (arsenic, iron, and cyanide) south of the Site along Ecorse Road above Michigan Part 201 Non-residential health-based DW and/or GSI criteria, collected from temporary monitoring wells at SB-24, SB-25, SB-27, and SB-28 during the Phase II investigation, by installing and collecting samples from permanent monitoring wells at these locations. Permanent monitoring wells installed at these locations were to assist in determining whether the wells are side/upgradient and whether the samples collected from the wells can be considered background samples.
- 2) Delineate ground water metals (arsenic, barium, and iron) and cyanide exceedances above Michigan Part 201 Non-residential health-based DW and/or GSI criteria north of the Site (Harold Smith Property (Parcel ID #83-023-99-0005-000)) detected in samples collected from soil boring locations SB-21 through SB-23 during the Phase II investigation along the northern perimeter of the Site.
- 3) Delineate benzene in ground water north of the Site (Harold Smith property) above Michigan Part 201 Non-residential DW criteria detected in samples collected from SB-21, SB-29, SB-30 (during the Phase II investigation), and MW-10 by the installation and sampling of temporary monitoring wells, followed by the installation of permanent monitoring wells where appropriate.

- 4) Further delineate benzene on-site (and supplement the identification of source area(s)), detected in soil (SB-21, SB-29, SB-33, SB-34) and ground water (SB-21, SB-29, SB-30) samples collected during the Phase II investigation above Michigan Part 201 Non-residential cleanup criteria along the north perimeter of the Site, by the installation of five (5) additional soil borings, with corresponding soil sample collection and ground water sample collection from temporary monitoring wells.
- 5) Install a permanent monitoring well along the eastern border of the Site, midway between MW-3 and SB-28, in order to address iron in ground water above Michigan Part 201 Non-residential health-based DW criteria present at MW-4.
- 6) Install three (3) additional monitoring wells within the old landfill to be used for groundwater elevation data collection and to supplement future updates to Ground Water Elevation Contour Maps, addressing data gaps in relation to ground water flow direction and confirming the suspected "bathtub effect" (water mounding) and corresponding radial ground water flow within the central portion of the Site.

It is apparent upon examination of sample analytical results that ground water south of the Site along Ecorse Road contains metals exceedances (specifically iron) above Michigan Part 201 Residential health-based DW criteria, as confirmed by samples collected from permanent monitoring well locations MW-19 and MW-20. Arsenic and cyanide were detected in ground water south of Ecorse Road from samples collected at temporary monitoring wells during the Phase II investigation, exceeding Michigan Non-residential Part 201 cleanup criteria. These contaminants were not detected above Michigan Part 201 Non-residential or Residential health-based DW criteria from permanent monitoring well locations south of Ecorse Road. Upon examination of Figure 4, it is apparent that the monitoring wells installed south of Ecorse Road are located downgradient of the Site (ground water flows radially from the center of the Site), and therefore may not be suitable for the analysis of background metals concentrations in ground water.

Metals exceeding Michigan Part 201 Residential cleanup criteria in ground water north of the Site extend up to Michigan Avenue. Metals concentrations in ground water exceeding Michigan Part 201 Residential health-based DW criteria are limited to the north near the vicinity of MW-24, and terminate further north at monitoring wells MW-25 and MW-26, and soil boring SB-48 (as shown on Figure 5). Based on the top of clay elevations measured at MW-24 and MW-25, estimated elevations at soil borings SB-16 and SB-47, and the road surface elevations collected at adjacent locations along Michigan Avenue, it appears the upper saturated sand interval in this area extends beneath Michigan Avenue. This information in conjunction with the potential localized ground water flow mounding effect from the Site (as depicted in Figure 4), suggests that the ground water may flow in a northwesterly direction from the Smith Property towards the Town and Country Trailer Court (Parcel ID #83-023-99-0004-700). A review of Michigan Department of Environmental Quality's (DEQ) Wellogic program, an internet database containing current and decommissioned water well records, and correspondence with the Town and Country Trailer Court, reveals that the subject property does not possess drinking water and/or supply wells on the property which could be threatened by migrating contaminants, and are supplied by municipal water. *Figure 6, Dissolved Iron Isoconcentration Map*, illustrates the approximate extent of dissolved iron in ground water exceeding both the Michigan Part 201 Residential and Non-residential health-based DW criteria.

Due to the approximate 1,200 foot distance between MW-3 and SB-28/MW-17 and taking into account the iron exceedances present at MW-4, MSG advanced/installed soil boring SB-43/MW-27 on September 2, 2014 (once standing water had cleared). SB-43/MW-27 is located at the eastern Site boundary approximately mid-distance between MW-3 and SB-28/MW-17. Ground water samples will be collected from this monitoring well during future ground water sampling events.

Upon the completion of the Phase III scope of work and review of analytical data, it appears benzene in ground water in the vicinity of MW-10 is limited largely to within the Site property boundary. Figure 5 depicts isoconcentration contours of benzene detected in ground water from samples collected during the December 2013 Phase II investigation, the Phase III investigation, and/or the most current ground water sampling event analytical data (March and May, 2014). The source of benzene detected in ground water samples exceeding Michigan Part 201 Non-residential cleanup criteria appears to be in the vicinity of SB-30, based on benzene cleanup criteria exceedances detected in soil and ground water samples collected during the Phase II and Phase III investigation activities. Benzene concentrations in ground water exceeding Michigan Part 201 Non-residential DW criteria do not extend beyond the rail road tracks north of the Site. Due to the facts that the landfill has been closed for several decades, benzene will degrade un-aided over time through natural attenuation, and benzene migration is limited, we believe corrective measures addressing benzene in ground water do not need to be undertaken beyond placement of an on-site drinking water use restriction.

The three (3) additional monitoring wells installed within the old landfill (MW-14 through MW-16) provided additional hydrologic information, and confirmed that ground water flows radially from a local ground water high in the central portion of the Site.

Based on the summation of investigation activities performed thus far at the Site, and in order to adequately address the completion of the CA750 document we propose the following additional scope of work:

- 1) Install two (2) additional monitoring wells on the General Motors Corporation (GM) Property (Parcel ID #83-024-99-0006-702) in order to address potential ground water metals migrating off-site. The monitoring wells will be installed using a "step-out" approach. Ground water samples will be collected from temporary monitoring wells and field screened for iron (historically the most prevalent metal on the eastern portion of the Site) using a HACH DR900 Multiparameter colorimeter. Monitoring well placement will be determined by field screening of iron.
- 2) Install two (2) additional monitoring wells south of Ecorse Road (south of MW-19 and MW-20, and southeast of MW-18) on the Detroit Metro Water Department Property (Parcel ID #83-023-99-0007-000) in order to address ground water metals migrating further downgradient of monitoring wells where samples indicated iron exceedances above Michigan Part 201 Residential health-based DW criteria (MW-19 and MW-20).
- 3) Install one (1) additional monitoring well northwest of the Town and Country Trailer Court Property (along Old Michigan Avenue) in order to delineate metals concentrations in ground water potentially migrating beneath Michigan Avenue.
- 4) Install two (2) additional monitoring wells along the ROW of westbound Michigan Avenue, adjacent to MW-24 and SB-47 (which contained iron exceedances above Michigan Part 201 Residential health-based DW criteria), addressing metals in ground water potentially migrating beneath Michigan Avenue.
- 5) Install an additional monitoring well in the southeast portion of the Site, between test pits TP-4 and TP-6 in order to further define ground water flow in this portion of the Site.

Proposed soil boring/monitoring well locations are depicted on *Figure 7, Proposed Phase IV Investigation*. MSG proposes to perform this work upon execution of access agreements with GM to the east of the Site, the Detroit Metro Water Department to the south of the Site, and pending USEPA approval, as well as upon permit receipt from MDOT for the installation of permanent monitoring wells along the westbound Michigan Avenue ROW and permit receipt from Wayne County for the installation of the permanent monitoring well along the westbound Old Michigan Avenue ROW.

TABLES



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

				Volatile Organic Compounds (VOCs)																				Semivolatile Organic Compounds (SVOCs)												
SOIL: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/kg				Acetone	n-Butane (MEK)	Benzene	Carbon Disulfide	n-Hexane	n-Heptane	1,2-Dichloroethane	Chloroethane	Chlorobenzene	Cyclohexane	1,2-Dichlorobenzene	1,4-Dichlorobenzene	Ethylbenzene	Isopropylbenzene	Methylene Chloride	Methylcyclohexane	Methyl Acetate	1,1,1-Trichloroethane	Toluene	o-Xylenes	Naphthalene	Acenaphthylene	Acenaphthene	Anthracene	1,1-Biphenyl	Benzo(a)pyrene	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	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Drinking Water Protection Criteria (XXI)				42,000	7.6E+05	100	46,000	1,400	22,000	2,000	NA	NA	14,000	1,700	1,500	2.6E+05	100	NA	NA	100	16,000	5,600	8.8E+05	17,000	NA	41,000	NA	NA	NA	NLL	NLL	NLL	NLL	NLL	NLL	
Groundwater/Surface Water Interface Protection Criteria (XII)				34,000	44,000	4,000 (X)	ID	12,000	ID	500	NA	NA	280	360	360	3,200	30,000 (X)	NA	NA	1,200 (X)	5,400	820	7,700	ID	NA	ID	NA	ID	NA	NA	NLL	NLL	NLL	NLL	NLL	NLL
Soil Vapor Intrusion Concentration Screening Levels (SVI-nr) (c)				5.23E+06	3.04E+06	50	3,800	165	323	5,850	642	96,900	1,420	3,990	304	1,540	NA	NA	1,030	1.69E+05	4,890	7.26E+06	2.82E+06	NA	5.98E+08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Soil Volatilization to Indoor Air Inhalation (XXII)				5.4E+8 (C)	9.9E+07 (C)	8,400	1.4E+05	41,000	10,000	2.2E+05 (C)	NA	2.0E+07 (C)	1.0E+05	4.6E+05 (C)	7.3E+05 (C)	2.4E+05	NA	NA	21,000	6.1E+05 (C)	1.2E+07 (C)	3.5E+08	3.0E+08	NA	1.0E+09 (D)	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV		
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				1.6E+08	3.5E+07	45,000	1.6E+06	2.1E+05	1.2E+05	9.2E+05	NA	4.6E+07	2.6E+05	2.4E+06	2.0E+06	7.0E+05	NA	NA	2.1E+05	3.3E+06	5.4E+07	9.7E+07	2.7E+06	NA	1.6E+09	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV		
Finite Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				1.9E+08	3.5E+07	99,000	8.0E+06	4.3E+05	1.0E+06	1.1E+06	NA	4.6E+07	2.6E+05	3.1E+06	2.0E+06	1.7E+06	NA	NA	4.9E+05	3.6E+07	6.5E+07	9.7E+07	2.7E+06	NA	1.6E+09	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV		
Finite Source Volatile Soil Inhalation Criteria (2 m) (XXV)				2.0E+08	3.5E+07	230,000	1.9E+07	1.0E+06	2.5E+06	2.1E+06	NA	5.5E+07	3.4E+05	6.5E+06	3.0E+06	4.0E+06	NA	NA	1.1E+06	3.8E+07	1.3E+08	2.7E+06	NA	1.6E+09	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV			
Particulate Soil Inhalation Criteria (XXVI)				1.7E+11	2.9E+10	4.7E+08	2.1E+10	1.0E+09	2.6E+09	2.1E+09	NA	4.4E+10	5.7E+08	1.3E+10	2.6E+09	8.3E+09	NA	NA	1.2E+09	1.2E+10	1.3E+11	6.2E+09	1.0E+09	NA	2.9E+10	NA	NA	ID	ID	3.5E+08	ID	1.9E+06				
Non-Residential Direct Contact Criteria (XXVII)				7.3E+07	7.0E+06(C,DD)	8.4E+5 (C)	4.3E+07 (C,DD)	8.0E+06 (C)	7.4E+05 (C)	1.4E+7 (C)	NA	6.3E+07 (C)	1.9E+06	7.1E+07 (C)	2.5E+07 (C)	5.8E+06 (C)	NA	NA	9.3E+05 (C)	1.6E+06 (C)	1.0E+09 (C)	1.3E+08	5.2E+06	NA	7.3E+08	NA	NA	80,000	80,000	7.0E+06	8.0E+05	8,000				
Soil Saturation Concentration Screening Levels (C _{so}) (XX)				1.1E+08	2.7E+07	400,000	2.8E+05	6.4E+05	1.1E+06	2.6E+05	NA	2.1E+05	NA	1.4E+05	3.9E+05	2.3E+06	NA	NA	88,000	2.5E+05	1.5E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE																																	
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	<170	<340	<51	<51	<51	<51	<51	<51	41 J	<51	<51	67	<51	<51	130	<340	<51	78	270	<320	<320	<3500	<320	<3500	<3500	<3500	210 J	350	<320	280 J	210 J		
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	<170	<350	<52	<52	<52	<52	<52	<52	25 J	<52	<52	<52	<52	<52	<350	<350	<52	<52	65 J	<32	<32	<360	<32	<360	<360	<360	<360	<360	<360	<360	<360		
SB-1A	0'-2'	S-R2330009-032513-MJF-001	3/25/2013	<110	<220	<33	<33	<33	<33	<33	<33	<33	<33	<33	<33	<33	<33	<220	<33	<33	<99	<32	<32	<350	<32	<350	<350	<350	<350	26 J	43	<32	<32	21 J		
SB-1A	10'-11'	S-R2330009-032513-MJF-002	3/25/2013	<110	<220	<33	<33	<33	<33	<33	<33	<33	<33	<33	<33	<33	<33	<220	<33	<33	<99	<32	<32	<350	<32	<350	<350	<350	<350	31 J	43	<32	<32	<32		
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	<140	<270	<41	<41	<41	<41	<41	<41	<41	<41	<41	<41	<41	<41	<270	<41	<41	<120	<30	<30	<330	<30	<330	<30	<330	16 J	35	49	<30	34	32		
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	<110	<230	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<230	<34	<34	<100	<310	<310	<3400	<310	<3400	<310	<3400	480 J	<310	<310	<310	<310	<310		
SB-2	10'-12'	S-R2330004-071212-MF-012	7/12/2012	<180	<360	<55	<55	<55	<55	<55	<55	<55	<55	<55	<55	<55	<55	<360	<55	<55	<160	<32	<32	<350	<32	<350	<350	<350	<350	<350	<350	<350	<350	<350		
SB-3	0'-2'	S-R2330004-071112-MF-005	7/11/2012	<120	<250	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<250	<37	<37	<110	<32	<32	<350	<32	<350	<350	<350	<350	<350	<350	<350	<350	<350		
SB-4	0'-2'	S-R2330004-071212-MF-008	7/12/2012	<120	<250	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<250	<37	<37	<110	<31	<31	<340	<31	<340	<340	<340	<340	17 J	31 J	<31	23 J	22 J		
SB-4	10'-11'	S-R2330004-071212-MF-009	7/12/2012	<160	<310	<47	<47	<47	<47	<47	<47	<47	<47	<47	<47	<47	<47	<310	<47	<47	<140	<33	<33	<360	<33	<360	<360	<360	<360	<360	<360	<360	<360	<360		
SB-5	0'-2'	S-R2330004-071112-MF-001	7/11/2012	<120	<250	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<280	<37	<37	34 J	220	<310	<310	<3400	<310	<3400	<310	<3400	230 J	700	<310	<310	500		
SB-5	2'-5'-7'	S-R2330004-071112-MF-002	7/11/2012	<120	<250	41	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<250	<37	<37	22 J	47 J	32 J	<36	<400	50	<400	<400	<400	130	190	80	110	140		
SB-9C	0'-2'	S-R2330009-040213-MJF-005	4/2/2013	<110	<230	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<34	<230	<34	<34	<100	<33	<33	<370	<33	<370	<33	<370	30 J	42	<33	27 J	25 J			
SB-9C	17'-18'	S-R2330009-040213-MJF-006	4/2/2013	<120	<230	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<230	<35	<35	<100	<380	<380	<380	<380	54	<380	<380	<380	170	230	65	120	160		
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	<190	NS	<56	<56	<56	<56	<56	<57	<56	<56	420	50 J	<56	<56	<370	<56	410	1,500	NS	NS	<3600	NS	<3600	NS	<3600	NS	NS	NS	NS	NS	NS		
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	NS	<370	NS	<56	<56	<56	<56	<57	NS	<56	<56	NS	NS	NS	NS	NS	NS	NS	<330	<330	<3600	360	<3600	<3600	<3600	<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	<370	<56	<56	<56	<56	<56	<57	<56	<56	<56	190	<56	<56	<370	<56	350	620	<330	<330	<3600	500	<3600	<3600	<3600	2,000	2,500	570	1,400	1,800			
SB-6	6'-7'	S-R2330004-071212-MF-014	7/12/2012	<130	<260	<39	<39	<39	<39	<39	<39	<39	<39	<39	<39	<39	<39	<260	<39	<39	<120	<33	<33	<370	<33	<370	<33	<370	<33	<33	<33	<33	<33	<33		
SB-6A	0'-2'	S-R2330004-071612-MF-015	7/16/2012	<260	<530	<79	<79	<79	<79	<79	<79	<79	<79	65 J	<79	<79	<79	<530	<79	410	360	<310	<310	<3500	<310	<3500	<3500	<3500	<310	<310	<310	<310	<310			
SB-6A																																				

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

SOIL: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/kg				Semivolatile Organic Compounds (SVOCs)																					
				Bis(2-ethylhexyl)phthalate	Butyl Benzyl Phthalate	Caprolactam	Carbazole	Chrysene	2,4-Dinitrotoluene	Dibenz(a,h)fluoranthene	Dibenzofuran	Diethyl Phthalate	n-Butyl Phthalate	D-n-octyl Phthalate	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Isophorone	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	Naphthalene	Phenanthrene	Phenol	Pyrene
Statewide Default Background Levels (X)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Drinking Water Protection Criteria (XXI)				NLL	5.0E+06 (C)	3.4E+05	39,000	NLL	640	NLL	ID	3.2E+05	2.7E+06 (C)	2.9E+06 (C)	7.3E+05	8.9E+05	NLL	62,000	1.7E+05	NA	NA	1.0E+05	1.6E+05	2.6E+05	4.8E+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	NA	730	2,100	9,000	ID	ID
Soil Vapor Intrusion Concentration Screening Levels (SVI-nr) (c)				NA	NA	NA	NA	NA	NA	NA	6,230	NA	NA	NA	NA	1.19E+07	NA	NA	1.28E+05	NA	NA	8,940	86,300	NA	1.09E+09
Soil Volatilization to Indoor Air Inhalation (XXII)				NLV	NLV	NLV	NLV	ID	NLV	NLV	3.6E+06	NLV	NLV	1.0E+09 (D)	1.0E+09 (D)	NLV	NLV	4.9E+05	NA	NA	4.7E+05	5.1E+06	NLV	7.8E+08	1.0E+09 (D)
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NLV	NLV	NLV	NLV	ID	NLV	NLV	1.6E+05	NLV	NLV	NLV	8.9E+08	1.5E+08	NLV	NLV	1.8E+08	NA	NA	3.5E+05	1.9E+05	NLV	7.8E+08
Finite Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NLV	NLV	NLV	NLV	ID	NLV	NLV	1.6E+05	NLV	NLV	NLV	8.9E+08	1.5E+08	NLV	NLV	1.8E+08	NA	NA	3.5E+05	1.9E+05	NLV	7.8E+08
Finite Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NLV	NLV	NLV	NLV	ID	NLV	NLV	1.6E+05	NLV	NLV	NLV	8.9E+08	1.5E+08	NLV	NLV	1.8E+08	NA	NA	3.5E+05	1.9E+05	NLV	7.8E+08
Particulate Soil Inhalation Criteria (XXVI)				8.9E+08	2.1E+10	2.9E+08	7.8E+07	ID	2.0E+06	ID	2.9E+06	1.5E+09	1.5E+09	1.4E+10	4.1E+09	4.1E+09	ID	8.2E+09	2.9E+08	NA	NA	8.8E+07	2.9E+06	1.8E+10	2.9E+09
Non-Residential Direct Contact Criteria (XXVII)				1.2E+07 (C)	1.2E+08 (C)	3.1E+08 (DD)	2.4E+06	8.0E+06	2.2E+05	8,000	ID	5.5E+08 (C)	7.6E+05 (C)	2.0E+07	1.3E+08	8.7E+07	80,000	2.4E+06 (C)	2.6E+07	NA	NA	5.2E+07	5.2E+06	2.3E+08 (C, DD)	8.4E+07
Soil Saturation Concentration Screening Levels (C _{so}) (XX)				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	NA	NA	NA	1.2E+07	NA	
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE	740 J	<1700	<3500	<1700	270 J	<1700	<320	<1700	<3500	200 J	<1700	410	<320	<320	<1700	<840	<1700	<1700	<320	<320	<1700	420
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	47 J	<170	<360	<170	22 J	<170	<32	<170	32 J	<170	28 J	<32	<32	<32	54 J	<86	<170	<170	22 J	<32	<170	24 J
SB-1A	0'-2'	S-R2330009-032513-MJF-001	3/25/2013	78 J	<170	87 J	<170	44	<170	<32	20 J	<350	29 J	33 J	51	<32	<32	<170	60 J	<170	<170	43	77	<170	46
SB-1A	10'-11'	S-R2330009-032513-MJF-002	3/25/2013	20 J	<170	<350	<170	22 J	<170	<32	<170	<350	38 J	34 J	22 J	<32	<32	<170	<85	<170	<170	<32	<32	<170	20 J
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	<160	<160	30	44	<160	52
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	390 J	<1600	<3400	<1600	<310	<1600	<310	<1600	<3400	<1600	<310	<310	<310	<1600	<820	<1600	<1600	<310	<310	<1600	<310	
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	<170	<170	<32	<32	<170	19 J
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	<170	<170	<32	<32	<170	<32
SB-4	0'-2'	S-R2330004-071212-MF-008	7/12/2012	<340	<160	<340	<160	29 J	<180	<31	<160	<340	<340	<160	54	<31	<31	<160	<82	<160	<160	<31	<31	<160	38
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	<180	<180	<33	<33	<180	<33
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	<1700	<1700	<310	<310	<1700	170 J
SB-5	25'-27'	S-R2330004-071112-MF-002	7/12/2012	130 J	70 J	<400	32 J	140	<190	21 J	48 J	<400	<190	210	73	64	<190	40 J	<190	32 J	81	190	<190	180	
SB-5C	0'-2'	S-R2330009-040213-MJF-005	4/2/2013	<370	<180	<370	<180	42	<180	<33	<180	<370	<370	<180	43	<33	<33	<180	<89	<180	<180	<33	<33	<180	41
SB-5C	17'-18'	S-R2330009-040213-MJF-006	4/2/2013	190	<180	<380	<180	210	<1,800	<34	<1,800	<380	<180	400	<340	56	<180	48 J	<180	53 J	62	230	<180	330	
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	<1800	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	<1800	<1800	<330	1,700	<1800	1,900
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	<1800	<1800	<330	2,100	<1800	2,900
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	<180	<180	<33	<33	<180	<33
SB-6A	0'-2'	S-R2330004-071812-MF-015	7/18/2012	270 J	390 J	<3500	<1700	<310	<1700	<310	<1700	<3500	<3500	<1700	180 J	<310	<310	<1700	<840	<1700	<1700	<310	<310	<1700	<310
SB-6A	2.5'-4.5'	S-R2330004-071812-MF-016	7/18/2012	<390	<190	<390	<190	250	<190	21 J	64 J	<390	<390	<190	650	97	80	<190	<95	<190	49	550	<190	490	
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	<1700	<1700	<320	700	<1700	880
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	<1900	540 J	1,000	2,700	290 J	2,100
SB-7E	0'-2'	S-R2330009-040213-MJF-009	4/2/2013	27 J	<180	<370	<180	<33	<180	<33	<180	<370	<370	<370	<33	<33	<33	<180	<89	<180	<180	<33	<33	<180	<33
SB-7E	5'-6'	S-R2330009-040213-MJF-010	4/2/2013	<380	<180	<380	<180	37	<180	<34	<180	<380	<380	<380	82	<34	<34	<180	<92	<180	<180	<34	47	<180	64
SB-8	0'-2'	S-R2330009-032813-MJF-011	3/28/2013	<380	29 J	<380	<180	51	<180	<34	<180	<380	<380	<380	86	<34	<34	<180	<91	<180	<180	<34	43	<180	73
SB-9	0'-2'	S-R2330009-032613-MJF-012	3/26/2013	<360	<170	<360	<170	280	<170	32	<170	33 J	<360	<170	530	<33	110	<170	<87	<170	<170	<33	170	<170	450
SB-9	10'-11'	S-R2330009-032613-MJF-013	3/26/2013	<380	<190	<380	<190	49	<190	<35	<190	<380	<380	<190	59	<35	<35	<190	<93	<190	<190	<35	39	<190	57
SB-10	0'-2'	S-R2330009-032513-MJF-014	3/25/2013	<360	<170	72 J	<170	<32	<170	<32	<170	<360	<360	<170	<32	<32	<32	<170	<86	<170	<170	<32	<32	<170	<32
SB-10	13'-14'	S-R2330009-032513-MJF-015	3/25/2013	<360	<170	<360	<170	<33	<170	<33	<170	<360	<360	34 J	<33	<33	<33	<170	<87	<170	<170	<33	<33	<170	<33
SB-11	0'-2'	S-R2330009-032613-MJF-016	3/26/2013	<360	<180	<360	<180	<33	<180	<33	<180	<360	<360	<180	<33	<33	<33	<180	<88	<180	<180	<33	<33	44 J	<33
SB-11	6.5'-7.5'	S-R2330009-032																							

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

SOIL: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/kg				Metals																			PCBs			
				Aluminum (B)	Antimony	Arsenic (B)	Barium (B)	Beryllium	Calcium (B)	Chromium	Cobalt	Copper (B)	Iron (B)	Lead (B)	Manganese (B)	Mercury (B,2)	Nickel (B)	Selenium (B)	Silver (B)	Thallium (B)	Vanadium	Zinc (B)	Aroclor 1248	Aroclor 1254	total PCBs	
Statewide Default Background Levels (X)				6.9E+06	NA	5,800	75,000	NA	1,200	18,000	6,800	32,000	1,20E+07	21,000	4,40E+06	130	20,000	410	1,000	NA	NA	47,000	NA	NA	NA	
Drinking Water Protection Criteria (XXI)				1,000	4,300	4,600	1,30E+06	51,000	6,000	30,000	2,000	5,80E+06	6,000	7,00E+05	1,000	1,700	100,000	4,000	13,000	2,300	9,90E+05	5,00E+06	NA	NA	NLL	
Groundwater/Surface Water Interface Protection Criteria (XII)				NA	94,000 (X)	4,600	4.4E+05 (G)	8.5E+04 (G)	3.6E+03 (G,X)	3,300	2,000	7.5E+04 (G)	NA	5.1E+06 (G,X)	5.6E+04 (G,X)	50 (M); 1.2	7.6E+04 (G)	400	100 (M); 27	4,200 (X)	4.30E+05	1.7E+05 (G)	NA	NA	NLL	
Soil Vapor Intrusion Concentration Screening Levels (SVI-Hr) (c)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39,100	
Soil Volatilization to Indoor Air Inhalation (XXII)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	8.9E+04	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	1.6E+07
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	8.1E+05
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	2.8E+07
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	2.8E+07
Particulate Soil Inhalation Criteria (XXVI)				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	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	6.5E+06	
Non-Residential Direct Contact Criteria (XXVII)				3.7E+08 (DD)	6.7E+05	3.7E+04	1.3E+08	1.6E+06	2.1E+06	9.2E+06	9.0E+06	7.3E+07	5.8E+08	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 (C _{sw}) (XX)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE	9,500,000	5,800	6,100	140,000	500 J	1,500	24,000	8,200	130,000	20,000,000	190,000	220,000	72	19,000	580	500 J	160 J	18,000	280,000	340	840	1,180	
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	3,600,000	430	2,800	44,000	140 J	390	7,100	3,000	15,000	12,000,000	52,000	270,000	11 J	8,200	440	78 J	83 J	9,500	38,000	<42	75	75	
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	3,800,000	130 J	3,200	25,000	280 J	150 J	6,400	2,500	6,300	6,900,000	7,800	270,000	22	7,000	290 J	1.1 J	9.1 J	9,800	19,000	<43	<43	ND	
SB-1A	0'-2'	S-R2330009-032613-MJF-001	3/25/2013	3,600,000	100 J	3,300	18,000	220 J	130 J	8,500	2,700	7,500	8,400,000	5,200	200,000	31	7,900	<230	18 J	110 J	11,000	21,000	<43	<43	ND	
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	4,500,000	1,600	2,800	45,000	120 J	860	8,500	2,700	31,000	15,000,000	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	4,100,000	1,800	2,700	70,000	120 J	840	9,000	2,600	27,000	14,000,000	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	3,300,000	550	3,000	22,000	120 J	250	5,800	2,400	13,000	9,800,000	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	2,700,000	150 J	2,100	8,000	97 J	88 J	5,200	1,900	5,200	5,400,000	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	6,300,000	150 J	2,600	20,000	140 J	160	6,300	1,800	3,300	7,100,000	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	6,900,000	140 J	3,000	41,000	240	120 J	18,000	2,300	5,500	9,800,000	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	6,900,000	2,900	5,600	92,000	350 J	1,600	17,000	5,500	120,000	20,000,000	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	5,400,000	5,300	8,200	430,000	160 J	5,600	22,000	5,300	150,000	53,000,000	2,600,000	570,000	30	26,000	270 J	410 J	94 J	15,000	730,000	<49	<49	ND	
SB-5C	0'-2'	S-R2330009-040213-MJF-005	4/2/2013	5,000,000	190 J	11,000	27,000	320 J	230 J	8,800	3,600	11,000	15,000,000	15,000	380,000	27	11,000	320 J	21 J	130 J	16,000	34,000	<44	<44	ND	
SB-5C	17'-18'	S-R2330009-040213-MJF-006	4/2/2013	5,700,000	1,100	5,900	93,000	210 J	2,000	13,000	5,000	42,000	24,000,000	85,000	310,000	45	19,000	<250	310 J	150 J	12,000	210,000	<43	<43	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	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	9,100,000	5,900	7,300	290,000	200	5,000	38,000	5,600	240,000	50,000,000	540,000	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	9,000,000	4,300	6,600	360,000	180	5,100	58,000	5,600	180,000	42,000,000	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	3,700,000	170 J	1,900	15,000	130 J	110 J	7,900	2,300	6,100	6,100,000	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	7,600,000	1,500	4,300	99,000	160 J	2,100	22,000	3,500	110,000	17,000,000	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	3,800,000	170 J	2,500	15,000	140 J	200	8,600	2,800	8,600	7,300,000	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	12,000,000	18,000	12,000	540,000	220	9,300	53,000	7,800	1,500,000	74,000,000	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	5,900,000	8,800	9,800	200,000	150 J	7,100	40,000	7,000	160,000	51,000,000	960,000	820,000	190	31,000	340 J	950	56 J	12,000	800,000	390	280	ND	
SB-7E	0'-2'	S-R2330009-040213-MJF-009	4/2/2013	5,100,000	160	5,300	34,000	260 J	370 J	9,000	4,400	10,000	11,000,000	9,500	260,000	18	12,000	<1,500	38 J	170 J	18,000	32,000	<43	<43	ND	
SB-7E	5'-6'	S-R2330009-040213-MJF-010	4/2/2013	4,900,000	22 J	4,900	45,000	250 J	230 J	10,000	4,900	14,000	12,000,000	12,000	310,000	17 J	14,000	510 J	46 J	180 J	15,000	44,000	<44	<44	ND	
SB-8	0'-2'	S-R2330009-032813-MJF-011	3/28/2013	5,600,000	190 J	4,900	37,000	230 J	290 J	12,000	3,300	8,400	12,000,000	21,000	250,000	37	8,900	<1,700	29 J	68 J	14,000	43,000	<44	<44	ND	
SB-9	0'-2'	S-R2330009-032613-MJF-012	3/26/2013	3,800,000	150 J	4,100	21,000	210 J	180 J	8,200	2,600	9,800	9,200,000	21,000	200,000	25	7,300	<1,700	12 J	90 J	11,000	34,000	<43	<43	ND	
SB-9	10'-11'	S-R2330009-032613-MJF-013	3/26/2013	5,000,000	230 J	4,300	34,000	230 J	260 J	8,900	4,200	14,000	12,000,000	23,000	250,000	23	12,000	<1,700	40 J	16 J	15,000	42,000	<46	<46	ND	
SB-10	0'-2'	S-R2330009-032613-MJF-014	3/26/2013	5,000,000	240 J	4,200	19,000	210 J	510 J	9,400	2,900	11,000	11,000,000	20,000	310,000	25	9,800	<1,400	110 J	120 J	12,000	59,000	<41	<41	ND	
SB-10	13'-14'	S-R2330009-032613-MJF-015																								

Table 2
Monitoring Well Construction and Monitoring Data

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

Table 2
Monitoring Well Construction and
Monitoring Data

Well ID	Northing (US State Plane - NAD83 ¹)	Easting (US State Plane - NAD83)	Top of Casing Elevation (feet above MSL ²)	Ground Surface Elevation (feet above MSL)	Screen Length (feet)	Stickup (feet)	Total Depth of Well from TOC ³ (feet)	Top of Screen Elevation (feet above MSL)	Date	Depth to Water (feet TOC)	Groundwater Elevation (feet above MSL)
MW-1	275,331.04	13,347,841.62	723.83	721.2	10	2.67	21.22	712.61	4/29/2013	10.88	712.95
									8/7/2013	11.63	712.20
									11/14/2013	12.72	711.11
									3/24/2014	11.25	712.58
									5/8/2014	9.93	713.90
MW-3	274,792.30	13,348,574.41	714.28	711.0	10	3.28	11.52	712.76	4/29/2013	4.25	710.03
									8/7/2013	6.15	708.13
									11/12/2013	6.62	707.66
									3/24/2014	4.22	710.06
									5/8/2014	4.20	710.08
MW-4	274,332.44	13,348,192.73	723.72	724.3	10	-0.53	21.60	712.12	4/29/2013	10.54	713.18
									8/7/2013	14.00	709.72
									11/12/2013	14.95	708.77
									3/24/2014	10.42	713.30
									5/8/2014	10.79	712.93
MW-5	275,074.96	13,346,833.88	719.62	719.8	10	-0.18	30.02	699.60	4/29/2013	9.81	709.81
									8/7/2013	11.08	708.54
									11/12/2013	12.02	707.60
									3/24/2014	9.74	709.88
									5/8/2014	9.55	710.07
MW-6	273,963.47	13,347,317.78	718.47	715.1	10	3.35	16.38	712.09	4/29/2013	5.22	713.25
									8/7/2013	7.30	711.17
									11/13/2013	7.75	710.72
									3/24/2014	5.20	713.27
									5/8/2014	4.82	713.65
MW-7	274,354.61	13,346,295.14	716.85	717.2	5	-0.34	8.81	713.04	4/29/2013	4.21	712.64
									8/7/2013	5.69	711.16
									11/13/2013	6.80	710.05
									3/24/2014	4.36	712.49
									5/8/2014	3.38	713.47
MW-8	274,067.17	13,346,770.57	713.36	714.0	5	-0.60	7.51	710.85	4/29/2013	(FLOWING)	>713.36
									8/7/2013	1.73	711.63
									11/12/2013	1.97	711.39
									3/24/2014	Area Flooded	
									5/8/2014	Area Flooded	
MW-9	274,824.06	13,346,622.78	721.17	721.4	5	-0.19	14.74	711.43	4/29/2013	8.60	712.57
									8/7/2013	9.15	712.02
									11/14/2013	10.35	710.82
									3/24/2014	8.96	712.21
									5/8/2014	7.36	713.81

Well ID	Northing (US State Plane - NAD83 ¹)	Easting (US State Plane - NAD83)	Top of Casing Elevation (feet above MSL ²)	Ground Surface Elevation (feet above MSL)	Screen Length (feet)	Stickup (feet)	Total Depth of Well from TOC ³ (feet)	Top of Screen Elevation (feet above MSL)	Date	Depth to Water (feet TOC)	Groundwater Elevation (feet above MSL)
MW-10	275,236.53	13,347,440.42	727.87	724.7	5	3.19	23.45	709.42	4/29/2013	14.86	713.01
									8/7/2013	15.60	712.27
									11/13/2013	16.68	711.19
									3/24/2014	15.28	712.59
									5/8/2014	13.95	713.92
MW-11	275,501.53	13,348,552.50	718.32	715.2	10	3.11	18.10	710.22	4/29/2013	7.70	710.62
									8/7/2013	9.02	709.30
									11/12/2013	9.60	708.72
									3/24/2014	7.01	711.31
									5/8/2014	7.39	710.93
MW-12	274,233.16	13,347,712.66	721.97	719.3	10	2.66	17.60	714.37	4/29/2013	8.43	713.54
									8/7/2013	10.60	711.37
									11/13/2013	11.60	710.37
									3/24/2014	8.76	713.21
									5/8/2014	8.15	713.82
MW-13	274,917.23	13,347,524.98	727.97	725.0	10	2.94	25	712.97	12/12/2013	13.80	714.20
									3/24/2014	16.00	711.97
									5/8/2014	13.93	714.04
MW-14	274,652.50	13,347,032.25	727.14	724.4	5	2.70	25	707.14	5/8/2014	13.14	714.00
MW-15	274,418.28	13,347,359.87	726.30	723.6	5	2.72	20	711.30	5/8/2014	12.31	713.99
MW-16	274,764.92	13,347,880.56	725.16	722.4	5	2.78	15	715.16	5/8/2014	11.15	714.01
MW-17	273,590.74	13,348,433.65	717.08	714.2	5	2.84	12	710.08	5/8/2014	5.14	711.94
MW-18	273,936.45	13,346,254.36	714.87	715.2	10	-0.34	12	712.87	5/8/2014	1.15	713.72
MW-19	273,883.36	13,346,717.38	715.36	715.7	10	-0.37	12	713.36	5/8/2014	2.12	713.24
MW-20	273,489.18	13,347,561.66	716.51	717.0	10	-0.53	13	713.51	5/8/2014	4.92	711.59
MW-21	275,616.09	13,348,561.80	717.59	714.7	5	2.86	13	709.59	5/8/2014	5.98	711.61
MW-22	275,440.11	13,347,791.17	718.84	715.9	5	2.92	13	710.84	5/8/2014	4.94	713.90
MW-23	275,364.33	13,347,366.98	721.07	717.8	5	3.24	13	713.07	5/8/2014	7.39	713.68
MW-24	275,803.71	13,347,493.40	719.83	716.6	5	3.19	12	712.83	5/8/2014	8.60	711.23
MW-25	276,091.12	13,347,801.85	717.19	714.2	5	3.02	13	709.19	5/8/2014	6.55	710.64
MW-26	275,927.29	13,348,221.78	719.83	716.6	5	3.19	13	711.83	5/8/2014	6.73	713.10

Notes:
1. NAD83 = North American Datum 1983.
2. MSL = Mean Sea Level.
3. TOC = Feet from Top of Casing.

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)															
			2-Butanone (MEK)	1,1,2-Trichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methyldichloroethane	Toluene	Xylenes
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	2,300	100 (A)	1,700	80 (A,W)	NA	74 (E)	2,300	NA	790 (E)	280 (E)
Non-residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	25	1,100 (X)	350	NA	18	28	NA	270	41
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+05 (S)	74,000 (S)	2.0E+07 (S)	1.0E+09 (D,S)	35,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)
Groundwater Concentration for Vapor Intrusion (GW _{v,i,u}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	9,900	4,600	180,000	7.2E+02	8,100	2.6E+03	53	NA	150,000	10,000 (d)
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.86E+5 (S)
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000
ID	SAMPLE ID	SAMPLE DATE																
MW-1	W-R2330009-043013-MJF-002	4/30/2013	<25	<1.0	<1.0	<50	<50	0.66 J	<5.0	<1.0	7.3	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-1 ^A	W-R2330009-080713-ZTR-007	8/7/2013																
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	<25	<1.0	<1.0	<50	<50	0.78 J	<5.0	<1.0	6.9	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-1 ^A	W-R2330009-111413-ACN-013	11/14/2013																
MW-1	W-R2330009-111413-ACN-013	11/14/2013	<25	<1.0	<1.0	<50	6.9 J	0.81 J	<5.0	<1.0	9.9	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-1 ^A	W-R2330012-032814-ACN-009	3/28/2014																
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<25	<1.0	<1.0	<50	<50	0.57 J	<5.0	<1.0	5.1	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<25	<1.0	<1.0	<50	<50	0.66 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3	W-R2330009-050213-MJF-009	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3 ^A	W-R2330009-080713-ZTR-004	8/7/2013																
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3 ^A	W-R2330009-111213-ACN-002	11/12/2013																
MW-3	W-R2330009-111213-ACN-002	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3 ^A	W-R2330012-032714-ACN-007	3/27/2014																
MW-3	W-R2330012-032714-ACN-007	3/27/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<25	<1.0	<1.0	<50	12 J	0.39 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	<25	<1.0	<1.0	<50	8.5 J	0.43 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4	W-R2330009-050213-MJF-010	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 ^A	W-R2330009-080713-ZTR-005	8/7/2013																
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 ^A	W-R2330009-111213-ACN-003	11/12/2013																
MW-4	W-R2330009-111213-ACN-003	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 ^A	W-R2330012-032714-ACN-006	3/27/2014																
MW-4	W-R2330012-032714-ACN-006	3/27/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5	W-R2330009-050113-MJF-004	5/1/2013	<25	<1.0	<1.0	<50	6.9 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 ^A	W-R2330009-080813-ZTR-009	8/8/2013																
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 ^A	W-R2330009-111213-ACN-004	11/12/2013																
MW-5	W-R2330009-111213-ACN-004	11/12/2013	<25	<1.0	<1.0	<50	15 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 ^A	W-R2330012-032814-ACN-008	3/28/2014																
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6	W-R2330004-090512-MJF-04	9/5/2012	<25	<1.0	<1.0	<50	11 J	4.9	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6	W-R2330009-050213-MJF-012	5/2/2013	<25	<1.0	<1.0	<50	<50	2.8	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6 ^A	W-R2330009-080713-ZTR-002	8/7/2013																
MW-6	W-R2330009-080713-ZTR-002	8/7/2013	<25	<1.0	<1.0	<50	<50	4.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6 ^A	W-R2330009-111313-ACN-011	11/13/2013																
MW-6	W-R2330009-111313-ACN-011	11/13/2013	<25	<1.0	<1.0	<50	<50	4.6	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6 ^A	W-R2330012-032714-ACN-004	3/27/2014																
MW-6	W-R2330012-032714-ACN-004	3/27/2014	<25	<1.0	<1.0	<50	<50	2.7	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7	W-R2330009-050213-MJF-008	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7 ^A	W-R2330009-080613-ZTR-001	8/6/2013																
MW-7	W-R2330009-080613-ZTR-001	8/6/2013	<25	<1.0	<1.0	<50	5.5 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7 ^A	W-R2330009-111313-ACN-006	11/13/2013																
MW-7	W-R2330009-111313-ACN-006	11/13/2013	<25	<1.0	<1.0	<50	12 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7 ^A	W-R2330012-032614-ACN-001	3/26/2014																
MW-7	W-R2330012-032614-ACN-001	3/26/2014	<25	<1.0	<1.0	<50	<50.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)															
			2-Butanone (MEK)	1,2- Dichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene	Xylenes
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	2,300	100 (A)	1,700	80 (A,W)	NA	74 (E)	2,300	NA	790 (E)	280 (E)
Non-residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000	10,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	25	1,100 (X)	350	NA	18	28	NA	270	41
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+05 (S)	74,000 (S)	2.0E+07 (S)	1.0E+09 (D,S)	35,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.7E+06 (S)	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)
Groundwater Concentration for Vapor Intrusion (GW _{vci}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	9,900	4,600	180,000	7.2E+02	8,100	2.6E+03	53	NA	150,000	10,000 (dl)
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.86E+5 (S)
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000
ID	SAMPLE ID	SAMPLE DATE																
MW-8	W-R2330009-050313-MJF-013	5/3/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-8 ^A	W-R2330009-080713-ZTR-008	8/7/2013																
MW-8	W-R2330009-080713-ZTR-008	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-8 ^A	W-R2330009-111213-ACN-005	11/12/2013																
MW-8	W-R2330009-111213-ACN-005	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9	W-R2330009-050113-MJF-007	5/1/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9 ^A	W-R2330009-080813-ZTR-013	8/8/2013																
MW-9	W-R2330009-080813-ZTR-013	8/8/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9 ^A	W-R2330009-111413-ACN-012	11/14/2013																
MW-9	W-R2330009-111413-ACN-012	11/14/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9 ^A	W-R2330012-032614-ACN-003	3/26/2014																
MW-9	W-R2330012-032614-ACN-003	3/26/2014	<25	<1.0	<1.0	<50	<50	0.36 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10	W-R2330009-050113-MJF-003	5/1/2013	<25	<1.0	<1.0	<50	4.3 J	8.6	<5.0	25	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A	W-R2330009-080813-ZTR-010	8/8/2013																
MW-10	W-R2330009-080813-ZTR-010	8/8/2013	<25	<1.0	<1.0	<50	<50	8.5	<5.0	24	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A (DUP)	W-R2330009-080813-ZTR-011	8/8/2013																
MW-10 (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	<25	<1.0	<1.0	<50	<50	8.2	<5.0	23	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A	W-R2330009-111313-ACN-008	11/13/2013																
MW-10	W-R2330009-111313-ACN-008	11/13/2013	<25	<1.0	<1.0	<50	16 J	13	<5.0	36	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A (DUP)	W-R2330009-111313-ACN-009	11/13/2013																
MW-10 (DUP)	W-R2330009-111313-ACN-009	11/13/2013	<25	<1.0	<1.0	<50	16 J	12	<5.0	35	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A	W-R2330012-032814-ACN-010	3/28/2014																
MW-10	W-R2330012-032814-ACN-010	3/28/2014	<25	<1.0	<1.0	<50	<50	8.2	<5.0	24	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A (DUP)	W-R2330012-032814-ACN-011	3/28/2014																
MW-10 (DUP)	W-R2330012-032814-ACN-011	3/28/2014	<25	<1.0	<1.0	<50	<50	8.2	<5.0	25	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11	W-R2330009-043013-MJF-001	4/30/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11 ^A	W-R2330009-080713-ZTR-006	8/7/2013																
MW-11	W-R2330009-080713-ZTR-006	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11 ^A	W-R2330009-111213-ACN-001	11/12/2013																
MW-11	W-R2330009-111213-ACN-001	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11 ^A	W-R2330012-032614-ACN-002	3/26/2014																
MW-11	W-R2330012-032614-ACN-002	3/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12	W-R2330009-050213-MJF-011	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12 ^A	W-R2330009-080713-ZTR-003	8/7/2013																
MW-12	W-R2330009-080713-ZTR-003	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12 ^A	W-R2330009-111313-ACN-007	11/13/2013																
MW-12	W-R2330009-111313-ACN-007	11/13/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12 ^A	W-R2330012-032714-ACN-005	3/27/2014																
MW-12	W-R2330012-032714-ACN-005	3/27/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-17 ^A	W-R2330012-052014-ACN-029	5/20/2014																
MW-17	W-R2330012-052014-ACN-029	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-18 ^A	W-R2330012-052014-ACN-026	5/20/2014																
MW-18	W-R2330012-052014-ACN-026	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-19 ^A	W-R2330012-052014-ACN-027	5/20/2014																
MW-19	W-R2330012-052014-ACN-027	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-20 ^A	W-R2330012-052014-ACN-028	5/20/2014																
MW-20	W-R2330012-052014-ACN-028	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-21 ^A	W-R2330012-051914-ACN-021	5/19/2014																
MW-21	W-R2330012-051914-ACN-021	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-22 ^A	W-R2330012-051914-ACN-022	5/19/2014																
MW-22	W-R2330012-051914-ACN-022	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)															
			2-Butanone (MEK)	1,2-Dichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methyldichlorobenzene	Toluene	Xylenes
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	2,300	100 (A)	1,700	80 (A,W)	NA	74 (E)	2,300	NA	790 (E)	280 (E)
Non-residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000	10,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	25	1,100 (X)	350	NA	18	28	NA	270	41
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+05 (S)	74,000 (S)	2.0E+07 (S)	1.0E+09 (D,S)	35,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI,av}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	9,900	4,600	180,000	7.2E+02	8,100	2.6E+03	53	NA	150,000	10,000 (d)
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.88E+5 (S)
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000
ID	SAMPLE ID	SAMPLE DATE																
MW-23 ^A	W-R2330012-051914-ACN-023	5/19/2014																
MW-23	W-R2330012-051914-ACN-023	5/19/2014	<25	<1.0	<1.0	<50	<50	3.7	<5.0	40	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-23 ^A (DUP)	W-R2330012-051914-ACN-023	5/19/2014																
MW-23 (DUP)	W-R2330012-051914-ACN-023	5/19/2014	<25	<1.0	<1.0	<50	<50	4.2	<5.0	45	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-24 ^A	W-R2330012-052014-ACN-030	5/20/2014																
MW-24	W-R2330012-052014-ACN-030	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0
MW-25 ^A	W-R2330012-051914-ACN-025	5/19/2014																
MW-25	W-R2330012-051914-ACN-025	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-26 ^A	W-R2330012-051914-ACN-020	5/19/2014																
MW-26	W-R2330012-051914-ACN-020	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0
SB-13 ^A	W-R2330009-121013-AJL-008	12/10/2013																
SB-13	W-R2330009-121013-AJL-008	12/10/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.37 J	<3.0
SB-14 ^A	W-R2330009-121013-AJL-007	12/10/2013																
SB-14	W-R2330009-121013-AJL-007	12/10/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-15 ^A	W-R2330009-120913-AJL-006	12/9/2013																
SB-15	W-R2330009-120913-AJL-006	12/9/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.31 J	<3.0
SB-21 ^A	W-R2330009-120513-RD-001	12/5/2013																
SB-21	W-R2330009-120513-RD-001	12/5/2013	<25	<1.0	<1.0	<50	<50	6.7	<5.0	<1.0	<5.0	<1.0	<10	14	2.5 J	<1.0	0.44 J	4.2
SB-22 ^A	W-R2330009-120513-RD-002	12/5/2013																
SB-22	W-R2330009-120513-RD-002	12/5/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	0.72 J	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-23 ^A	W-R2330009-120513-RD-003	12/5/2013																
SB-23	W-R2330009-120513-RD-003	12/5/2013	<25	<1.0	<1.0	<50	<50	2.4	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-24 ^A	W-R2330009-120613-RD-004	12/6/2013																
SB-24	W-R2330009-120613-RD-004	12/6/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.29 J	<3.0
SB-25 ^A	W-R2330009-120613-RD-005	12/6/2013																
SB-25	W-R2330009-120613-RD-005	12/6/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.48 J	<3.0
SB-26 ^A	W-R2330009-121013-AJL-009	12/10/2013																
SB-26	W-R2330009-121013-AJL-009	12/10/2013	<25	<1.0	<1.0	<50	3.2 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.28 J	<3.0
SB-27 ^A	W-R2330009-121113-AJL-010	12/11/2013																
SB-27	W-R2330009-121113-AJL-010	12/11/2013	<25	<1.0	<1.0	<50	6.1 J	<1.0	0.53 J	<1.0	2.9 J	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-27 ^A (DUP)	W-R2330009-121113-AJL-011	12/11/2013																
SB-27 (DUP)	W-R2330009-121113-AJL-011	12/11/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	4.3 J	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-28 ^A	W-R2330009-121113-AJL-012	12/11/2013																
SB-28	W-R2330009-121113-AJL-012	12/11/2013	<25	<1.0	<1.0	<50	3.6 J	<1.0	0.53 J	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-29 ^A	W-R2330009-121213-AJL-014	12/12/2013																
SB-29	W-R2330009-121213-AJL-014	12/12/2013	<25	1.3	2.6	<50	4.7 J	12.0	<5.0	<1.0	<5.0	<1.0	0.84 J	14.0	6.0	<1.0	39	74.0
SB-30 ^A	W-R2330009-121213-AJL-016	12/12/2013																
SB-30	W-R2330009-121213-AJL-016	12/12/2013	<25	<1.0	0.98 J	<50	<50	21.0	<5.0	<1.0	<5.0	<1.0	5.5 J	0.29 J	2.0 J	<1.0	0.33 J	1.0 J
SB-31 ^A	W-R2330009-121213-AJL-018	12/12/2013																
SB-31	W-R2330009-121213-AJL-018	12/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.44 J	<3.0
SB-32 ^A	W-R2330009-121213-AJL-015	12/12/2013																
SB-32	W-R2330009-121213-AJL-015	12/12/2013	<25	<1.0	<1.0	<50	<50	1.1	<5.0	1.4	<5.0	<1.0	<10	<1.0	1.3 J	<1.0	0.27 J	1.0 J
SB-33 ^A	W-R2330009-121213-AJL-017	12/12/2013																
SB-33	W-R2330009-121213-AJL-017	12/12/2013	<25	<1.0	<1.0	<50	3.9 J	0.71 J	0.44 J	1.2	<5.0	<1.0	<10	<1.0	0.62 J	<1.0	0.29 J	1.3 J
SB-34 ^A	W-R2330009-121313-AJL-018	12/13/2013																
SB-34	W-R2330009-121313-AJL-018	12/13/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.44 J	<3.0
SB-34 ^A (DUP)	W-R2330009-121313-AJL-019	12/13/2013																
SB-34 (DUP)	W-R2330009-121313-AJL-019	12/13/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.38 J	<3.0
SB-16	W-R2330012-033114-ACN-001	3/31/2014	<25	<1.0	<1.0	<50	14 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-17	W-R2330012-033114-ACN-002	3/31/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	6.2	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-18	W-R2330012-033114-ACN-003	3/31/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-19	W-2330012-040114-ACN-004	4/1/2014	<25	<1.0	<1.0	<50	3.3 J	0.36 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	1.1	0.62 J	1.0 J

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)																
			2-Butanone (MEK)	1,2-Dichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene	Xylenes	
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	2,300	100 (A)	1,700	80 (A,W)	NA	74 (E)	2,300	NA	790 (E)	280 (E)	
Non-residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	NA	1,000	10,000	
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	25	1,100 (X)	350	NA	18	28	NA	270	41	
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+05 (S)	74,000 (S)	2.0E+07 (S)	1.0E+09 (D,S)	35,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)	
Groundwater Concentration for Vapor Intrusion (GW _{v,i}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	9,900	4,600	180,000	7.2E+02	8,100	2.6E+03	53	NA	150,000	10,000 (d)	
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.86E+5 (S)	
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000	
ID	SAMPLE ID	SAMPLE DATE																	
SB-20	W-2330012-040114-ACN-005	4/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.25 J	<3.0	
SB-35	W-2330012-040114-ACN-006	4/1/2014	<25	<1.0	1.5	<50	3.3 J	6.1	<5.0	2.0	<5.0	<1.0	1.5	0.18 J	1.4 J	1.1	0.25 J	1.9 J	
SB-36	W-R2330012-040314-ACN-007	4/3/2014	<25	<1.0	<1.0	<50	7.1 J	2.5	<5.0	1.2	<5.0	<1.0	<10	0.84 J	1.9 J	<1.0	0.54 J	2.8 J	
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	<25	<1.0	<1.0	<50	7.8 J	2.7	<5.0	1.4	<5.0	<1.0	1.4 J	0.86 J	2.0 J	<1.0	0.52 J	2.8 J	
SB-37	W-R2330012-040314-ACN-009	4/3/2014	<25	<1.0	<1.0	<50	6.9 J	2.6	1.3 J	<1.0	<5.0	<1.0	<10	0.84 J	<5.0	<1.0	0.82 J	1.7 J	
SB-38	W-R2330012-040314-ACN-010	4/3/2014	2.2 J	<1.0	0.98 J	<50	16 J	2.8	1.4 J	0.96 J	<5.0	<1.0	<10	<1.0	1.6 J	<1.0	0.38 J	1.5 J	
SB-39	W-R2330012-040314-ACN-011	4/3/2014	<25	<1.0	0.91 J	<50	11 J	17	1.6 J	90	<5.0	<1.0	2.0 J	<1.0	2.0 J	<1.0	0.30 J	1.5 J	
SB-46	W-R2330012-041114-ACN-015	4/11/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.30 J	<3.0	
SB-47	W-R2330012-041114-ACN-016	4/11/2014	<25	<1.0	<1.0	<50	<50	0.31 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.49 J	<3.0	
SB-48	W-R2330012-040314-ACN-013	4/9/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.35 J	<3.0	
SB-49	W-R2330012-040314-ACN-014	4/9/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
SB-50	W-R2330012-040314-ACN-012	4/9/2014	<25	<1.0	<1.0	<50	<50	0.29 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.39 J	<3.0	
SW-1	W-R2330009-050313-MJF-015	5/3/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-1	W-R2330012-041514-ACN-017	4/15/2014	<25	<1.0	<1.0	1.4 J	7.5 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-2	W-R2330009-050313-MJF-014	5/3/2013	<25	<1.0	<1.0	<50	4.0 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-2	W-R2330012-041514-ACN-019	4/15/2014	<25	<1.0	<1.0	<50	3.6 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-3	W-R2330009-051013-MJF-016	5/10/2013	<120	<1.0	<1.0	<50	<50	<5.0	<5.0	<5.0	<25	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-3	W-R2330012-041514-ACN-018	4/15/2014	<120	<1.0	<1.0	<50	3.4 J	<5.0	<5.0	<5.0	<25	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank	W-R2330004-090512-MJF-05	9/5/2012	<25	<1.0	<1.0	<50	120	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank	W-R2330009-050113-MJF-006	5/1/2013	6.2 J	<1.0	<1.0	<50	4.4 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330009-080813-ZTR-012	8/8/2013																	
Equipment Blank	W-R2330009-080813-ZTR-012	8/8/2013	2.8 J	<1.0	<1.0	<50	0.79 J	<1.0	<5.0	<1.0	<5.0	1.3	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330009-121113-AJL-013	12/11/2013																	
Equipment Blank	W-R2330009-121113-AJL-013	12/11/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330012-032814-ACN-012	3/28/2014																	
Equipment Blank	W-R2330012-032814-ACN-012	3/28/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330012-052014-ACN-031	5/20/2014																	
Equipment Blank	W-R2330012-052014-ACN-031	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.4 J	<3.0	

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number
A = Total Metals sample collected for comparison to dissolved metals analytical results.
E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA
G = Calculated value based on a hardness of 150 mg/L
H = Analyzed outside of holding time
J = Analyte detected below quantitation limit.
Exceeds Generic Drinking Water Cleanup Criteria (I)
Exceeds Generic Drinking Water Cleanup Criteria (I) and the Generic Health-Based Drinking Water Value
Exceeds Generic Ground Water Surface Water Interface Criteria (III)
Exceeds Two or More DW (I), GSI (III) and/or Residential Health-Based Water Value (E)
Exceeds GSI Final Acute Value (FAV), also exceeds others
Notes in parentheses and standard abbreviations from MDEQ Operational Memorandum 1, Attachment 1, dated September 28, 2012 or MDEQ Guidance Document for the Vapor Intrusion Pathway, dated May 2013

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Semivolatile Organic Compounds (SVOCs)																									
			1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	bis(2-Ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzyl phthalate	Carbazole	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol			
Non-residential Drinking Water Criteria (II)			ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	16,000	2.1E+05	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000			
Non-residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Ground Water Surface Water Interface Criteria (GSI) (III)			ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	110	NA	9.7	1.6	12	11	2.0 (M); 1.4	ID	450			
GSI Final Acute Value (FAV)			ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	2,000	NA	75	220	200	200	11	ID	6,800			
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			ID	1.1E+06	25,000 (S)	NLV	NLV	NLV	NA	NLV	4,200 (S)	6.1E+06 (S)	NA	NLV	NLV	10,000 (S)	NLV	NLV	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV			
Groundwater Concentration for Vapor Intrusion (GW _{VI}) (a)			ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA				
Water Solubility (VII)			ID	2.20E+07	24,600	2.80E+07	2.80E+07	7.87E+06	ID	NA	340	4,240	6.1E+06 (S)	NA	2.69E+03	7,480	10,000	1.08E+06	4.19E+06	11,200	206	1,980	31,000	1,000	135			
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	NA	NA	NA	ID	ID	NA	ID	ID	ID	NA	NA	NA	ID	ID	ID	ID	NA			
ID	SAMPLE ID	SAMPLE DATE	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	1.0 J	<5.0	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-1	W-R2330009-043013-MJF-002	4/30/2013																										
MW-1 ^A	W-R2330009-080713-ZTR-007	8/7/2013																										
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-1 ^A	W-R2330009-111413-ACN-013	11/14/2013																										
MW-1	W-R2330009-111413-ACN-013	11/14/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-1 ^A	W-R2330012-032814-ACN-009	3/28/2014																										
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	4.2 J	<5.0	<5.0	<5.0	<10	<5.0	0.85 J	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-3	W-R2330009-050213-MJF-009	5/2/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0			
MW-3 ^A	W-R2330009-080713-ZTR-004	8/7/2013																										
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-3 ^A	W-R2330009-111213-ACN-002	11/12/2013																										
MW-3	W-R2330009-111213-ACN-002	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-3 ^A	W-R2330012-032714-ACN-007	3/27/2014																										
MW-3	W-R2330012-032714-ACN-007	3/27/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<0.84	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<0.84	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-4	W-R2330009-050213-MJF-010	5/2/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-4 ^A	W-R2330009-080713-ZTR-005	8/7/2013																										
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-4 ^A	W-R2330009-111213-ACN-003	11/12/2013																										
MW-4	W-R2330009-111213-ACN-003	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-4 ^A	W-R2330012-032714-ACN-006	3/27/2014																										
MW-4	W-R2330012-032714-ACN-006	3/27/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-5	W-R2330009-050113-MJF-004	5/1/2013	<10	<10	<5.0	<10	<10	<5.0	<10	1.3 J	<5.0	<5.0	<10	<5.0	1.2 J	<4.0	0.99 J	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	<10	<10	<5.0	<10	<10	<5.0	<10	1.3 J	<5.0	<5.0	<10	<5.0	1.2 J	<4.0	0.93 J	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-5 ^A	W-R2330009-080813-ZTR-009	8/8/2013																										
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-5 ^A	W-R2330009-111213-ACN-004	11/12/2013																										
MW-5	W-R2330009-111213-ACN-004	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-5 ^A	W-R2330012-032814-ACN-008	3/28/2014																										
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-6	W-R2330004-090512-MJF-04	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-6	W-R2330009-050213-MJF-012	5/2/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-6 ^A	W-R2330009-080713-ZTR-002	8/7/2013																										
MW-6	W-R2330009-080713-ZTR-002	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-6 ^A	W-R2330009-111313-ACN-011	11/13/2013																										
MW-6																												

Table 3
Summary of Ground Water
Sample Results

Page 6 of 12

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Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Semivolatile Organic Compounds (SVOCs)																							
			1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	Bis(2-Ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzyl phthalate	Carbazole	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Dio-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	
			Non-residential Drinking Water Criteria (II)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	16,000	2.1E+05	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000
			Non-residential Health-Based Drinking Water Value	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Ground Water Surface Water Interface Criteria (GSI) (III)	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	110	NA	9.7	1.6	12	11	2.0 (M); 1.4	ID	450
			GSI Final Acute Value (FAV)	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	2,000	NA	75	220	200	200	11	ID	6,800
			Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	ID	1.1E+06	25,000 (S)	NLV	NLV	NLV	NA	NLV	4,200 (S)	6.1E+06 (S)	NA	NLV	NLV	10,000 (S)	NLV	NLV	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV
			Groundwater Concentration for Vapor Intrusion (GW _{v,i}) (a)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA
			Water Solubility (VII)	ID	2.20E+07	24,600	2.80E+07	2.80E+07	7.87E+06	NA	340	4,240	6.1E+06 (S)	NA	2.68E+03	7,480	10,000	1.08E+06	4.19E+06	11,200	206	1,980	31,000	1,000	135	8.28E+7
			Flammability & Explosivity Screening Level (VIII)	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	NA	NA	NA	NA	ID	ID	NA	ID	ID
ID	SAMPLE ID		SAMPLE DATE																							
MW-23 ^A	W-R2330012-051914-ACN-023		5/19/2014																							
MW-23	W-R2330012-051914-ACN-023		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.85 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-23 ^A (DUP)	W-R2330012-051914-ACN-023		5/19/2014																							
MW-23 (DUP)	W-R2330012-051914-ACN-023		<10	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.91 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-24 ^A	W-R2330012-052014-ACN-030		5/20/2014																							
MW-24	W-R2330012-052014-ACN-030		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0		
MW-25 ^A	W-R2330012-051914-ACN-025		5/19/2014																							
MW-25	W-R2330012-051914-ACN-025		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	0.80 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-26 ^A	W-R2330012-051914-ACN-020		5/19/2014																							
MW-26	W-R2330012-051914-ACN-020		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0		
SB-13 ^A	W-R2330009-121013-AJL-008		12/10/2013																							
SB-13	W-R2330009-121013-AJL-008		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	0.28 J	<10	<4.0	<5.0	<5.0	0.21 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0		
SB-14 ^A	W-R2330009-121013-AJL-007		12/10/2013																							
SB-14	W-R2330009-121013-AJL-007		<10	<10	<5.0	<10	<10	<5.0	<10	0.77 J	<5.0	<5.0	<10	0.34 J	<10	<4.0	<5.0	<5.0	0.25 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-15 ^A	W-R2330009-120913-AJL-006		12/9/2013																							
SB-15	W-R2330009-120913-AJL-006		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	0.56 J	<10	<4.0	<5.0	<5.0	0.23 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0		
SB-21 ^A	W-R2330009-120513-RD-001		12/5/2013																							
SB-21	W-R2330009-120513-RD-001		<10	<10	0.19 J	<10	0.41 J	<5.0	<10	1.6 J	0.54 J	0.22 J	0.79 J	<5.0	<10	0.41 J	0.35 J	<5.0	<5.0	<1.0	0.94 J	<5.0	<2.0	<5.0	0.44 J	
SB-22 ^A	W-R2330009-120513-RD-002		12/5/2013																							
SB-22	W-R2330009-120513-RD-002		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	0.12 J	<5.0	0.51 J	<5.0	<10	<4.0	<5.0	<5.0	0.14 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-23 ^A	W-R2330009-120513-RD-003		12/5/2013																							
SB-23	W-R2330009-120513-RD-003		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-24 ^A	W-R2330009-120613-RD-004		12/6/2013																							
SB-24	W-R2330009-120613-RD-004		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-25 ^A	W-R2330009-120613-RD-005		12/6/2013																							
SB-25	W-R2330009-120613-RD-005		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-26 ^A	W-R2330009-121013-AJL-009		12/10/2013																							
SB-26	W-R2330009-121013-AJL-009		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.16 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-27 ^A	W-R2330009-121113-AJL-010		12/11/2013																							
SB-27	W-R2330009-121113-AJL-010		<10	<10	<5.0	<10	<10	<5.0	<10	0.26 J	<5.0	<5.0	<10	0.28 J	<10	<4.0	<5.0	<5.0	0.22 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-27 ^A (DUP)	W-R2330009-121113-AJL-011		12/11/2013																							
SB-27 (DUP)	W-R2330009-121113-AJL-011		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	0.29 J	<10	<4.0	<5.0	<5.0	0.19 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-28 ^A	W-R2330009-121113-AJL-012		12/11/2013																							
SB-28	W-R2330009-121113-AJL-012		<10	<10	<5.0	<10	<10	<5.0	<10	0.46 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.18 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-29 ^A	W-R2330009-121213-AJL-014		12/12/2013																							
SB-29	W-R2330009-121213-AJL-014		<10	0.67 J	1.6 J	0.46 J	2.0 J	<5.0	<10	<5.0	6.0 J	1.0 J	1.2 J	<5.0	<10	<4.0	<5.0	<5.0	0.26 J	<1.0	0.57 J	1.3 J	<2.0	<5.0	0.36 J	
SB-30 ^A	W-R2330009-121213-AJL-016		12/12/2013																							
SB-30	W-R2330009-121213-AJL-016		<10	3.1 J	2.9 J	<10	<10	<5.0	<10	<5.0	1.2 J	<5.0	0.92 J	<5.0	<10	0.64 J	<5.0	<5.0	0.21 J	<1.0	1.1 J	2.2 J	<2.0	<5.0	0.40 J	
SB-31 ^A	W-R2330009-121213-AJL-018		12/12/2013																							
SB-31	W-R2330009-121213-AJL-018		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	0.65 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-32 ^A	W-R2330009-121213-AJL-015		12/12/2013																							
SB-32	W-R2330009-121213-AJL-015		<10	<10	1.2 J	<10	<10	<5.0	<10	0.46 J	<5.0	<5.0	0.85 J	<5.0	<10	<4.0	<5.0	<5.0	0.37 J	<1.0	0.17 J	1.0 J	<2.0	<5.0	<5.0	
SB-33 ^A	W-R2330009-121213-AJL-017		12/12/2013																							
SB-33	W-R2330009-121213-AJL-017		<10	<10	0.29 J	<10	0.40 J	<5.0	<10	0.59 J	0.39 J	<5.0	0.73 J	<5.0	<10	<4.0	0.37 J	<5.0	0.26 J	<1.0	<5.0	0.20 J	<2.0	<5.0	<5.0	
SB-34 ^A	W-R2330009-121313-AJL-018		12/13/2013																							
SB-34	W-R2330009-121313-AJL-018		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	0.65 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-34 ^A (DUP)	W-R2330009-121313-AJL-019		12/13/2013																							
SB-34 (DUP)	W-R2330009-121313-AJL-019		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	0.69 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-16	W-R2330012-033114-ACN-001		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-17	W-R2330012-033114-ACN-002		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-18	W-R2330012-033114-ACN-003		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
SB-19	W-2330012-040114-ACN-004		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L	Semivolatile Organic Compounds (SVOCs)																													
	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	Bis(2-Ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Benzyl benzoate	Carbazole	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Dio-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol							
	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	16,000	2.1E+05	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000							
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
	ID	18	19	30 (M); 25	30 (M); 25	380	ID	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	110	NA	9.7	1.6	12	11	2.0 (M); 1.4	ID	450							
	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	2,000	NA	75	220	200	200	11	ID	6,800							
	ID	1.1E+06	25,000 (S)	NLV	NLV	NLV	NA	NLV	4,200 (S)	6.1E+06 (S)	NA	NLV	NLV	10,000 (S)	NLV	NLV	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV							
	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA							
	ID	2.20E+07	24,600	2.80E+07	2.80E+07	7.87E+06	NA	340	4,240	6.1E+06 (S)	NA	2.69E+03	7,480	10,000	1.08E+06	4.19E+06	11,200	206	1,980	31,000	1,000	135	8.28E+7							
	ID	ID	ID	NA	NA	ID	NA	NA	NA	ID	ID	NA	ID	ID	NA	NA	NA	NA	ID	ID	NA	ID	ID	NA						
ID		SAMPLE ID		SAMPLE DATE																										
SB-20	W-2330012-040114-ACN-005	4/1/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	1.7 J	<5.0	<10	<5.0	1.9 J	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-35	W-2330012-040114-ACN-006	4/1/2014	<10	<10	2.4 J	<10	1.6 J	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-36	W-R2330012-040314-ACN-007	4/3/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-37	W-R2330012-040314-ACN-009	4/3/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-38	W-R2330012-040314-ACN-010	4/3/2014	<10	<10	1.5 J	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-39	W-R2330012-040314-ACN-011	4/3/2014	<10	<10	1.2 J	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	0.80 J	<2.0	<5.0						
SB-46	W-R2330012-041114-ACN-015	4/11/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-47	W-R2330012-041114-ACN-016	4/11/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-48	W-R2330012-040314-ACN-013	4/9/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-49	W-R2330012-040314-ACN-014	4/9/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SB-50	W-R2330012-040314-ACN-012	4/9/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SW-1	W-R2330009-050313-MJF-015	5/3/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
SW-1	W-R2330012-041514-ACN-017	4/15/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.6 H	<5.0	<5.0	<2.0	0.69 H						
SW-2	W-R2330009-050313-MJF-014	5/3/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	1.3 J	<1.0	<5.0	<5.0	<2.0	<5.0						
SW-2	W-R2330012-041514-ACN-019	4/15/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.3 H	<5.0	<5.0	<2.0	<5.0						
SW-3	W-R2330009-051013-MJF-016	5/10/2013	<80	<10	<5.0	<10	<10	<80	<80	<40	<5.0	<5.0	<10	<5.0	<80	<4.0	<40	<40	<40	<1.0	<40	<5.0	<2.0	<5.0						
SW-3	W-R2330012-041514-ACN-018	4/15/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.3 H	<5.0	<5.0	<2.0	<5.0						
Equipment Blank	W-R2330004-090512-MJF-05	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<0.84	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
Equipment Blank	W-R2330009-050113-MJF-006	5/1/2013	0.56 J	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	0.89 J	0.88 J	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0						
Equipment Blank ^h	W-R2330009-080813-ZTR-012	8/8/2013																												
Equipment Blank	W-R2330009-080813-ZTR-012	8/8/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
Equipment Blank ^h	W-R2330009-121113-AJL-013	12/11/2013																												
Equipment Blank	W-R2330009-121113-AJL-013	12/11/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	0.16 J	<1.0	<5.0	<5.0	<2.0	<5.0						
Equipment Blank ^h	W-R2330012-032814-ACN-012	3/28/2014																												
Equipment Blank	W-R2330012-032814-ACN-012	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						
Equipment Blank ^h	W-R2330012-052014-ACN-031	5/20/2014																												
Equipment Blank	W-R2330012-052014-ACN-031	5/20/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0						

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number
A = Total Metals sample collected for comparison to dissolved metals analytical results.
E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA
G = Calculated value based on a hardness of 150 mg/L
H = Analyzed outside of holding time
J = Analyte detected below quantitation limit.
Exceeds Generic Drinking Water Cleanup Criteria (I)
Exceeds Generic Drinking Water Cleanup Criteria (I) and the Generic Health-Based Drinking Water Value
Exceeds Generic Ground Water Surface Water Interface Criteria (III)
Exceeds Two or More DW (I), GSI (III) and/or Residential Health-Based Water Value (E)
Exceeds GSI Final Acute Value (FAV), also exceeds others
Notes in parentheses and standard abbreviations from MDEQ Operational Memorandum 1, Attachment 1, dated September 28, 2012 or MDEQ Guidance Document for the Vapor Intrusion Pathway, dated May 2013

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																			
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P-R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	100	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value			4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI}) (a)			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																				
MW-1	W-R2330009-043013-MJF-002	4/30/2013	6.1 J	0.43 J	15	1,500	<1.0	<1.0	1.1 J	2.8 J	1.3 J	<0.005	17,000	<3.0	130	<0.2	5.3 J	<5.0	<0.20	<2.0	1.4 J	9.1 J
MW-1 ^A	W-R2330009-080713-ZTR-007	8/7/2013	67	0.21 J	23	1,700	<1.0	0.17 J	1.5 J	3.4 J	3.3 J		25,000	0.25 J	120	<0.2	8.0 J	<5.0	<0.20	<2.0	2.0 J	6.0 J
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	5.3 J	0.27 J	23	1,900	<1.0	0.10 J	1.3 J	3.7 J	1.2 J	<0.005	25,000	0.076 J	120	<0.2	7.4 J	<5.0	<0.20	<2.0	1.7 J	5.6 J
MW-1 ^A	W-R2330009-111413-ACN-013	11/14/2013	33 J	0.19 J	28	2,200	<1.0	<1.0	2.0 J	3.1 J	0.62 J		21,000	0.17 J	86	<0.2	7.7 J	<5.0	<0.20	<2.0	1.7 J	3.4 J
MW-1	W-R2330009-111413-ACN-013	11/14/2013	4.8 J	0.21 J	27	2,200	<1.0	0.12 J	2.5 J	3.7 J	<4.0	0.0044 J	21,000	<3.0	90	<0.2	8.2 J	<5.0	<0.20	<2.0	1.8 J	3.4 J
MW-1 ^A	W-R2330012-032814-ACN-009	3/28/2014	14 J	0.18 J	16 J	1,300	0.15 J	<1.0	0.78 J	2.6 J	2.4 J		17,000	0.13 J	69	<0.2	7.5 J	0.71 J	<0.2	<2.0	1.8 J	2.0 J
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<100	0.19 J	16	1,600	0.19 J	0.18 J	2.7 J	3.0 J	2.0 J	6.7 J	18,000	<3.0	65	<0.2	7.5 J	<5.0	<0.2	<2.0	1.6 J	1.4 J
MW-3	W-R2330004-090512-MJF-01	9/5/2012	6.0 J	0.29 J	14	900	<1.0	<1.0	1.1 J	4.2 J	0.39 J		9,300	0.12 J	86	<0.2	15 J	0.91 J	<0.20	<2.0	0.60 J	3.7 J
MW-3	W-R2330009-050213-MJF-009	5/2/2013	10 J	0.51 J	1.5 J	220	<1.0	0.047 J	0.86 J	1.5 J	3.2 J	<0.005	2,000	0.11 J	67	<0.2	4.9 J	0.98 J	<0.20	0.49 J	0.53 J	2.3 J
MW-3 ^A	W-R2330009-080713-ZTR-004	8/7/2013	120	0.28 J	3.9 J	300	<1.0	0.11 J	0.84 J	0.95 J	5.4		4,000	0.24 J	44 J	<0.2	5.6 J	3.6 J	<0.20	<2.0	0.75 J	4.4 J
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	5.2 J	0.40 J	3.8 J	320	<1.0	0.063 J	4.5 J	1.9 J	3.5 J	<0.005	4,000	<3.0	46 J	<0.2	7.2 J	3.6 J	<0.20	<2.0	0.60 J	2.4 J
MW-3 ^A	W-R2330009-111213-ACN-002	11/12/2013	190	0.33 J	3.3 J	260	<1.0	<1.0	1.1 J	1.0 J	2.1 J		3,800	0.30 J	38 J	<0.2	6.4 J	5.6	<0.20	<2.0	0.88 J	4.3 J
MW-3	W-R2330009-111213-ACN-002	11/12/2013	4.1 J	0.31 J	3.7 J	300	<1.0	<1.0	0.46 J	1.3 J	1.3 J	<0.005	3,900	<3.0	36 J	<0.2	6.6 J	5.0 J	<0.20	<2.0	0.32 J	2.6 J
MW-3 ^A	W-R2330012-032714-ACN-007	3/27/2014	450	0.22 J	0.76 J	130	<1.0	<1.0	0.48 J	0.84 J	2.6 J		2,000	0.79 J	33 J	<0.2	4.8 J	1.2 J	<0.20	<2.0	1.1 J	5.9 J
MW-3	W-R2330012-032714-ACN-007	3/27/2014	89 J	0.24 J	0.62 J	150 J	<1.0	<1.0	<10	1.5 J	2.1 J	<0.005	1,400	0.079 J	23 J	<0.2	4.8 J	1.3 J	<0.20	<2.0	0.41 J	1.9 J
MW-4	W-R2330004-090512-MJF-02	9/5/2012	7.6 J	0.097 J	1.4 J	470	<1.0	<1.0	1.1 J	1.2 J	<4.0	<0.005	14,000	<3.0	56	<0.2	2.4 J	0.46 J	<0.20	<2.0	0.75 J	1.9 J
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	11 J	0.14 J	1.2 J	480	<1.0	<1.0	0.85 J	1.3 J	0.26 J	<0.005	15,000	0.034 J	55	<0.2	2.4 J	<5.0	<0.025	<2.0	0.73 J	2.4 J
MW-4	W-R2330009-050213-MJF-010	5/2/2013	13 J	0.21 J	<5.0	410	<1.0	<1.0	0.84 J	2.7 J	<4.0	<0.005	11,000	<3.0	490	<0.2	2.8 J	<5.0	<0.20	<2.0	0.85 J	1.1 J
MW-4 ^A	W-R2330009-080713-ZTR-005	8/7/2013	4.5 J	0.22 J	<5.0	480	<1.0	0.29 J	0.80 J	2.4 J	2.7 J		16,000	<3.0	77	<0.2	4.0 J	<5.0	<0.20	<2.0	1.0 J	2.4 J
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	170	0.12 J	<5.0	490	<1.0	0.29 J	1.4 J	1.5 J	2.6 J	<0.005	16,000	0.30 J	80	<0.2	4.0 J	1.0 J	<0.20	<2.0	1.4 J	3.5 J
MW-4 ^A	W-R2330009-111213-ACN-003	11/12/2013	490	0.23 J	1.7 J	460	<1.0	<1.0	2.9 J	2.2 J	1.4 J		16,000	1.2 J	96	<0.2	8.4 J	<5.0	<0.20	<2.0	2.1 J	7.5 J
MW-4	W-R2330009-111213-ACN-003	11/12/2013	10 J	0.19 J	1.1 J	460	<1.0	0.34 J	0.78 J	2.0 J	0.65 J	<0.005	15,000	<3.0	70	<0.2	4.7 J	<5.0	<0.20	<2.0	0.94 J	2.8 J
MW-4 ^A	W-R2330012-032714-ACN-006	3/27/2014	2,800	0.40 J	5.1	480	0.095 J	<1.0	4.5 J	5.7 J	9.6 J		20,000	7.5	700	<0.2	16 J	1.4 J	<0.20	0.12 J	8.5	35 J
MW-4	W-R2330012-032714-ACN-006	3/27/2014	6.0 J	0.23 J	2.9 J	450	<1.0	<1.0	0.37 J	2.4 J	2.0 J	3.4 J	15,000	<3.0	410	<0.2	8.4 J	<5.0	<0.20	<2.0	0.74 J	20 J
MW-5	W-R2330009-050113-MJF-004	5/1/2013	15 J	0.17 J	31	1,300	<1.0	<1.0	1.5 J	2.3 J	<4.0	<0.005	5,300	0.3 J	56	<0.2	3.5 J	0.69 J	<0.20	<2.0	1.3 J	1.1 J
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	12 J	0.27 J	31	1,300	<1.0	<1.0	1.9 J	2.3 J	<4.0	<0.005	5,400	0.061 J	58	<0.2	3.9 J	0.67 J	<0.20	0.069 J	1.2 J	1.1 J
MW-5 ^A	W-R2330009-080813-ZTR-009	8/8/2013	330	2.2 J	34	1,500	<1.0	0.84 J	2.1 J	2.3 J	3.5 J		5,300	2.1 J	56	<0.2	4.9 J	0.75 J	<0.20	<2.0	2.2 J	10 J
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	6.7 J	0.27 J	31	1,400	<1.0	0.16 J	1.6 J	3.1 J	2.1 J	<0.005	4,300	0.069 J	50	<0.2	4.3 J	<5.0	<0.20	<2.0	1.4 J	3.1 J
MW-5 ^A	W-R2330009-111213-ACN-004	11/12/2013	420	0.26 J	40	1,400	<1.0	0.98 J	2.6 J	2.6 J	3.5 J		6,500	4.9 J	81 J	<0.2	6.3 J	<5.0	<0.20	<2.0	2.5 J	11 J
MW-5	W-R2330009-111213-ACN-004	11/12/2013	13 J	0.20 J	38	1,300	<1.0	0.57 J	2.9 J	2.6 J	<4.0	0.0016	5,900	<3.0	71 J	<0.2	5.9 J	<5.0	<0.20	<2.0	1.3 J	2.4 J
MW-5 ^A	W-R2330012-032814-ACN-008	3/28/2014	1,100	0.50 J	40	1,300	0.25 J	0.49 J	3.3 J	3.1 J	8.0 J		8,100	12 J	93	<0.2	9.2 J	<5.0	0.051 J	<2.0	4.2	26 J
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<2.0	0.25 J	31	1,200	<1.0	<1.0	0.61 J	2.6 J	1.0 J	2.6 J	4,500	0.34	57	<0.2	6.5 J	0.70 J	<0.20	<2.0	1.3 J	0.65 J
MW-6	W-R2330004-090512-MJF-04	9/5/2012	17 J	0.16 J	9.4	580	<1.0	<1.0	1.0 J	2.4 J	0.31 J	<0.005	26,000	0.057 J	500	<0.2	3.8 J	0.051 J	<0.025	<2.0	1.2 J	15 J
MW-6	W-R2330009-050213-MJF-012	5/2/2013	7.5 J	0.15 J	3.7 J	480	<1.0	<1.0	1.6 J	1.5 J	<4.0	<0.005	18,000	0.31 J	640	<0.2	5.0 J	<5.0	<0.20	<2.0	0.99 J	2.1 J
MW-6 ^A	W-R2330009-080713-ZTR-002	8/7/2013	47 J	0.11 J	6.0	540	<1.0	0.19 J	0.94 J	1.9 J	4.40		22,000	0.29 J	790	<0.2	7.5 J	<5.0	<0.20	<2.0	1.3 J	3.8 J
MW-6	W-R2330009-080713-ZTR-002	8/7/2013	6.8 J	0.15 J	5.5	550	<1.0	0.25 J	0.75 J	2.4 J	3.5 J	<0.005	21,000	0.063 J	750	<0.2	7.6 J	<5.0	<0.20	<2.0	1.3 J	3.2 J
MW-6 ^A	W-R2330009-111313-ACN-011	11/13/2013	200 J	0.16 J	5.4 J	520	<1.0	0.25 J	1.8 J	1.7 J	1.4 J		18,000	0.55 J	430	<0.2	8.5 J	<5.0	<0.20	<2.0	1.6 J	3.7 J

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																			
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P/R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	100	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value			4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M), 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{vai}) (A)			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																				
MW-8	W-R2330009-050313-MJF-013	5/3/2013	11 J	0.21 J	1.2 J	380	<1.0	<1.0	0.56 J	1.5 J	<4.0	<0.005	6,200	<3.0	180	<0.2	4.4 J	<5.0	<0.20	<2.0	0.89 J	2.0 J
MW-8 ^A	W-R2330009-080713-ZTR-008	8/7/2013	51	0.16 J	4.1 J	470	<1.0	0.12 J	1.2 J	1.5 J	3.8 J		8,200	0.80 J	200	<0.2	6.8 J	<5.0	<0.20	<2.0	1.3 J	4.0 J
MW-8	W-R2330009-080713-ZTR-008	8/7/2013	6.3 J	0.20 J	3.9 J	460	<1.0	0.098 J	0.94 J	2.3 J	1.6 J	<0.005	8,100	0.074 J	200	<0.2	6.6 J	<5.0	<0.20	<2.0	0.91 J	3.0 J
MW-8 ^A	W-R2330009-111213-ACN-005	11/12/2013	98 J	0.12 J	3.7 J	420	<1.0	0.50 J	1.3 J	1.6 J	1.6 J		7,700	0.34 J	200	<0.2	7.6 J	<5.0	<0.20	<2.0	1.5 J	3.2 J
MW-8	W-R2330009-111213-ACN-005	11/12/2013	8.4 J	0.13 J	3.6 J	440	<1.0	0.49 J	2.0 J	1.8 J	1.5 J	0.0015 J	7,500	<3.0	210	<0.2	7.9 J	<5.0	<0.20	<2.0	0.89 J	2.4 J
MW-9	W-R2330009-050113-MJF-007	5/1/2013	6.6 J	0.2 J	44	1,700	<1.0	<1.0	1.9 J	2.4 J	0.71 J	<0.005	28,000	0.053 J	760	<0.2	6.3 J	<5.0	<0.20	<2.0	1.2 J	7.5 J
MW-9 ^A	W-R2330009-080813-ZTR-013	8/8/2013	13 J	0.13 J	52	1,300	<1.0	0.22 J	1.0 J	1.4 J	2.1 J		31,000	0.17 J	440	<0.2	5.2 J	<5.0	<0.20	<2.0	1.5 J	4.6 J
MW-9	W-R2330009-080813-ZTR-013	8/8/2013	4.7 J	0.21 J	52	1,300	<1.0	0.24 J	0.91 J	2.2 J	1.7 J	<0.005	30,000	0.068 J	430	<0.2	5.2 J	<5.0	<0.20	<2.0	1.4 J	2.9 J
MW-9 ^A	W-R2330009-111413-ACN-012	11/14/2013	43 J	0.16 J	59	2,100	<1.0	<1.0	2.0 J	1.7 J	<4.0		30,000	0.30 J	400	<0.2	6.9 J	<5.0	<0.20	0.14 J	1.5 J	3.7 J
MW-9	W-R2330009-111413-ACN-012	11/14/2013	4.7 J	0.17 J	60	2,200	<1.0	<1.0	1.0 J	1.7 J	<4.0	<0.005	29,000	0.083 J	340	<0.2	6.3 J	<5.0	<0.20	<2.0	1.5 J	2.5 J
MW-9 ^A	W-R2330012-032614-ACN-003	3/26/2014	190	0.19 J	51	1,700	<1.0	<1.0	1.0 J	2.2 J	2.6 J		34,000	0.99 J	600	<0.2	8.0 J	<5.0	<0.20	<2.0	1.9 J	5.3 J
MW-9	W-R2330012-032614-ACN-003	3/26/2014	7.8 J	0.15 J	47	1,900	<1.0	<1.0	0.70 J	2.2 J	1.4 J	2.1 J	34,000	0.21 J	570	<0.2	7.9 J	<5.0	<0.20	<2.0	1.3 J	2.1 J
MW-10	W-R2330009-050113-MJF-003	5/1/2013	6.1 J	0.19 J	7.4	1,800	<1.0	<1.0	1.8 J	2.6 J	<4.0	<0.005	17,000	0.054 J	350	<0.2	4.9 J	0.66 J	<0.20	<2.0	2.3 J	2.4 J
MW-10 ^A	W-R2330009-080813-ZTR-010	8/8/2013	26 J	0.27 J	6.5	1,700	<1.0	0.29 J	2.2 J	3.1 J	3.4 J		17,000	7.3	600	<0.2	7.5 J	<5.0	<0.20	<2.0	2.4 J	9.6 J
MW-10	W-R2330009-080813-ZTR-010	8/8/2013	8.1 J	0.31 J	6.7	1,800	<1.0	0.22 J	2.0 J	3.5 J	2.7 J	<0.005	17,000	2.4 J	600	<0.2	7.6 J	<5.0	<0.20	<2.0	2.3 J	5.2 J
MW-10 ¹ (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	25 J	0.26 J	6.7	1,700	<1.0	0.40 J	2.0 J	3.1 J	3.4 J		17,000	7.2	580	<0.2	7.4 J	0.75 J	<0.20	<2.0	2.2 J	8.5 J
MW-10 (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	7.4 J	0.25 J	6.4	1,700	<1.0	0.27 J	2.0 J	3.1 J	2.4 J	<0.005	17,000	2.7 J	600	<0.2	7.4 J	0.79 J	<0.20	<2.0	2.2 J	4.9 J
MW-10 ^A	W-R2330009-111313-ACN-008	11/13/2013	26 J	0.24 J	10	1,900	<1.0	1.7 J	3.7 J	3.3 J	1.8 J		2,300	2.8 J	460	<0.2	8.1 J	<5.0	<0.20	<2.0	3.0 J	7.0 J
MW-10	W-R2330009-111313-ACN-008	11/13/2013	12 J	0.23 J	9.7 J	1,900	<1.0	1.4 J	2.7 J	3.8 J	1.1 J	0.0019 J	2,100	0.16 J	480	<0.2	8.1 J	<5.0	<0.20	<2.0	2.1 J	3.4 J
MW-10 ¹ (DUP)	W-R2330009-111313-ACN-009	11/13/2013	26 J	0.23 J	10	1,900	<1.0	1.7 J	2.9 J	3.4 J	1.4 J		2,300	2.8 J	450	<0.2	8.0 J	<5.0	<0.20	<2.0	3.0 J	3.8 J
MW-10 (DUP)	W-R2330009-111313-ACN-009	11/13/2013	8.8 J	0.20 J	9.2 J	1,900	<1.0	1.7 J	2.6 J	3.4 J	1.1 J	0.0023 J	2,100	0.18 J	470	<0.2	8.2 J	<5.0	<0.20	<2.0	2.3 J	5.0 J
MW-10 ^A	W-R2330012-032814-ACN-010	3/28/2014	32 J	0.20 J	6.6 J	1,700	<1.0	<1.0	1.6 J	3.0 J	1.9 J		24,000	1.6 J	550	<0.2	8.1 J	<5.0	<0.20	<2.0	2.1 J	2.1 J
MW-10	W-R2330012-032814-ACN-010	3/28/2014	2.0 J	0.22 J	6.5 J	1,700	<1.0	<1.0	0.79 J	2.5 J	3.3 J	2.4 J	24,000	0.14 J	540	<0.2	9.8 J	<5.0	<0.20	0.24 J	1.8 J	3.0 J
MW-10 ¹ (DUP)	W-R2330012-032814-ACN-011	3/28/2014	45 J	0.23 J	7.1 J	1,800	<1.0	<1.0	1.6 J	2.9 J	1.5 J		25,000	1.7 J	550	<0.2	7.9 J	0.84 J	<0.20	<2.0	2.3 J	2.1 J
MW-10 (DUP)	W-R2330012-032814-ACN-011	3/28/2014	4.7 J	0.21 J	6.8 J	1,700	<1.0	<1.0	<1.0	3.0 J	1.1 J	4.1 J	23,000	0.14 J	530	<0.2	8.0 J	0.83 J	<0.20	<2.0	1.9 J	<5.0
MW-11	W-R2330009-043013-MJF-001	4/30/2013	4.6 J	0.13 J	<5.0	26	<1.0	<1.0	0.69 J	0.41 J	0.76 J	<0.005	13 J	0.0079 J	7.4 J	<0.2	1.2 J	1.7 J	<0.20	<2.0	<4.0	2.0 J
MW-11 ^A	W-R2330009-080713-ZTR-006	8/7/2013	22 J	0.079 J	<5.0	57 J	<1.0	<1.0	0.49 J	0.51 J	2.7 J		270	<3.0	58	<0.2	2.2 J	0.74 J	<0.20	<2.0	0.24 J	2.5 J
MW-11	W-R2330009-080713-ZTR-006	8/7/2013	4.0 J	0.12 J	<5.0	61 J	<1.0	<1.0	0.53 J	0.93 J	2.0 J	<0.005	270	<3.0	61	<0.2	2.2 J	1.1 J	<0.20	<2.0	0.23 J	2.2 J
MW-11 ^A	W-R2330009-111213-ACN-001	11/12/2013	730	0.66 J	1.0 J	38 J	<1.0	<1.0	3.1 J	1.2 J	3.0 J		1,600	1.3 J	75	<0.2	4.8 J	1.1 J	<0.20	0.24 J	2.1 J	8.6 J
MW-11	W-R2330009-111213-ACN-001	11/12/2013	22 J	0.30 J	0.65 J	47 J	<1.0	<1.0	0.40 J	0.91 J	0.82 J	<0.005	150 J	<3.0	60	<0.2	3.2 J	0.83 J	<0.20	<2.0	<4.0	3.1 J
MW-11 ^A	W-R2330012-032614-ACN-002	3/26/2014	180	0.12 J	<5.0	38 J	<1.0	<1.0	0.55 J	0.74 J	1.5 J		380	0.37 J	52	<0.2	3.4 J	1.3 J	<0.20	<2.0	0.34 J	0.91 J
MW-11	W-R2330012-032614-ACN-002	3/26/2014	7.4 J	0.096 J	<5.0	47 J	<1.0	<1.0	<1.0	0.80 J	0.96 J	<0.005	110 J	<3.0	54	<0.2	3.3 J	0.83 J	<0.20	0.098 J	0.28 J	<50.0
MW-12	W-R2330009-050213-MJF-011	5/2/2013	14 J	0.22 J	1.4 J	1,100	<1.0	<1.0	1.9 J	4.0 J	<4.0	<0.005	15,000	0.17 J	1,500	<0.2	3.3 J	<5.0	<0.20	<2.0	0.99 J	8.8 J
MW-12 ^A	W-R2330009-080713-ZTR-003	8/7/2013	170	0.15 J	1.2 J	1,400	<1.0	0.27 J	1.2 J	1.4 J	6.1		18,000	0.36 J	470	<0.2	4.3 J	<5.0	<0.20	<2.0	1.7 J	4.5 J
MW-12	W-R2330009-080713-ZTR-003	8/7/2013	6.9 J	0.26 J	0.93 J	1,500																

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																				
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc	
Non-residential Drinking Water Criteria (II)			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	100	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)	
Non-residential Health-Based Drinking Water Value			4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	NA	2,500	NA	NA	NA	NA	NA	NA	NA	
Ground Water Surface Water Interface Criteria (GSI) (III)			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)	
GSI Final Acute Value (FAV)			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV	
Groundwater Concentration for Vapor Intrusion (GW _{VI,a}) (6)			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
Water Solubility (VII)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	
ID	SAMPLE ID	SAMPLE DATE																					
MW-23 ^A	W-R2330012-051914-ACN-023	5/19/2014	560	0.15 J	13	610	<1.0	<1.0	1.7 J	2.2 J	2.1 J		13,000	1.2 J	180	<0.2	4.4 J	0.92 J	<0.20	<2.0	2.5 J	7.2 J	
MW-23	W-R2330012-051914-ACN-023	5/19/2014	7.7 J	0.089 J	12	560	<1.0	<1.0	0.76 J	1.9 J	<4.0	<0.005	12,000	0.067 J	160	<0.2	3.3 J	<5.0	<0.20	<2.0	1.1 J	2.2 J	
MW-23 ³ (DUP)	W-R2330012-051914-ACN-023	5/19/2014	590	0.11 J	12	580	<1.0	<1.0	1.7 J	2.1 J	2.2 J		13,000	1.3 J	180	<0.2	4.4 J	0.72 J	<0.20	<2.0	2.6 J	7.3 J	
MW-23 (DUP)	W-R2330012-051914-ACN-023	5/19/2014	8.5 J	0.076 J	12	550	<1.0	<1.0	0.70 J	1.8 J	<4.0	<0.005	11,000	<3.0	150	<0.2	3.1 J	<5.0	<0.20	<2.0	0.84 J	1.9 J	
MW-24 ^A	W-R2330012-052014-ACN-030	5/20/2014	310	<2.0	5.7	170	<1.0	<1.0	0.57 J	0.50 J	1.6 J		5,300	0.38 J	640	<0.2	3.8 J	0.69 J	<0.20	<2.0	0.69 J	4.9 J	
MW-24	W-R2330012-052014-ACN-030	5/20/2014	4.8 J	0.074 J	5.2	160	<1.0	<1.0	<10	0.76 J	0.75 J	<0.005	4,700	<3.0	620	<0.2	2.9 J	<5.0	<0.20	<2.0	<4.0	1.7 J	
MW-25 ^A	W-R2330012-051914-ACN-025	5/19/2014	2,600	0.24 J	1.9 J	83 J	<1.0	<1.0	3.8 J	1.5 J	7.4		3,800	2.5 J	190	<0.2	6.3 J	2.4 J	<0.20	<2.0	6.8	12 J	
MW-25	W-R2330012-051914-ACN-025	5/19/2014	51	0.21 J	0.63 J	68 J	<1.0	<1.0	<10	0.59 J	3.7 J	<0.005	110 J	0.25 J	150	<0.2	2.3 J	1.7 J	<0.20	<2.0	0.35 J	2.2 J	
MW-26 ^A	W-R2330012-051914-ACN-020	5/19/2014	900	0.37 J	2.7 J	37 J	<1.0	<1.0	1.8 J	1.2 J	4.6		1,900	1.1 J	110	<0.2	4.3 J	0.9 J	<0.20	<2.0	3.1 J	7.3 J	
MW-26	W-R2330012-051914-ACN-020	5/19/2014	36 J	0.39 J	1.5 J	34 J	<1.0	<1.0	<10	1.1 J	1.0 J	<0.005	55 J	<3.0	86	<0.2	0.23 J	<5.0	<0.20	<2.0	0.41 J	1.6 J	
SB-13 ^A	W-R2330009-121013-AJL-008	12/10/2013	120,000	2.8 J	300	730 J	5.9 J	4.0 J	240	140 J	510		310,000	250	5,300	0.98	410	13 J	0.78 J	7.6 J	380	1,500	
SB-13	W-R2330009-121013-AJL-008	12/10/2013	23 J	0.37 J	<2.0	59 J	<1.0	0.071 J	<10	8.0 J	2.3 J	<0.005	71 J	0.072 J	610	<0.2	14 J	<5.0	<0.20	<2.0	0.20 J	4.0 J	
SB-14 ^A	W-R2330009-121013-AJL-007	12/10/2013	2,100	0.54 J	2.1 J	65 J	0.12 J	0.20 J	4.6 J	9.6 J	7.4		3,500	4.0	800	<0.2	22	0.68 J	<0.20	0.35 J	7.3	22 J	
SB-14	W-R2330009-121013-AJL-007	12/10/2013	14 J	0.37 J	<2.0	49 J	<1.0	0.064 J	<10	5.4 J	1.9 J	<0.005	150 J	0.11 J	470	<0.2	12 J	0.68 J	<0.20	<2.0	0.19 J	4.8 J	
SB-15 ^A	W-R2330009-120913-AJL-006	12/9/2013	790	0.32 J	2.0 J	33 J	<1.0	0.052 J	5.2 J	1.5 J	2.9 J		1,600	0.79 J	53	<0.2	10 J	0.77 J	<0.20	<2.0	2.4 J	8.1 J	
SB-15	W-R2330009-120913-AJL-006	12/9/2013	6.9 J	0.43 J	0.77 J	34 J	<1.0	<1.0	<10	2.2 J	2.0 J	2.3 J	770	<3.0	53	<0.2	8.5 J	0.84 J	<0.20	<2.0	0.17 J	3.0 J	
SB-21 ^A	W-R2330009-120513-RD-001	12/5/2013	38,000 J	13 J	37 J	2,900	1.7 J	11	75 J	38 J	320		73,000	1,700	1,800	0.39	86 J	<5.0	2.7	<2.0	86	2,200	
SB-21	W-R2330009-120513-RD-001	12/5/2013	24 J	0.97 J	2.3 J	2,000	<1.0	<1.0	1.7 J	5.5 J	2.3 J	6.9	13,000	0.49 J	530	<0.2	10 J	<5.0	<0.20	1.1 J	1.3 J	26 J	
SB-22 ^A	W-R2330009-120513-RD-002	12/5/2013	1,900	2.2 J	<5.0	1,000	<1.0	<1.0	8.1 J	4.3 J	40 J		16,000	59	550	<0.2	20 J	<5.0	<0.20	<2.0	4.0 J	210 J	
SB-22	W-R2330009-120513-RD-002	12/5/2013	10 J	0.99 J	2.0 J	960	<1.0	<1.0	1.1 J	3.9 J	2.8 J	3.6 J	12,000	0.21 J	560	<0.2	16 J	<5.0	<0.20	0.081 J	0.77 J	24 J	
SB-23 ^A	W-R2330009-120513-RD-003	12/5/2013	3,200	2.8 J	72	880 J	1.8 J	<1.0	130	40 J	150		8,600	86	1,600	0.12 J	130 J	12 J	<0.20	0.96 J	9.3	420 J	
SB-23	W-R2330009-120513-RD-003	12/5/2013	17 J	0.39 J	23	690	<1.0	<1.0	2.3 J	3.0 J	1.5 J	31	12,000	0.084 J	70	<0.2	9.1 J	0.76 J	<0.20	<2.0	1.7 J	5.6 J	
SB-24 ^A	W-R2330009-120613-RD-004	12/6/2013	6,700	2.6 J	130	860 J	3.5 J	2.9 J	130	77 J	220		190,000	150	4,100	0.30	210	9.8 J	0.53 J	2.4 J	86	580	
SB-24	W-R2330009-120613-RD-004	12/6/2013	52 J	0.60 J	6.7	410	<1.0	<1.0	<10	2.5 J	2.5 J	9.2	4,700	<3.0	360	<0.2	14 J	0.73 J	<0.20	<2.0	0.38 J	4.8 J	
SB-25 ^A	W-R2330009-120613-RD-005	12/6/2013	250,000	2.6 J	470	1300	9.8 J	13	540	270	700		520,000	440	9,200	0.95	1,100	27 J	1.7 J	6.3 J	590	1,700	
SB-25	W-R2330009-120613-RD-005	12/6/2013	930	4.3	11	84 J	<1.0	0.10 J	1.4 J	4.0 J	1.5 J	46.0	1,100	0.63 J	530	<0.2	5.0 J	<5.0	<0.20	0.26 J	3.2 J	4.5 J	
SB-26 ^A	W-R2330009-121013-AJL-009	12/10/2013	15,000	5.0 J	610	970 J	12	17	1000	310	1,100		700,000	640	14,000	0.51	1,100	47 J	2.5	13 J	660	2,900	
SB-26	W-R2330009-121013-AJL-009	12/10/2013	60	22	8.6	57 J	<1.0	<1.0	<10	2.8 J	1.4 J	1.0 J	1,900	0.11 J	92	<0.2	14 J	0.75 J	<0.20	<2.0	0.67 J	14 J	
SB-27 ^A	W-R2330009-121113-AJL-010	12/11/2013	62,000	2.5 J	86	610 J	3.2 J	3.2 J	290	57 J	220		140,000	100	2,800	<0.2	210	9.4 J	<0.20	2.3 J	180	680	
SB-27	W-R2330009-121113-AJL-010	12/11/2013	22 J	0.56 J	2.1 J	160	<1.0	<1.0	<10	5.3 J	2.8 J	1.5 J	7,400	<3.0	310	<0.2	25	<5.0	<0.20	<2.0	0.46 J	19 J	
SB-27 ³ (DUP)	W-R2330009-121113-AJL-011	12/11/2013	17,000	1.1 J	18 J	300 J	<1.0	0.61 J	59 J	13 J	46		38,000	19 J	730	<0.2	53 J	<5.0	<0.20	<2.0	46	140 J	
SB-27 (DUP)	W-R2330009-121113-AJL-011	12/11/2013	11 J	0.48 J	2.0 J	150	<1.0	<1.0	<10	4.7 J	2.4 J	1.3 J	4,900	<3.0	300	<0.2	24	<5.0	<0.20	<2.0	<4.0	18 J	
SB-28 ^A	W-R2330009-121113-AJL-012	12/11/2013	95,000	3.2 J	210	550 J	5.2 J	5.2 J	350	85 J	330		230,000	200	4,100	0.23	310	13 J	0.75 J	3.3 J	320	800	
SB-28	W-R2330009-121113-AJL-012	12/11/2013	31 J	1.8 J	10	110	<1.0	<1.0	<10	2.8 J	2.1 J	<0.005	1,400	<3.0	180	<0.2	15 J	<5.0	<0.20	<2.0	0.49 J	4.2 J	
SB-29 ^A	W-R2330009-121213-AJL-014	12/12/2013	7,600	4.1 J	10 J	2,100	<1.0	2.8 J	71 J	12 J	90		51,000	330	980	0.13	51 J	<5.0	<0.20	<2.0	24 J	470 J	
SB-29	W-R2330009-121213-AJL-014	12/12/2013	25 J	0.83 J	<5.0	1,700	<1.0	<1.0	3.1 J	5.2 J	6.2 J	4.2 J	22,										

Table 3
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																				
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc	
			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	100	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)	
			4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	NA	2,500	NA	NA	NA	NA	NA	NA	NA	
			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)	
			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)	
			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV	
			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA
			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE	300	0.19 J	<5.0	21 J	<1.0	<1.0	<10	1.8 J	1.2 J	1.3	490	0.13 J	98	<0.2	2.6 J	0.73 J	<0.20	<2.0	1.3 J	2.8 J	
SB-20	W-2330012-040114-ACN-005	4/1/2014	43 J	0.81 J	4.3 J	1,000	<1.0	<1.0	3.6 J	3.2 J	<4.0	2.4 J	25,000	0.43 J	550	<0.2	10 J	<5.0	<0.20	<2.0	2.2 J	16 J	
SB-35	W-R2330012-040314-ACN-007	4/3/2014	160 J	0.75 J	4.3 J	2,800	<1.0	<1.0	1.6 J	6.4 J	<4.0	2.5 J	27,000	0.47 J	260	<0.2	9.7 J	<5.0	<0.20	<2.0	3.3 J	2.9 J	
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	130 J	0.43 J	4.4 J	2,600	<1.0	<1.0	1.4 J	6.6 J	<4.0	6.3 J	27,000	0.41 J	250 J	<0.2	9.6 J	<5.0	<0.20	<2.0	3.3 J	2.5 J	
SB-37	W-R2330012-040314-ACN-009	4/3/2014	66 J	1.5 J	24 J	640	<1.0	<1.0	3.5 J	8.8 J	<4.0	9.5 J	16,000	3.1 J	530	<0.2	31 J	<5.0	<0.20	<2.0	1.1 J	340	
SB-38	W-R2330012-040314-ACN-010	4/3/2014	13 J	2.5 J	14 J	380	<1.0	<1.0	<10	6.2 J	<4.0	5.2 J	2,200	0.47 J	430	<0.2	15 J	<5.0	<0.20	<2.0	<4.0	21 J	
SB-39	W-R2330012-040314-ACN-011	4/3/2014	75	0.61 J	2.3 J	2,100	<1.0	<1.0	4.4 J	4.6 J	2.3 J	6.6 J	25,000	1.5 J	300	<0.2	11 J	1.1 J	<0.20	1.5 J	1.1 J	6.9 J	
SB-46	W-R2330012-041114-ACN-015	4/11/2014	38 J	0.40 J	6.4 J	100 J	<1.0	<1.0	1.8 J	3.1 J	2.7 J	<0.005	5,100	1.2 J	960	<0.2	9.6 J	<5.0	<0.20	<2.0	<4.0	7.8 J	
SB-47	W-R2330012-041114-ACN-016	4/11/2014	39 J	0.43 J	2.8 J	160	<1.0	<1.0	0.95 J	6.7 J	2.4 J	<0.005	3,200	0.18 J	1,200	<0.2	17 J	7.2	<0.2	<2.0	0.59 J	9.0 J	
SB-48	W-R2330012-040314-ACN-013	4/9/2014	170 J	1.4 J	<5.0	69 J	<1.0	<1.0	<10	7.7 J	6.1 J	<0.005	280 J	<3.0	410	<0.2	20 J	5.4 J	<0.20	<2.0	2.4 J	21 J	
SB-49	W-R2330012-040314-ACN-014	4/9/2014	21 J	<2.0	<5.0	9.3 J	<1.0	<1.0	<10	0.17 J	0.65 J	2.3 J	31 J	0.62 J	59	<0.2	1.4 J	<5.0	<0.20	<2.0	<4.0	1.3 J	
SB-50	W-R2330012-040314-ACN-012	4/9/2014	74 J	0.43 J	<5.0	44 J	<1.0	0.58 J	<10	2.6 J	<4.0	2.6 J	200 J	14 J	110 J	<0.2	4.3 J	<5.0	<0.20	<2.0	<4.0	8.0 J	
SW-1	W-R2330009-050313-MJF-015	5/3/2013	25 J	0.40 J	<5.0	27 J	<1.0	<1.0	1.1 J	1.5 J	4.0	<0.005	50 J	0.069 J	22 J	<0.2	6.4 J	<5.0	<0.20	<2.0	<4.0	1.9 J	
SW-1	W-R2330012-041514-ACN-017	4/15/2014	16 J	1.3 J	<5.0	34 J	<1.0	0.4 J	4.3 J	1.7 J	36 J	110	33 J	2.3 J	51 J	<0.2	4.0 J	<5.0	<0.20	<2.0	1.2 J	38 J	
SW-2	W-R2330009-050313-MJF-014	5/3/2013	3.4 J	1.1 J	0.93 J	93 J	<1.0	0.063 J	0.44 J	0.55 J	5.2 J	0.0012 J	170 J	0.25 J	69	<0.2	4.8 J	<5.0	<0.20	<2.0	0.28 J	10 J	
SW-2	W-R2330012-041514-ACN-019	4/15/2014	<250	1.4 J	<25	78 J	<1.0	0.23 J	<10	1.3 J	5.9 J	<0.005	250 J	0.77 J	460 J	<0.2	5.2 J	<5.0	<0.20	<2.0	<4.0	80 J	
SW-3	W-R2330009-051013-MJF-016	5/10/2013	26 J	0.43 J	4.6 J	340	<1.0	0.046 J	1.2 J	3.4 J	13 J	<0.005	4,100	1.7 J	880	<0.2	13 J	<50	<0.20	0.093 J	1.1 J	51	
SW-3	W-R2330012-041514-ACN-018	4/15/2014	11 J	0.52 J	<5.0	150 J	<1.0	<1.0	<10	0.93 J	5.7 J	<0.005	<100	2.6 J	6.2 J	<0.2	4.2 J	<5.0	<0.20	<2.0	<4.0	8.8 J	
Equipment Blank	W-R2330004-090512-MJF-05	9/5/2012	2.9 J	<2.0	<5.0	0.59 J	<1.0	<1.0	0.14 J	0.26 J	0.70 J	<0.005	24 J	0.27 J	1.5 J	<0.2	0.42 J	0.48 J	<0.025	<2.0	<0.30	15 J	
Equipment Blank	W-R2330009-050113-MJF-006	5/1/2013	2.4 J	0.11 J	<5.0	3.1 J	<1.0	<1.0	0.59 J	0.79 J	0.57 J	<0.005	23 J	0.0053 J	2.3 J	<0.2	0.6 J	<5.0	<0.20	<2.0	<4.0	1.8 J	
Equipment Blank ^A	W-R2330009-080813-ZTR-012	8/8/2013	3.4 J	<2.0	<5.0	2.7 J	<1.0	0.049 J	0.28 J	<20	1.5 J	<0.005	26 J	0.053 J	0.38 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	4.1 J	
Equipment Blank	W-R2330009-080813-ZTR-012	8/8/2013	1.7 J	0.080 J	<5.0	2.2 J	<1.0	<1.0	<10	0.46 J	1.1 J	<0.005	21 J	<3.0	1.0 J	<0.2	0.46 J	<5.0	<0.20	<2.0	<4.0	3.1 J	
Equipment Blank ^A	W-R2330009-121113-AJL-013	12/11/2013	7.0 J	<2.0	<5.0	0.085 J	<1.0	<1.0	<10	<20	0.72 J	<10	12 J	<3.0	0.13 J	<0.2	<20	<5.0	<0.20	<2.0	0.3 J	2.2 J	
Equipment Blank	W-R2330009-121113-AJL-013	12/11/2013	2.7 J	<2.0	<5.0	0.11 J	<1.0	<1.0	<10	0.14 J	<4.0	<0.005	10 J	<3.0	0.31 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	1.7 J	
Equipment Blank ^A	W-R2330012-032814-ACN-012	3/28/2014	51	0.094 J	<5.0	14 J	0.15 J	<1.0	<1.0	0.17 J	65 J		17 J	0.16 J	0.17 J	<0.2	1.3 J	<5.0	<0.20	<2.0	<4.0	5.3 J	
Equipment Blank	W-R2330012-032814-ACN-012	3/28/2014	150	0.48 J	<5.0	7.5 J	91 J	<1.0	<1.0	0.076 J	53 J	14 J	29 J	0.037 J	1.2 J	<0.2	0.57 J	<5.0	<0.20	<2.0	<4.0	2.1 J	
Equipment Blank ^A	W-R2330012-052014-ACN-031	5/20/2014	5.0 J	<2.0	<5.0	0.28 J	<1.0	<1.0	<1.0	<20	0.56 J		8.4 J	0.054 J	0.25 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	0.57 J	
Equipment Blank	W-R2330012-052014-ACN-031	5/20/2014	9.4 J	<2.0	<5.0	0.35 J	<1.0	<1.0	<1.0	<20	<4.0	<0.005	13 J	<3.0	0.39 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	0.87 J	

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number
A = Total Metals sample collected for comparison to dissolved metals analytical results.
E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA
G = Calculated value based on a hardness of 150 mg/L
H = Analyzed outside of holding time
J = Analyte detected below quantitation limit.
Exceeds Generic Drinking Water Cleanup Criteria (II)
Exceeds Generic Drinking Water Cleanup Criteria (II) and the Generic Health-Based Drinking Water Value
Exceeds Generic Ground Water Surface Water Interface Criteria (III)
Exceeds Two or More DW (II), GSI (III) and/or Nonresidential Health-Based Water Value (E)
Exceeds GSI Final Acute Value (FAV), also exceeds others
Notes in parentheses and standard abbreviations from MDEQ Operational Memorandum 1, Attachment 1, dated September 28, 2012 or MDEQ Guidance Document for the Vapor Intrusion Pathway, dated May 2013

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)															
			2-Butanone (MEK)	1,1,2-Trichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methyldichloroethane	Toluene	Xylenes
Residential Drinking Water Criteria (II)			13,000	600 (A)	75 (A)	1,800	730	5.0 (A)	800	100 (A)	430	80 (A,W)	NA	74 (E)	800	NA	790 (E)	280 (E)
Residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,000	10,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200	ID	25	1,100	350	NA	18	28	NA	270	41
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+5 (S)	16,000	2.0E+07 (S)	1.0E+09 (D,S)	5,600	2.5E+05	2.1E+05	5.7E+06 (S)	28,000	NA	1.1E+05	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)
Groundwater Concentration for Vapor Intrusion (GW _{v-i}) (a)			4.3E+06	7,600	76	1,100	8.2E+06	27	2,400	1,100	44,000	140	1,900	700 (d)	10	NA	36,000	10,000 (d)
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.86E+5 (S)
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000
ID	SAMPLE ID	SAMPLE DATE																
MW-1	W-R2330009-043013-MJF-002	4/30/2013	<25	<1.0	<1.0	<50	<50	0.66 J	<5.0	<1.0	7.3	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-1 ^A	W-R2330009-080713-ZTR-007	8/7/2013																
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	<25	<1.0	<1.0	<50	<50	0.78 J	<5.0	<1.0	6.9	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-1 ^A	W-R2330009-111413-ACN-013	11/14/2013																
MW-1	W-R2330009-111413-ACN-013	11/14/2013	<25	<1.0	<1.0	<50	6.9 J	0.81 J	<5.0	<1.0	9.9	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-1 ^A	W-R2330012-032814-ACN-009	3/28/2014																
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<25	<1.0	<1.0	<50	<50	0.57 J	<5.0	<1.0	5.1	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<25	<1.0	<1.0	<50	<50	0.66 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3	W-R2330009-050213-MJF-009	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3 ^A	W-R2330009-080713-ZTR-004	8/7/2013																
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3 ^A	W-R2330009-111213-ACN-002	11/12/2013																
MW-3	W-R2330009-111213-ACN-002	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-3 ^A	W-R2330012-032714-ACN-007	3/27/2014																
MW-3	W-R2330012-032714-ACN-007	3/27/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<25	<1.0	<1.0	<50	12 J	0.39 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	<25	<1.0	<1.0	<50	8.5 J	0.43 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4	W-R2330009-050213-MJF-010	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 ^A	W-R2330009-080713-ZTR-005	8/7/2013																
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 ^A	W-R2330009-111213-ACN-003	11/12/2013																
MW-4	W-R2330009-111213-ACN-003	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-4 ^A	W-R2330012-032714-ACN-006	3/27/2014																
MW-4	W-R2330012-032714-ACN-006	3/27/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5	W-R2330009-050113-MJF-004	5/1/2013	<25	<1.0	<1.0	<50	6.9 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 ^A	W-R2330009-080813-ZTR-009	8/8/2013																
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 ^A	W-R2330009-111213-ACN-004	11/12/2013																
MW-5	W-R2330009-111213-ACN-004	11/12/2013	<25	<1.0	<1.0	<50	15 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-5 ^A	W-R2330012-032814-ACN-008	3/28/2014																
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6	W-R2330004-090512-MJF-04	9/5/2012	<25	<1.0	<1.0	<50	11 J	4.9	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6	W-R2330009-050213-MJF-012	5/2/2013	<25	<1.0	<1.0	<50	<50	2.8	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6 ^A	W-R2330009-080713-ZTR-002	8/7/2013																
MW-6	W-R2330009-080713-ZTR-002	8/7/2013	<25	<1.0	<1.0	<50	<50	4.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6 ^A	W-R2330009-111313-ACN-011	11/13/2013																
MW-6	W-R2330009-111313-ACN-011	11/13/2013	<25	<1.0	<1.0	<50	<50	4.6	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-6 ^A	W-R2330012-032714-ACN-004	3/27/2014																
MW-6	W-R2330012-032714-ACN-004	3/27/2014	<25	<1.0	<1.0	<50	<50	2.7	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7	W-R2330009-050213-MJF-008	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7 ^A	W-R2330009-080613-ZTR-001	8/6/2013																
MW-7	W-R2330009-080613-ZTR-001	8/6/2013	<25	<1.0	<1.0	<50	5.5 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7 ^A	W-R2330009-111313-ACN-006	11/13/2013																
MW-7	W-R2330009-111313-ACN-006	11/13/2013	<25	<1.0	<1.0	<50	12 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-7 ^A	W-R2330012-032614-ACN-001	3/26/2014																
MW-7	W-R2330012-032614-ACN-001	3/26/2014	<25	<1.0	<1.0	<50	<50.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)															
			2-Butanone (MEK)	1,2- Dichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene	Xylenes
Residential Drinking Water Criteria (II)			13,000	600 (A)	75 (A)	1,800	730	5.0 (A)	800	100 (A)	430	80 (A,W)	NA	74 (E)	800	NA	790 (E)	280 (E)
Residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000	10,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200	ID	25	1,100	350	NA	18	28	NA	270	41
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+5 (S)	16,000	2.0E+07 (S)	1.0E+09 (D,S)	5,600	2.5E+05	2.1E+05	5.7E+06 (S)	28,000	NA	1.1E+05	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI}) (a)			4.3E+06	7,600	76	1,100	8.2E+06	27	2,400	1,100	44,000	140	1,900	700 (d)	10	NA	36,000	10,000 (d)
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.86E+5 (S)
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000
ID	SAMPLE ID	SAMPLE DATE																
MW-8	W-R2330009-050313-MJF-013	5/3/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-8 ^A	W-R2330009-080713-ZTR-008	8/7/2013																
MW-8	W-R2330009-080713-ZTR-008	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-8 ^A	W-R2330009-111213-ACN-005	11/12/2013																
MW-8	W-R2330009-111213-ACN-005	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9	W-R2330009-050113-MJF-007	5/1/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9 ^A	W-R2330009-080813-ZTR-013	8/8/2013																
MW-9	W-R2330009-080813-ZTR-013	8/8/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9 ^A	W-R2330009-111413-ACN-012	11/14/2013																
MW-9	W-R2330009-111413-ACN-012	11/14/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-9 ^A	W-R2330012-032614-ACN-003	3/26/2014																
MW-9	W-R2330012-032614-ACN-003	3/26/2014	<25	<1.0	<1.0	<50	<50	0.36 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10	W-R2330009-050113-MJF-003	5/1/2013	<25	<1.0	<1.0	<50	4.3 J	8.6	<5.0	25	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A	W-R2330009-080813-ZTR-010	8/8/2013																
MW-10	W-R2330009-080813-ZTR-010	8/8/2013	<25	<1.0	<1.0	<50	<50	8.5	<5.0	24	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A (DUP)	W-R2330009-080813-ZTR-011	8/8/2013																
MW-10 (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	<25	<1.0	<1.0	<50	<50	8.2	<5.0	23	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A	W-R2330009-111313-ACN-008	11/13/2013																
MW-10	W-R2330009-111313-ACN-008	11/13/2013	<25	<1.0	<1.0	<50	16 J	13	<5.0	36	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A (DUP)	W-R2330009-111313-ACN-009	11/13/2013																
MW-10 (DUP)	W-R2330009-111313-ACN-009	11/13/2013	<25	<1.0	<1.0	<50	16 J	12	<5.0	35	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A	W-R2330012-032814-ACN-010	3/28/2014																
MW-10	W-R2330012-032814-ACN-010	3/28/2014	<25	<1.0	<1.0	<50	<50	8.2	<5.0	24	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-10 ^A (DUP)	W-R2330012-032814-ACN-011	3/28/2014																
MW-10 (DUP)	W-R2330012-032814-ACN-011	3/28/2014	<25	<1.0	<1.0	<50	<50	8.2	<5.0	25	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11	W-R2330009-043013-MJF-001	4/30/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11 ^A	W-R2330009-080713-ZTR-006	8/7/2013																
MW-11	W-R2330009-080713-ZTR-006	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11 ^A	W-R2330009-111213-ACN-001	11/12/2013																
MW-11	W-R2330009-111213-ACN-001	11/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-11 ^A	W-R2330012-032614-ACN-002	3/26/2014																
MW-11	W-R2330012-032614-ACN-002	3/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12	W-R2330009-050213-MJF-011	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12 ^A	W-R2330009-080713-ZTR-003	8/7/2013																
MW-12	W-R2330009-080713-ZTR-003	8/7/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12 ^A	W-R2330009-111313-ACN-007	11/13/2013																
MW-12	W-R2330009-111313-ACN-007	11/13/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-12 ^A	W-R2330012-032714-ACN-005	3/27/2014																
MW-12	W-R2330012-032714-ACN-005	3/27/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-17 ^A	W-R2330012-052014-ACN-029	5/20/2014																
MW-17	W-R2330012-052014-ACN-029	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-18 ^A	W-R2330012-052014-ACN-026	5/20/2014																
MW-18	W-R2330012-052014-ACN-026	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-19 ^A	W-R2330012-052014-ACN-027	5/20/2014																
MW-19	W-R2330012-052014-ACN-027	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-20 ^A	W-R2330012-052014-ACN-028	5/20/2014																
MW-20	W-R2330012-052014-ACN-028	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-21 ^A	W-R2330012-051914-ACN-021	5/19/2014																
MW-21	W-R2330012-051914-ACN-021	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-22 ^A	W-R2330012-051914-ACN-022	5/19/2014																
MW-22	W-R2330012-051914-ACN-022	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)															
			2-Butanone (MEK)	1,2-Dichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methyldichloroethane	Toluene	Xylenes
Residential Drinking Water Criteria (II)			13,000	600 (A)	75 (A)	1,800	730	5.0 (A)	800	100 (A)	430	80 (A,W)	NA	74 (E)	800	NA	790 (E)	280 (E)
Residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000	10,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200	ID	25	1,100	350	NA	18	28	NA	270	41
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+5 (S)	16,000	2.0E+07 (S)	1.0E+09 (D,S)	5,600	2.5E+05	2.1E+05	5.7E+06 (S)	28,000	NA	1.1E+05	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI,avg}) (a)			4.3E+06	7,600	76	1,100	8.2E+06	27	2,400	1,100	44,000	140	1,900	700 (d)	10	NA	36,000	10,000 (d)
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.88E+5 (S)
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000
ID	SAMPLE ID	SAMPLE DATE																
MW-23 ^A	W-R2330012-051914-ACN-023	5/19/2014																
MW-23	W-R2330012-051914-ACN-023	5/19/2014	<25	<1.0	<1.0	<50	<50	3.7	<5.0	40	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-23 ^A (DUP)	W-R2330012-051914-ACN-023	5/19/2014																
MW-23 (DUP)	W-R2330012-051914-ACN-023	5/19/2014	<25	<1.0	<1.0	<50	<50	4.2	<5.0	45	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-24 ^A	W-R2330012-052014-ACN-030	5/20/2014																
MW-24	W-R2330012-052014-ACN-030	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0
MW-25 ^A	W-R2330012-051914-ACN-025	5/19/2014																
MW-25	W-R2330012-051914-ACN-025	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
MW-26 ^A	W-R2330012-051914-ACN-020	5/19/2014																
MW-26	W-R2330012-051914-ACN-020	5/19/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-13 ^A	W-R2330009-121013-AJL-008	12/10/2013																
SB-13	W-R2330009-121013-AJL-008	12/10/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.37 J	<3.0
SB-14 ^A	W-R2330009-121013-AJL-007	12/10/2013																
SB-14	W-R2330009-121013-AJL-007	12/10/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-15 ^A	W-R2330009-120913-AJL-006	12/9/2013																
SB-15	W-R2330009-120913-AJL-006	12/9/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.31 J	<3.0
SB-21 ^A	W-R2330009-120513-RD-001	12/5/2013																
SB-21	W-R2330009-120513-RD-001	12/5/2013	<25	<1.0	<1.0	<50	<50	6.7	<5.0	<1.0	<5.0	<1.0	<10	14	2.5 J	<1.0	0.44 J	4.2
SB-22 ^A	W-R2330009-120513-RD-002	12/5/2013																
SB-22	W-R2330009-120513-RD-002	12/5/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	0.72 J	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-23 ^A	W-R2330009-120513-RD-003	12/5/2013																
SB-23	W-R2330009-120513-RD-003	12/5/2013	<25	<1.0	<1.0	<50	<50	2.4	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-24 ^A	W-R2330009-120613-RD-004	12/6/2013																
SB-24	W-R2330009-120613-RD-004	12/6/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.29 J	<3.0
SB-25 ^A	W-R2330009-120613-RD-005	12/6/2013																
SB-25	W-R2330009-120613-RD-005	12/6/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.48 J	<3.0
SB-26 ^A	W-R2330009-121013-AJL-009	12/10/2013																
SB-26	W-R2330009-121013-AJL-009	12/10/2013	<25	<1.0	<1.0	<50	3.2 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.28 J	<3.0
SB-27 ^A	W-R2330009-121113-AJL-010	12/11/2013																
SB-27	W-R2330009-121113-AJL-010	12/11/2013	<25	<1.0	<1.0	<50	6.1 J	<1.0	0.53 J	<1.0	2.9 J	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-27 ^A (DUP)	W-R2330009-121113-AJL-011	12/11/2013																
SB-27 (DUP)	W-R2330009-121113-AJL-011	12/11/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	4.3 J	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-28 ^A	W-R2330009-121113-AJL-012	12/11/2013																
SB-28	W-R2330009-121113-AJL-012	12/11/2013	<25	<1.0	<1.0	<50	3.6 J	<1.0	0.53 J	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-29 ^A	W-R2330009-121213-AJL-014	12/12/2013																
SB-29	W-R2330009-121213-AJL-014	12/12/2013	<25	1.3	2.6	<50	4.7 J	12.0	<5.0	<1.0	<5.0	<1.0	0.84 J	14.0	6.0	<1.0	39	74.0
SB-30 ^A	W-R2330009-121213-AJL-016	12/12/2013																
SB-30	W-R2330009-121213-AJL-016	12/12/2013	<25	<1.0	0.98 J	<50	<50	21.0	<5.0	<1.0	<5.0	<1.0	5.5 J	0.29 J	2.0 J	<1.0	0.33 J	1.0 J
SB-31 ^A	W-R2330009-121213-AJL-018	12/12/2013																
SB-31	W-R2330009-121213-AJL-018	12/12/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.44 J	<3.0
SB-32 ^A	W-R2330009-121213-AJL-015	12/12/2013																
SB-32	W-R2330009-121213-AJL-015	12/12/2013	<25	<1.0	<1.0	<50	<50	1.1	<5.0	1.4	<5.0	<1.0	<10	<1.0	1.3 J	<1.0	0.27 J	1.0 J
SB-33 ^A	W-R2330009-121213-AJL-017	12/12/2013																
SB-33	W-R2330009-121213-AJL-017	12/12/2013	<25	<1.0	<1.0	<50	3.9 J	0.71 J	0.44 J	1.2	<5.0	<1.0	<10	<1.0	0.62 J	<1.0	0.29 J	1.3 J
SB-34 ^A	W-R2330009-121313-AJL-018	12/13/2013																
SB-34	W-R2330009-121313-AJL-018	12/13/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.44 J	<3.0
SB-34 ^A (DUP)	W-R2330009-121313-AJL-019	12/13/2013																
SB-34 (DUP)	W-R2330009-121313-AJL-019	12/13/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.38 J	<3.0
SB-16	W-R2330012-033114-ACN-001	3/31/2014	<25	<1.0	<1.0	<50	14 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-17	W-R2330012-033114-ACN-002	3/31/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	6.2	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-18	W-R2330012-033114-ACN-003	3/31/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	<1.0	<3.0
SB-19	W-2330012-040114-ACN-004	4/1/2014	<25	<1.0	<1.0	<50	3.3 J	0.36 J	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	1.1	0.62 J	1.0 J

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Volatile Organic Compounds (VOCs)																
			n-Butane (MEK)	1,2-Dichlorobenzene	1,4-Dichlorobenzene	4-Methyl-2-Pentanone (MIBK)	Acetone	Benzene	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene	Xylenes	
Residential Drinking Water Criteria (II)			13,000	600 (A)	75 (A)	1,800	730	5.0 (A)	800	100 (A)	430	80 (A,W)	NA	74 (E)	800	NA	790 (E)	280 (E)	
Residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	NA	1,000	10,000	10,000	
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200	ID	25	1,100	350	NA	18	28	NA	270	41	
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	450	20,000	11,000	ID	320	500	NA	2,600	730	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			2.4E+8 (S)	1.6E+5 (S)	16,000	2.0E+07 (S)	1.0E+09 (D,S)	5,600	2.5E+05	2.1E+05	5.7E+06 (S)	28,000	NA	1.1E+05	56,000 (S)	NA	5.3E+5 (S)	1.9E+05 (S)	
Groundwater Concentration for Vapor Intrusion (GW _{vapor}) (a)			4.3E+06	7,600	76	1,100	8.2E+06	27	2,400	1,100	44,000	140	1,900	700 (d)	10	NA	36,000	10,000 (d)	
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	1.69E+05	56,000	NA	5.26E+05	1.86E+5 (S)	
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	13,000	1.6E+05	1.1E+05	ID	NA	43,000	29,000	NA	61,000	70,000	
ID	SAMPLE ID	SAMPLE DATE																	
SB-20	W-2330012-040114-ACN-005	4/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<1.0	<5.0	<1.0	0.25 J	<3.0	
SB-35	W-2330012-040114-ACN-006	4/1/2014	<25	<1.0	1.5	<50	3.3 J	6.1	<5.0	2.0	<5.0	<1.0	1.5	0.18 J	1.4 J	1.1	0.25 J	1.9 J	
SB-36	W-R2330012-040314-ACN-007	4/3/2014	<25	<1.0	<1.0	<50	7.1 J	2.5	<5.0	1.2	<5.0	<1.0	<1.0	0.84 J	1.9 J	<1.0	0.54 J	2.8 J	
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	<25	<1.0	<1.0	<50	7.8 J	2.7	<5.0	1.4	<5.0	<1.0	1.4 J	0.86 J	2.0 J	<1.0	0.52 J	2.8 J	
SB-37	W-R2330012-040314-ACN-009	4/3/2014	<25	<1.0	<1.0	<50	6.9 J	2.6	1.3 J	<1.0	<5.0	<1.0	<1.0	0.84 J	<5.0	<1.0	0.82 J	1.7 J	
SB-38	W-R2330012-040314-ACN-010	4/3/2014	2.2 J	<1.0	0.98 J	<50	16 J	2.8	1.4 J	0.96 J	<5.0	<1.0	<1.0	<1.0	1.6 J	<1.0	0.38 J	1.5 J	
SB-39	W-R2330012-040314-ACN-011	4/3/2014	<25	<1.0	0.91 J	<50	11 J	17	1.6 J	90	<5.0	<1.0	2.0 J	<1.0	2.0 J	<1.0	0.30 J	1.5 J	
SB-46	W-R2330012-041114-ACN-015	4/11/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.30 J	<3.0	
SB-47	W-R2330012-041114-ACN-016	4/11/2014	<25	<1.0	<1.0	<50	<50	0.31 J	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.49 J	<3.0	
SB-48	W-R2330012-040314-ACN-013	4/9/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.35 J	<3.0	
SB-49	W-R2330012-040314-ACN-014	4/9/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
SB-50	W-R2330012-040314-ACN-012	4/9/2014	<25	<1.0	<1.0	<50	<50	0.29 J	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.39 J	<3.0	
SW-1	W-R2330009-050313-MJF-015	5/3/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-1	W-R2330012-041514-ACN-017	4/15/2014	<25	<1.0	<1.0	1.4 J	7.5 J	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-2	W-R2330009-050313-MJF-014	5/3/2013	<25	<1.0	<1.0	<50	4.0 J	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-2	W-R2330012-041514-ACN-019	4/15/2014	<25	<1.0	<1.0	<50	3.6 J	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-3	W-R2330009-051013-MJF-016	5/10/2013	<120	<1.0	<1.0	<50	<50	<5.0	<5.0	<5.0	<25	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
SW-3	W-R2330012-041514-ACN-018	4/15/2014	<120	<1.0	<1.0	<50	3.4 J	<5.0	<5.0	<5.0	<25	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank	W-R2330004-090512-MJF-05	9/5/2012	<25	<1.0	<1.0	<50	120	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank	W-R2330009-050113-MJF-006	5/1/2013	6.2 J	<1.0	<1.0	<50	4.4 J	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330009-080813-ZTR-012	8/8/2013																	
Equipment Blank	W-R2330009-080813-ZTR-012	8/8/2013	2.8 J	<1.0	<1.0	<50	0.79 J	<1.0	<5.0	<1.0	<5.0	1.3	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330009-121113-AJL-013	12/11/2013																	
Equipment Blank	W-R2330009-121113-AJL-013	12/11/2013	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330012-032814-ACN-012	3/28/2014																	
Equipment Blank	W-R2330012-032814-ACN-012	3/28/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<3.0	
Equipment Blank ^A	W-R2330012-052014-ACN-031	5/20/2014																	
Equipment Blank	W-R2330012-052014-ACN-031	5/20/2014	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.4 J	<3.0	

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number
A = Total Metals sample collected for comparison to dissolved metals analytical results.
E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA
G = Calculated value based on a hardness of 150 mg/L
H = Analyzed outside of holding time
J = Analyte detected below quantitation limit.
Exceeds Generic Drinking Water Cleanup Criteria (I)
Exceeds Generic Drinking Water Cleanup Criteria (I) and the Generic Health-Based Drinking Water Value
Exceeds Generic Ground Water Surface Water Interface Criteria (III)
Exceeds Two or More DW (I), GSI (III) and/or Residential Health-Based Water Value (E)
Exceeds GSI Final Acute Value (FAV), also exceeds others
Notes in parentheses and standard abbreviations from MDEQ Operational Memorandum 1, Attachment 1, dated September 28, 2012 or MDEQ Guidance Document for the Vapor Intrusion Pathway, dated May 2013

Table 4
Summary Of Ground Water Sample Results

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

Table 4
Summary of Ground Water
Sample Results

Page 5 of 12

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Semivolatile Organic Compounds (SVOCs)																							
			1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	bis(2-Ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzyl phthalate	Carbazole	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	
Residential Drinking Water Criteria (II)			ID	45	260	370	370	370	NA	6.0 (A)	1,300	1,500	NA	1,200	85	ID	5,500	73,000	880	210 (S)	880	520	52	140 (S)	4,400	
Residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ground Water Surface Water Interface Criteria (GSI) (III)			ID	18	19	30 (M), 25	30 (M), 25	380	NA	25	38	ID	NA	67	10 (M), 4.0	4	110	110	9.7	1.6	12	11	2.0 (M), 1.4	ID	450	
GSI Final Acute Value (FAV)			ID	NA	340	1,400	1,400	2,700	ID	285	200	NA	NA	630	72	72	2.0E+03	NA	75	220	220	200	11	ID	6,800	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			ID	490,000	25,000 (S)	NLV	NLV	NLV	NA	NLV	4,200 (S)	6.1E+06 (S)	NA	NLV	NLV	10,000 (S)	NLV	NLV	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	
Groundwater Concentration for Vapor Intrusion (GW _{virep}) (a)			ID	78,000	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NLV	2.30E+01	NA	NA	NA	NA	7.1E+04	240	110	410	NA	
Water Solubility (VII)			ID	2.20E+07	24,600	2.80E+07	2.80E+07	7.87E+06	NA	340	4,240	6.1E+06 (S)	NA	2.7E+03	7,480	10,000	1.08E+06	1.08E+06	1.12E+04	206	1,980	31,000	1,000	135	8.28E+7	
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	NA	NA	ID	ID	NA	ID	ID	ID	NA	NA	NA	ID	ID	NA	ID	ID	NA	
ID	SAMPLE ID	SAMPLE DATE																								
MW-1	W-R2330009-043013-MJF-002	4/30/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	1.0 J	<5.0	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-1 ^A	W-R2330009-080713-ZTR-007	8/7/2013																								
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-1 ^A	W-R2330009-111413-ACN-013	11/14/2013																								
MW-1	W-R2330009-111413-ACN-013	11/14/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-1 ^A	W-R2330012-032814-ACN-009	3/28/2014																								
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	4.2 J	<5.0	<5.0	<5.0	<10	<5.0	0.85 J	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-3	W-R2330009-050213-MJF-009	5/2/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0
MW-3 ^A	W-R2330009-080713-ZTR-004	8/7/2013																								
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-3 ^A	W-R2330009-111213-ACN-002	11/12/2013																								
MW-3	W-R2330009-111213-ACN-002	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-3 ^A	W-R2330012-032714-ACN-007	3/27/2014																								
MW-3	W-R2330012-032714-ACN-007	3/27/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<0.84	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<0.84	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-4	W-R2330009-050213-MJF-010	5/2/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-4 ^A	W-R2330009-080713-ZTR-005	8/7/2013																								
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-4 ^A	W-R2330009-111213-ACN-003	11/12/2013																								
MW-4	W-R2330009-111213-ACN-003	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-4 ^A	W-R2330012-032714-ACN-006	3/27/2014																								
MW-4	W-R2330012-032714-ACN-006	3/27/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-5	W-R2330009-050113-MJF-004	5/1/2013	<10	<10	<5.0	<10	<10	<5.0	<10	1.3 J	<5.0	<5.0	<10	<5.0	1.2 J	<4.0	0.99 J	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	<10	<10	<5.0	<10	<10	<5.0	<10	1.3 J	<5.0	<5.0	<10	<5.0	1.2 J	<4.0	0.93 J	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-5 ^A	W-R2330009-080813-ZTR-009	8/8/2013																								
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-5 ^A	W-R2330009-111213-ACN-004	11/12/2013																								
MW-5	W-R2330009-111213-ACN-004	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-5 ^A	W-R2330012-032814-ACN-008	3/28/2014																								
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-6	W-R2330004-090512-MJF-04	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-6	W-R2330009-050213-MJF-012	5/2/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0
MW-6 ^A	W-R2330009-080713-ZTR-002	8/7/2013																								
MW-6	W-R2330009-080713-ZTR-002	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	
MW-6 ^A	W-R2330009-111313-ACN-011	11/13/2013																		</						

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Semivolatile Organic Compounds (SVOCs)																									
			1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	bis(2-Ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzyl phthalate	Carbazole	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol			
Residential Drinking Water Criteria (II)	ID		45	260	370	370	370	NA	6.0 (A)	1,300	1,500	NA	1,200	85	ID	5,500	73,000	880	210 (S)	880	520	52	140 (S)	4,400				
Residential Health-Based Drinking Water Value	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Ground Water Surface Water Interface Criteria (GSI) (III)	ID		18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67	10 (M); 4.0	4	110	110	9.7	1.6	12	11	2.0 (M); 1.4	ID	450				
GSI Final Acute Value (FAV)	ID		NA	340	1,400	1,400	2,700	ID	285	200	NA	NA	630	72	72	2.0E+03	NA	75	220	220	200	11	ID	6,800				
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	ID		490,000	25,000 (S)	NLV	NLV	NLV	NA	NLV	4,200 (S)	6.1E+06 (S)	NA	NLV	NLV	10,000 (S)	NLV	NLV	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV				
Groundwater Concentration for Vapor Intrusion (GW _{cr,vap}) (a)	ID		78,000	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NLV	2.30E+01	NA	NA	NA	NA	7.1E+04	240	110	410	NA				
Water Solubility (VII)	ID		2.20E+07	24,600	2.80E+07	2.80E+07	7.87E+06	NA	340	4,240	6.1E+06 (S)	NA	2.7E+03	7,480	10,000	1.08E+06	1.08E+06	1.12E+04	206	1,980	31,000	1,000	135	8.28E+7				
Flammability & Explosivity Screening Level (VIII)	ID		ID	ID	ID	ID	ID	NA	NA	ID	ID	ID	ID	ID	ID	NA	NA	NA	ID	ID	ID	ID	ID	NA				
ID	SAMPLE ID	SAMPLE DATE																										
MW-8	W-R2330009-050313-MJF-013	5/3/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0				
MW-8 ^A	W-R2330009-080713-ZTR-008	8/7/2013																										
MW-8	W-R2330009-080713-ZTR-008	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0				
MW-8 ^A	W-R2330009-111213-ACN-005	11/12/2013																										
MW-8	W-R2330009-111213-ACN-005	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0				
MW-9	W-R2330009-050113-MJF-007	5/1/2013	<10	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	0.91 J	0.92 J	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-9 ^A	W-R2330009-080813-ZTR-013	8/8/2013																										
MW-9	W-R2330009-080813-ZTR-013	8/8/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-9 ^A	W-R2330009-111413-ACN-012	11/14/2013																										
MW-9	W-R2330009-111413-ACN-012	11/14/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-9 ^A	W-R2330012-032614-ACN-003	3/26/2014																										
MW-9	W-R2330012-032614-ACN-003	3/26/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-10	W-R2330009-050113-MJF-003	5/1/2013	<10	<10	<5.0	<10	<10	0.86 J	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	1.0 J	<5.0	1.7 J	<1.0	1.1 J	<5.0	<2.0	<5.0	<5.0			
MW-10 ^A	W-R2330009-080813-ZTR-010	8/8/2013																										
MW-10	W-R2330009-080813-ZTR-010	8/8/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-10 ^A (DUP)	W-R2330009-080813-ZTR-011	8/8/2013																										
MW-10 (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-10 ^A	W-R2330009-111313-ACN-008	11/13/2013																										
MW-10	W-R2330009-111313-ACN-008	11/13/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	0.28 J	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-10 ^A (DUP)	W-R2330009-111313-ACN-009	11/13/2013																										
MW-10 (DUP)	W-R2330009-111313-ACN-009	11/13/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-10 ^A	W-R2330012-032814-ACN-010	3/28/2014																										
MW-10	W-R2330012-032814-ACN-010	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-10 ^A (DUP)	W-R2330012-032814-ACN-011	3/28/2014																										
MW-10 (DUP)	W-R2330012-032814-ACN-011	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-11	W-R2330009-043013-MJF-001	4/30/2013	0.56 J	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	0.92 J	<5.0	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-11 ^A	W-R2330009-080713-ZTR-006	8/7/2013																										
MW-11	W-R2330009-080713-ZTR-006	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-11 ^A	W-R2330009-111213-ACN-001	11/12/2013																										
MW-11	W-R2330009-111213-ACN-001	11/12/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-11 ^A	W-R2330012-032614-ACN-002	3/26/2014																										
MW-11	W-R2330012-032614-ACN-002	3/26/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-12	W-R2330009-050213-MJF-011	5/2/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	1.2 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-12 ^A	W-R2330009-080713-ZTR-003	8/7/2013																										
MW-12	W-R2330009-080713-ZTR-003	8/7/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
MW-12 ^A	W-R2330009-111313-ACN-007	11/13/2013																										
MW-12	W-R2330009-111313-ACN-007	11/13/2013	<10	<10	<5.0	<10	<10	<5.0	0.																			

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L	Semivolatile Organic Compounds (SVOCs)																													
	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	Bis(2-Ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzyl phthalate	Carbazole	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Dio-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol							
	ID	45	260	370	370	370	NA	6.0 (A)	1,300	1,500	NA	1,200	85	ID	5,500	73,000	880	210 (S)	880	520	52	140 (S)	4,400							
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA							
	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67	10 (M); 4.0	4	110	110	9.7	1.6	12	11	2.0 (M); 1.4	ID	450							
	ID	NA	340	1,400	1,400	2,700	ID	285	200	NA	NA	630	72	72	2.0E+03	NA	75	220	220	200	11	ID	6,800							
	ID	490,000	25,000 (S)	NLV	NLV	NLV	NA	NLV	4,200 (S)	6.1E+06 (S)	NA	NLV	NLV	10,000 (S)	NLV	NLV	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV							
	ID	78,000	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NLV	2.30E+01	NA	NA	NA	NA	7.1E+04	240	110	410	NA							
	ID	2.20E+07	24,600	2.80E+07	2.80E+07	7.87E+06	NA	340	4,240	6.1E+06 (S)	NA	2.7E+03	7,480	10,000	1.08E+06	1.08E+06	1.12E+04	206	1,980	31,000	1,000	135	8.28E+7							
	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	ID	NA	ID	ID	ID	NA	NA	NA	ID	ID	NA	ID	ID	NA						
ID		SAMPLE ID		SAMPLE DATE																										
MW-23 ^A		W-R2330012-051914-ACN-023		5/19/2014																										
MW-23		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.85 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
MW-23 ^A (DUP)		W-R2330012-051914-ACN-023		5/19/2014																										
MW-23 (DUP)		<10	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.91 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
MW-24 ^A		W-R2330012-052014-ACN-030		5/20/2014																										
MW-24		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
MW-25 ^A		W-R2330012-051914-ACN-025		5/19/2014																										
MW-25		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.80 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
MW-26 ^A		W-R2330012-051914-ACN-020		5/19/2014																										
MW-26		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-13 ^A		W-R2330009-121013-AJL-008		12/10/2013																										
SB-13		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	0.28 J	<10	<4.0	<5.0	<5.0	0.21 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-14 ^A		W-R2330009-121013-AJL-007		12/10/2013																										
SB-14		<10	<10	<5.0	<10	<10	<5.0	<10	0.77 J	<5.0	<5.0	<10	0.34 J	<10	<4.0	<5.0	<5.0	0.25 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-15 ^A		W-R2330009-120913-AJL-006		12/9/2013																										
SB-15		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	0.56 J	<10	<4.0	<5.0	<5.0	0.23 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-21 ^A		W-R2330009-120513-RD-001		12/5/2013																										
SB-21		<10	<10	0.19 J	<10	0.41 J	<5.0	<10	1.6 J	0.54 J	0.22 J	0.79 J	<5.0	<10	0.41 J	0.35 J	<5.0	<5.0	<1.0	0.94 J	<5.0	<2.0	<5.0	0.44 J						
SB-22 ^A		W-R2330009-120513-RD-002		12/5/2013																										
SB-22		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	0.12 J	<5.0	0.51 J	<5.0	<10	<4.0	<5.0	<5.0	0.14 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-23 ^A		W-R2330009-120513-RD-003		12/5/2013																										
SB-23		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-24 ^A		W-R2330009-120613-RD-004		12/6/2013																										
SB-24		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-25 ^A		W-R2330009-120613-RD-005		12/6/2013																										
SB-25		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-26 ^A		W-R2330009-121013-AJL-009		12/10/2013																										
SB-26		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.16 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-27 ^A		W-R2330009-121113-AJL-010		12/11/2013																										
SB-27		<10	<10	<5.0	<10	<10	<5.0	<10	0.26 J	<5.0	<5.0	<10	0.28 J	<10	<4.0	<5.0	<5.0	0.22 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-27 ^A (DUP)		W-R2330009-121113-AJL-011		12/11/2013																										
SB-27 (DUP)		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	0.29 J	<10	<4.0	<5.0	<5.0	0.19 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-28 ^A		W-R2330009-121113-AJL-012		12/11/2013																										
SB-28		<10	<10	<5.0	<10	<10	<5.0	<10	0.46 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	0.18 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-29 ^A		W-R2330009-121213-AJL-014		12/12/2013																										
SB-29		<10	0.67 J	1.6 J	0.46 J	2.0 J	<5.0	<10	<5.0	6.0 J	1.0 J	1.2 J	<5.0	<10	<4.0	<5.0	<5.0	0.26 J	<1.0	0.57 J	1.3 J	<2.0	<5.0	0.36 J						
SB-30 ^A		W-R2330009-121213-AJL-016		12/12/2013																										
SB-30		<10	3.1 J	2.9 J	<10	<10	<5.0	<10	<5.0	1.2 J	<5.0	0.92 J	<5.0	<10	0.64 J	<5.0	<5.0	0.21 J	<1.0	1.1 J	2.2 J	<2.0	<5.0	0.40 J						
SB-31 ^A		W-R2330009-121213-AJL-018		12/12/2013																										
SB-31		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	0.65 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-32 ^A		W-R2330009-121213-AJL-015		12/12/2013																										
SB-32		<10	<10	1.2 J	<10	<10	<5.0	<10	0.46 J	<5.0	<5.0	0.85 J	<5.0	<10	<4.0	<5.0	<5.0	0.37 J	<1.0	0.17 J	1.0 J	<2.0	<5.0	<5.0						
SB-33 ^A		W-R2330009-121213-AJL-017		12/12/2013																										
SB-33		<10	<10	0.29 J	<10	0.40 J	<5.0	<10	0.59 J	0.39 J	<5.0	0.73 J	<5.0	<10	<4.0	0.37 J	<5.0	0.26 J	<1.0	<5.0	0.20 J	<2.0	<5.0	<5.0						
SB-34 ^A		W-R2330009-121313-AJL-018		12/13/2013																										
SB-34		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	0.65 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-34 ^A (DUP)		W-R2330009-121313-AJL-019		12/13/2013																										
SB-34 (DUP)		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	0.69 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-16		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-17		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-18		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						
SB-19		<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0						

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Semivolatile Organic Compounds (SVOCs)																									
Residential Drinking Water Criteria (II)			ID	45	260	370	370	370	NA	6.0 (A)	1,300	1,500	NA	1,200	85	ID	5,500	73,000	880	210 (S)	880	520	52	140 (S)	4,400			
Residential Health-Based Drinking Water Value			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Ground Water Surface Water Interface Criteria (GSI) (III)			ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67	10 (M); 4.0	4	110	110	9.7	1.6	12	11	2.0 (M); 1.4	ID	450			
GSI Final Acute Value (FAV)			ID	NA	340	1,400	1,400	2,700	ID	285	200	NA	NA	630	72	72	2.0E+03	NA	75	220	220	200	11	ID	6,800			
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			ID	490,000	25,000 (S)	NLV	NLV	NLV	NA	NLV	4,200 (S)	6.1E+06 (S)	NA	NLV	NLV	10,000 (S)	NLV	NLV	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV			
Groundwater Concentration for Vapor Intrusion (GW _{VIR}) (a)			ID	78,000	940	NA	NA	NA	NA	NA	NA	NA	NA	NA	NLV	2.30E+01	NA	NA	NA	NA	7.1E+04	240	110	410	NA			
Water Solubility (VII)			ID	2.20E+07	24,600	2.80E+07	2.80E+07	7.87E+06	NA	340	4,240	6.1E+06 (S)	NA	2.7E+03	7,480	10,000	1.08E+06	1.08E+06	1.12E+04	206	1,980	31,000	1,000	135	8.28E+7			
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	NA	NA	NA	NA	NA	NA	ID	NA	ID	ID	ID	NA	NA	NA	ID	ID	NA	ID	ID	NA			
ID	SAMPLE ID	SAMPLE DATE																										
SB-20	W-2330012-040114-ACN-005	4/1/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-35	W-2330012-040114-ACN-006	4/1/2014	<10	<10	2.4 J	<10	1.6 J	<5.0	<10	<5.0	1.7 J	<5.0	<10	<5.0	1.9 J	<4.0	<5.0	<5.0	<5.0	<1.0	1.3 J	1.9 J	1.9 J	<5.0	<5.0			
SB-36	W-R2330012-040314-ACN-007	4/3/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-37	W-R2330012-040314-ACN-009	4/3/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-38	W-R2330012-040314-ACN-010	4/3/2014	<10	<10	1.5 J	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-39	W-R2330012-040314-ACN-011	4/3/2014	<10	<10	1.2 J	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	0.80 J	<2.0	<5.0	<5.0			
SB-46	W-R2330012-041114-ACN-015	4/11/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-47	W-R2330012-041114-ACN-016	4/11/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-48	W-R2330012-040314-ACN-013	4/9/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-49	W-R2330012-040314-ACN-014	4/9/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SB-50	W-R2330012-040314-ACN-012	4/9/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SW-1	W-R2330009-050313-MJF-015	5/3/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
SW-1	W-R2330012-041514-ACN-017	4/15/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.6 H	<5.0	<5.0	<2.0	0.69 H	<5.0			
SW-2	W-R2330009-050313-MJF-014	5/3/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.3 J	<1.0	<5.0	<5.0	<2.0	<5.0			
SW-2	W-R2330012-041514-ACN-019	4/15/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.3 H	<5.0	<5.0	<2.0	<5.0	<5.0			
SW-3	W-R2330009-051013-MJF-016	5/10/2013	<80	<10	<5.0	<10	<10	<80	<80	<40	<5.0	<5.0	<10	<5.0	<80	<4.0	<40	<40	<40	<1.0	<40	<5.0	<2.0	<5.0	<5.0			
SW-3	W-R2330012-041514-ACN-018	4/15/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	1.3 H	<5.0	<5.0	<2.0	<5.0	<5.0			
Equipment Blank	W-R2330004-090512-MJF-05	9/5/2012	<10	<10	<5.0	<10	<10	<5.0	<1.1	<5.0	<5.0	<5.0	<10	<5.0	<0.84	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
Equipment Blank	W-R2330009-050113-MJF-006	5/1/2013	0.56 J	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	0.89 J	0.88 J	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
Equipment Blank ^A	W-R2330009-080813-ZTR-012	8/8/2013																										
Equipment Blank	W-R2330009-080813-ZTR-012	8/8/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
Equipment Blank ^A	W-R2330009-121113-AJL-013	12/11/2013																										
Equipment Blank	W-R2330009-121113-AJL-013	12/11/2013	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	0.16 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
Equipment Blank ^A	W-R2330012-032814-ACN-012	3/28/2014																										
Equipment Blank	W-R2330012-032814-ACN-012	3/28/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			
Equipment Blank ^A	W-R2330012-052014-ACN-031	5/20/2014																										
Equipment Blank	W-R2330012-052014-ACN-031	5/20/2014	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0			

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number
A = Total Metals sample collected for comparison to dissolved metals analytical results.
E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA
G = Calculated value based on a hardness of 150 mg/L
H = Analyzed outside of holding time
J = Analyte detected below quantitation limit.
Exceeds Generic Drinking Water Cleanup Criteria (I)
Exceeds Generic Drinking Water Cleanup Criteria (I) and the Generic Health-Based Drinking Water Value
Exceeds Generic Ground Water Surface Water Interface Criteria (III)
Exceeds Two or More DW (I), GSI (III) and/or Residential Health-Based Water Value (E)
Exceeds GSI Final Acute Value (FAV), also exceeds others
Notes in parentheses and standard abbreviations from MDEQ Operational Memorandum 1, Attachment 1, dated September 28, 2012 or MDEQ Guidance Document for the Vapor Intrusion Pathway, dated May 2013

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																			
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P-R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Residential Drinking Water Criteria (II)			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	40	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	34	2.0 (A)	4.5	2,400
Residential Health-Based Drinking Water Value			300	NA	NA	NA	NA	NA	NA	NA	1,400	NA	2,000	NA	860	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI,max}) (a)			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																				
MW-1	W-R2330009-043013-MJF-002	4/30/2013	6.1 J	0.43 J	15	1,500	<1.0	<1.0	1.1 J	2.8 J	1.3 J	<0.005	17,000	<3.0	130	<0.2	5.3 J	<5.0	<0.20	<2.0	1.4 J	9.1 J
MW-1 ^A	W-R2330009-080713-ZTR-007	8/7/2013	67	0.21 J	23	1,700	<1.0	0.17 J	1.5 J	3.4 J	3.3 J		25,000	0.25 J	120	<0.2	8.0 J	<5.0	<0.20	<2.0	2.0 J	6.0 J
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	5.3 J	0.27 J	23	1,900	<1.0	0.10 J	1.3 J	3.7 J	1.2 J	<0.005	25,000	0.076 J	120	<0.2	7.4 J	<5.0	<0.20	<2.0	1.7 J	5.6 J
MW-1 ^A	W-R2330009-111413-ACN-013	11/14/2013	33 J	0.19 J	28	2,200	<1.0	<1.0	2.0 J	3.1 J	0.62 J		21,000	0.17 J	86	<0.2	7.7 J	<5.0	<0.20	<2.0	1.7 J	3.4 J
MW-1	W-R2330009-111413-ACN-013	11/14/2013	4.8 J	0.21 J	27	2,200	<1.0	0.12 J	2.5 J	3.7 J	<4.0	0.0044 J	21,000	<3.0	90	<0.2	8.2 J	<5.0	<0.20	<2.0	1.8 J	3.4 J
MW-1 ^A	W-R2330012-032814-ACN-009	3/28/2014	14 J	0.18 J	16 J	1,300	0.15 J	<1.0	0.78 J	2.6 J	2.4 J		17,000	0.13 J	69	<0.2	7.5 J	0.71 J	<0.2	<2.0	1.8 J	2.0 J
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<100	0.19 J	16	1,600	0.19 J	0.18 J	2.7 J	3.0 J	2.0 J	6.7 J	18,000	<3.0	65	<0.2	7.5 J	<5.0	<0.2	<2.0	1.6 J	1.4 J
MW-3	W-R2330004-090512-MJF-01	9/5/2012	6.0 J	0.29 J	14	900	<1.0	<1.0	1.1 J	4.2 J	0.39 J		9,300	0.12 J	86	<0.2	15 J	0.91 J	<0.20	<2.0	0.60 J	3.7 J
MW-3	W-R2330009-050213-MJF-009	5/2/2013	10 J	0.51 J	1.5 J	220	<1.0	0.047 J	0.86 J	1.5 J	3.2 J	<0.005	2,000	0.11 J	67	<0.2	4.9 J	0.98 J	<0.20	0.49 J	0.53 J	2.3 J
MW-3 ^A	W-R2330009-080713-ZTR-004	8/7/2013	120	0.28 J	3.9 J	300	<1.0	0.11 J	0.84 J	0.95 J	5.4		4,000	0.24 J	44 J	<0.2	5.6 J	3.6 J	<0.20	<2.0	0.75 J	4.4 J
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	5.2 J	0.40 J	3.8 J	320	<1.0	0.063 J	4.5 J	1.9 J	3.5 J	<0.005	4,000	<3.0	46 J	<0.2	7.2 J	3.6 J	<0.20	<2.0	0.60 J	2.4 J
MW-3 ^A	W-R2330009-111213-ACN-002	11/12/2013	190	0.33 J	3.3 J	260	<1.0	<1.0	1.1 J	1.0 J	2.1 J		3,800	0.30 J	38 J	<0.2	6.4 J	5.6	<0.20	<2.0	0.88 J	4.3 J
MW-3	W-R2330009-111213-ACN-002	11/12/2013	4.1 J	0.31 J	3.7 J	300	<1.0	<1.0	0.46 J	1.3 J	1.3 J	<0.005	3,900	<3.0	36 J	<0.2	6.6 J	5.0 J	<0.20	<2.0	0.32 J	2.6 J
MW-3 ^A	W-R2330012-032714-ACN-007	3/27/2014	450	0.22 J	0.76 J	130	<1.0	<1.0	0.48 J	0.84 J	2.6 J		2,000	0.79 J	33 J	<0.2	4.8 J	1.2 J	<0.20	<2.0	1.1 J	5.9 J
MW-3	W-R2330012-032714-ACN-007	3/27/2014	89 J	0.24 J	0.62 J	150 J	<1.0	<1.0	<10	1.5 J	2.1 J	<0.005	1,400	0.079 J	23 J	<0.2	4.8 J	1.3 J	<0.20	<2.0	0.41 J	1.9 J
MW-4	W-R2330004-090512-MJF-02	9/5/2012	7.6 J	0.097 J	1.4 J	470	<1.0	<1.0	1.1 J	1.2 J	<4.0	<0.005	14,000	<3.0	56	<0.2	2.4 J	0.46 J	<0.20	<2.0	0.75 J	1.9 J
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	11 J	0.14 J	1.2 J	480	<1.0	<1.0	0.85 J	1.3 J	0.26 J	<0.005	15,000	0.034 J	55	<0.2	2.4 J	<5.0	<0.025	<2.0	0.73 J	2.4 J
MW-4	W-R2330009-050213-MJF-010	5/2/2013	13 J	0.21 J	<5.0	410	<1.0	<1.0	0.84 J	2.7 J	<4.0	<0.005	11,000	<3.0	490	<0.2	2.8 J	<5.0	<0.20	<2.0	0.85 J	1.1 J
MW-4 ^A	W-R2330009-080713-ZTR-005	8/7/2013	4.5 J	0.22 J	<5.0	480	<1.0	0.29 J	0.80 J	2.4 J	2.7 J		16,000	<3.0	77	<0.2	4.0 J	<5.0	<0.20	<2.0	1.0 J	2.4 J
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	170	0.12 J	<5.0	490	<1.0	0.29 J	1.4 J	1.5 J	2.6 J	<0.005	16,000	0.30 J	80	<0.2	4.0 J	1.0 J	<0.20	<2.0	1.4 J	3.5 J
MW-4 ^A	W-R2330009-111213-ACN-003	11/12/2013	490	0.23 J	1.7 J	460	<1.0	<1.0	2.9 J	2.2 J	1.4 J		16,000	1.2 J	96	<0.2	8.4 J	<5.0	<0.20	<2.0	2.1 J	7.5 J
MW-4	W-R2330009-111213-ACN-003	11/12/2013	10 J	0.19 J	1.1 J	460	<1.0	0.34 J	0.78 J	2.0 J	0.65 J	<0.005	15,000	<3.0	70	<0.2	4.7 J	<5.0	<0.20	<2.0	0.94 J	2.8 J
MW-4 ^A	W-R2330012-032714-ACN-006	3/27/2014	2,800	0.40 J	5.1	480	0.095 J	<1.0	4.5 J	5.7 J	9.6 J		20,000	7.5	700	<0.2	16 J	1.4 J	<0.20	0.12 J	8.5	35 J
MW-4	W-R2330012-032714-ACN-006	3/27/2014	6.0 J	0.23 J	2.9 J	450	<1.0	<1.0	0.37 J	2.4 J	2.0 J	3.4 J	15,000	<3.0	410	<0.2	8.4 J	<5.0	<0.20	<2.0	0.74 J	20 J
MW-5	W-R2330009-050113-MJF-004	5/1/2013	15 J	0.17 J	31	1,300	<1.0	<1.0	1.5 J	2.3 J	<4.0	<0.005	5,300	0.3 J	56	<0.2	3.5 J	0.69 J	<0.20	<2.0	1.3 J	1.1 J
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	12 J	0.27 J	31	1,300	<1.0	<1.0	1.9 J	2.3 J	<4.0	<0.005	5,400	0.061 J	58	<0.2	3.9 J	0.67 J	<0.20	0.069 J	1.2 J	1.1 J
MW-5 ^A	W-R2330009-080813-ZTR-009	8/8/2013	330	2.2 J	34	1,500	<1.0	0.84 J	2.1 J	2.3 J	3.5 J		5,300	2.1 J	56	<0.2	4.9 J	0.75 J	<0.20	<2.0	2.2 J	10 J
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	6.7 J	0.27 J	31	1,400	<1.0	0.16 J	1.6 J	3.1 J	2.1 J	<0.005	4,300	0.069 J	50	<0.2	4.3 J	<5.0	<0.20	<2.0	1.4 J	3.1 J
MW-5 ^A	W-R2330009-111213-ACN-004	11/12/2013	420	0.26 J	40	1,400	<1.0	0.98 J	2.6 J	2.6 J	3.5 J		6,500	4.9 J	81 J	<0.2	6.3 J	<5.0	<0.20	<2.0	2.5 J	11 J
MW-5	W-R2330009-111213-ACN-004	11/12/2013	13 J	0.20 J	38	1,300	<1.0	0.57 J	2.9 J	2.6 J	<4.0	0.0016	5,900	<3.0	71 J	<0.2	5.9 J	<5.0	<0.20	<2.0	1.3 J	2.4 J
MW-5 ^A	W-R2330012-032814-ACN-008	3/28/2014	1,100	0.50 J	40	1,300	0.25 J	0.49 J	3.3 J	3.1 J	8.0 J		8,100	12 J	93	<0.2	9.2 J	<5.0	0.051 J	<2.0	4.2	26 J
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<2.0	0.25 J	31	1,200	<1.0	<1.0	0.61 J	2.6 J	1.0 J	2.6 J	4,500	0.34	57	<0.2	6.5 J	0.70 J	<0.20	<2.0	1.3 J	0.65 J
MW-6	W-R2330004-090512-MJF-04	9/5/2012	17 J	0.16 J	9.4	580	<1.0	<1.0	1.0 J	2.4 J	0.31 J	<0.005	26,000	0.057 J	500	<0.2	3.8 J	0.051 J	<0.025	<2.0	1.2 J	15 J
MW-6	W-R2330009-050213-MJF-012	5/2/2013	7.5 J	0.15 J	3.7 J	480	<1.0	<1.0	1.6 J	1.5 J	<4.0	<0.005	18,000	0.31 J	640	<0.2	5.0 J	<5.0	<0.20	<2.0	0.99 J	2.1 J
MW-6 ^A	W-R2330009-080713-ZTR-002	8/7/2013	47 J	0.11 J	6.0	540	<1.0	0.19 J	0.94 J	1.9 J	4.40		22,000	0.29 J	790	<0.2	7.5 J	<5.0	<0.20	<2.0	1.3 J	3.8 J
MW-6	W-R2330009-080713-ZTR-002	8/7/2013	6.8 J	0.15 J	5.5	550	<1.0	0.25 J	0.75 J	2.4 J	3.5 J	<0.005	21,000	0.063 J	750	<0.2	7.6 J	<5.0	<0.20	<2.0	1.3 J	3.2 J
MW-6 ^A	W-R2330009-111313-ACN-011	11/13/2013	200 J	0.16 J	5.4 J	520	<1.0	0.25 J	1.8 J	1.7 J	1.4 J		18,000	0.55 J	430	<0.2	8.5 J	<5.0	<0.20	<2.0	1.6 J	3.7 J
MW-6	W-R																					

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																				
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P/R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc	
Residential Drinking Water Criteria (II)			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	40	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	34	2.0 (A)	4.5	2,400	
Residential Health-Based Drinking Water Value			300	NA	NA	NA	NA	NA	NA	NA	1,400	NA	2,000	NA	860	NA	NA	NA	NA	NA	NA	NA	
Ground Water Surface Water Interface Criteria (GSI) (III)			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M), 0.06	3.7	27	170 (G)	
GSI Final Acute Value (FAV)			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV	
Groundwater Concentration for Vapor Intrusion (GW _{VIS}) (a)			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
Water Solubility (VII)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	
ID	SAMPLE ID	SAMPLE DATE																					
MW-8	W-R2330009-050313-MJF-013	5/3/2013	11 J	0.21 J	1.2 J	380	<1.0	<1.0	0.56 J	1.5 J	<4.0	<0.005	6,200	<3.0	180	<0.2	4.4 J	<5.0	<0.20	<2.0	0.89 J	2.0 J	
MW-8 ^A	W-R2330009-080713-ZTR-008	8/7/2013	51	0.16 J	4.1 J	470	<1.0	0.12 J	1.2 J	1.5 J	3.8 J		8,200	0.80 J	200	<0.2	6.8 J	<5.0	<0.20	<2.0	1.3 J	4.0 J	
MW-8	W-R2330009-080713-ZTR-008	8/7/2013	6.3 J	0.20 J	3.9 J	460	<1.0	0.098 J	0.94 J	2.3 J	1.6 J	<0.005	8,100	0.074 J	200	<0.2	6.6 J	<5.0	<0.20	<2.0	0.91 J	3.0 J	
MW-8 ^A	W-R2330009-111213-ACN-005	11/12/2013	98 J	0.12 J	3.7 J	420	<1.0	0.50 J	1.3 J	1.6 J	1.6 J		7,700	0.34 J	200	<0.2	7.6 J	<5.0	<0.20	<2.0	1.5 J	3.2 J	
MW-8	W-R2330009-111213-ACN-005	11/12/2013	8.4 J	0.13 J	3.6 J	440	<1.0	0.49 J	2.0 J	1.8 J	1.5 J	0.0015 J	7,500	<3.0	210	<0.2	7.9 J	<5.0	<0.20	<2.0	0.89 J	2.4 J	
MW-9	W-R2330009-050113-MJF-007	5/1/2013	6.6 J	0.2 J	44	1,700	<1.0	<1.0	1.9 J	2.4 J	0.71 J	<0.005	28,000	0.053 J	760	<0.2	6.3 J	<5.0	<0.20	<2.0	1.2 J	7.5 J	
MW-9 ^A	W-R2330009-080813-ZTR-013	8/8/2013	13 J	0.13 J	52	1,300	<1.0	0.22 J	1.0 J	1.4 J	2.1 J		31,000	0.17 J	440	<0.2	5.2 J	<5.0	<0.20	<2.0	1.5 J	4.6 J	
MW-9	W-R2330009-080813-ZTR-013	8/8/2013	4.7 J	0.21 J	52	1,300	<1.0	0.24 J	0.91 J	2.2 J	1.7 J	<0.005	30,000	0.068 J	430	<0.2	5.2 J	<5.0	<0.20	<2.0	1.4 J	2.9 J	
MW-9 ^A	W-R2330009-111413-ACN-012	11/14/2013	43 J	0.16 J	59	2,100	<1.0	<1.0	2.0 J	1.7 J	<4.0		30,000	0.30 J	400	<0.2	6.9 J	<5.0	<0.20	0.14 J	1.5 J	3.7 J	
MW-9	W-R2330009-111413-ACN-012	11/14/2013	4.7 J	0.17 J	60	2,200	<1.0	<1.0	1.0 J	1.7 J	<4.0	<0.005	29,000	0.083 J	340	<0.2	6.3 J	<5.0	<0.20	<2.0	1.5 J	2.5 J	
MW-9 ^A	W-R2330012-032614-ACN-003	3/26/2014	190	0.19 J	51	1,700	<1.0	<1.0	1.0 J	2.2 J	2.6 J		34,000	0.99 J	600	<0.2	8.0 J	<5.0	<0.20	<2.0	1.9 J	5.3 J	
MW-9	W-R2330012-032614-ACN-003	3/26/2014	7.8 J	0.15 J	47	1,900	<1.0	<1.0	0.70 J	2.2 J	1.4 J	2.1 J	34,000	0.21 J	570	<0.2	7.9 J	<5.0	<0.20	<2.0	1.3 J	2.1 J	
MW-10	W-R2330009-050113-MJF-003	5/1/2013	6.1 J	0.19 J	7.4	1,800	<1.0	<1.0	1.8 J	2.6 J	<4.0	<0.005	17,000	0.054 J	350	<0.2	4.9 J	0.66 J	<0.20	<2.0	2.3 J	2.4 J	
MW-10 ^A	W-R2330009-080813-ZTR-010	8/8/2013	26 J	0.27 J	6.5	1,700	<1.0	0.29 J	2.2 J	3.1 J	3.4 J		17,000	7.3	600	<0.2	7.5 J	<5.0	<0.20	<2.0	2.4 J	9.6 J	
MW-10	W-R2330009-080813-ZTR-010	8/8/2013	8.1 J	0.31 J	6.7	1,800	<1.0	0.22 J	2.0 J	3.5 J	2.7 J	<0.005	17,000	2.4 J	600	<0.2	7.6 J	<5.0	<0.20	<2.0	2.3 J	5.2 J	
MW-10 ¹ (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	25 J	0.26 J	6.7	1,700	<1.0	0.40 J	2.0 J	3.1 J	3.4 J		17,000	7.2	580	<0.2	7.4 J	0.75 J	<0.20	<2.0	2.2 J	8.5 J	
MW-10 (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	7.4 J	0.25 J	6.4	1,700	<1.0	0.27 J	2.0 J	3.1 J	2.4 J	<0.005	17,000	2.7 J	600	<0.2	7.4 J	0.79 J	<0.20	<2.0	2.2 J	4.9 J	
MW-10 ^A	W-R2330009-111313-ACN-008	11/13/2013	26 J	0.24 J	10	1,900	<1.0	1.7 J	3.7 J	3.3 J	1.8 J		2,300	2.8 J	460	<0.2	8.1 J	<5.0	<0.20	<2.0	3.0 J	7.0 J	
MW-10	W-R2330009-111313-ACN-008	11/13/2013	12 J	0.23 J	9.7 J	1,900	<1.0	1.4 J	2.7 J	3.8 J	1.1 J	0.0019 J	2,100	0.16 J	480	<0.2	8.1 J	<5.0	<0.20	<2.0	2.1 J	3.4 J	
MW-10 ¹ (DUP)	W-R2330009-111313-ACN-009	11/13/2013	26 J	0.23 J	10	1,900	<1.0	1.7 J	2.9 J	3.4 J	1.4 J		2,300	2.8 J	450	<0.2	8.0 J	<5.0	<0.20	<2.0	3.0 J	3.8 J	
MW-10 (DUP)	W-R2330009-111313-ACN-009	11/13/2013	8.8 J	0.20 J	9.2 J	1,900	<1.0	1.7 J	2.6 J	3.4 J	1.1 J	0.0023 J	2,100	0.18 J	470	<0.2	8.2 J	<5.0	<0.20	<2.0	2.3 J	5.0 J	
MW-10 ^A	W-R2330012-032814-ACN-010	3/28/2014	32 J	0.20 J	6.6 J	1,700	<1.0	<1.0	1.6 J	3.0 J	1.9 J		24,000	1.6 J	550	<0.2	8.1 J	<5.0	<0.20	<2.0	2.1 J	2.1 J	
MW-10	W-R2330012-032814-ACN-010	3/28/2014	2.0 J	0.22 J	6.5 J	1,700	<1.0	<1.0	0.79 J	2.5 J	3.3 J	2.4 J	24,000	0.14 J	540	<0.2	9.8 J	<5.0	<0.20	0.24 J	1.8 J	3.0 J	
MW-10 ¹ (DUP)	W-R2330012-032814-ACN-011	3/28/2014	45 J	0.23 J	7.1 J	1,800	<1.0	<1.0	1.6 J	2.9 J	1.5 J		25,000	1.7 J	550	<0.2	7.9 J	0.84 J	<0.20	<2.0	2.3 J	2.1 J	
MW-10 (DUP)	W-R2330012-032814-ACN-011	3/28/2014	4.7 J	0.21 J	6.8 J	1,700	<1.0	<1.0	<1.0	3.0 J	1.1 J	4.1 J	23,000	0.14 J	530	<0.2	8.0 J	0.83 J	<0.20	<2.0	1.9 J	<5.0	
MW-11	W-R2330009-043013-MJF-001	4/30/2013	4.6 J	0.13 J	<5.0	26	<1.0	<1.0	0.69 J	0.41 J	0.76 J	<0.005	13 J	0.0079 J	7.4 J	<0.2	1.2 J	1.7 J	<0.20	<2.0	<4.0	2.0 J	
MW-11 ^A	W-R2330009-080713-ZTR-006	8/7/2013	22 J	0.079 J	<5.0	57 J	<1.0	<1.0	0.49 J	0.51 J	2.7 J		270	<3.0	58	<0.2	2.2 J	0.74 J	<0.20	<2.0	0.24 J	2.5 J	
MW-11	W-R2330009-080713-ZTR-006	8/7/2013	4.0 J	0.12 J	<5.0	61 J	<1.0	<1.0	0.53 J	0.93 J	2.0 J	<0.005	270	<3.0	61	<0.2	2.2 J	1.1 J	<0.20	<2.0	0.23 J	2.2 J	
MW-11 ^A	W-R2330009-111213-ACN-001	11/12/2013	730	0.66 J	1.0 J	38 J	<1.0	<1.0	3.1 J	1.2 J	3.0 J		1,600	1.3 J	75	<0.2	4.8 J	1.1 J	<0.20	0.24 J	2.1 J	8.6 J	
MW-11	W-R2330009-111213-ACN-001	11/12/2013	22 J	0.30 J	0.65 J	47 J	<1.0	<1.0	0.40 J	0.91 J	0.82 J	<0.005	150 J	<3.0	60	<0.2	3.2 J	0.83 J	<0.20	<2.0	<4.0	3.1 J	
MW-11 ^A	W-R2330012-032614-ACN-002	3/26/2014	180	0.12 J	<5.0	38 J	<1.0	<1.0	0.55 J	0.74 J	1.5 J		380	0.37 J	52	<0.2	3.4 J	1.3 J	<0.20	<2.0	0.34 J	0.91 J	
MW-11	W-R2330012-032614-ACN-002	3/26/2014	7.4 J	0.096 J	<5.0	47 J	<1.0	<1.0	<1.0	0.80 J	0.96 J	<0.005	110 J	<3.0	54	<0.2	3.3 J	0.83 J	<0.20	0.098 J	0.28 J	<50.0	
MW-12	W-R2330009-050213-MJF-011	5/2/2013	14 J	0.22 J	1.4 J	1,100	<1.0	<1.0	1.9 J	4.0 J	<4.0	<0.005	15,000	0.17 J	1,500	<0.2	3.3 J	<5.0	<0.20	<2.0	0.99 J	8.8 J	
MW-12 ^A	W-R2330009-080713-ZTR-003	8/7/2013	170	0.15 J	1.2 J	1,400	<1.0	0.27 J	1.2 J	1.4 J	6.1		18,000	0.36 J	470	<0.2	4.3 J	<5.0	<0.20	<2.0	1.7 J	4.5 J	
MW-12	W-R2330009-080713-ZTR-003	8/7/2013	6.9 J	0.26 J	0.93 J	1,500	<1.0	0.30 J	0.73 J	2.4 J	3.6 J	<0.005	17,000	0.062 J	420	<0.2	4.2 J	<5.0	<0.20	<2.0	1.2 J	2.7 J	
MW-12 ^A	W-R2330009-111313-ACN-007	11/13/2013	89	0.1																			

Table 4
Summary Of Ground Water Sample Results

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

GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																			
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Residential Drinking Water Criteria (II)			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	40	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	34	2.0 (A)	4.5	2,400
Residential Health-Based Drinking Water Value			300	NA	NA	NA	NA	NA	NA	NA	1,400	NA	2,000	NA	860	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI,max}) (a)			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																				
MW-23 ^A	W-R2330012-051914-ACN-023	5/19/2014	560	0.15 J	13	610	<1.0	<1.0	1.7 J	2.2 J	2.1 J		13,000	1.2 J	180	<0.2	4.4 J	0.92 J	<0.20	<2.0	2.5 J	7.2 J
MW-23	W-R2330012-051914-ACN-023	5/19/2014	7.7 J	0.089 J	12	560	<1.0	<1.0	0.76 J	1.9 J	<4.0	<0.005	12,000	0.067 J	160	<0.2	3.3 J	<5.0	<0.20	<2.0	1.1 J	2.2 J
MW-23 ³ (DUP)	W-R2330012-051914-ACN-023	5/19/2014	590	0.11 J	12	580	<1.0	<1.0	1.7 J	2.1 J	2.2 J		13,000	1.3 J	180	<0.2	4.4 J	0.72 J	<0.20	<2.0	2.6 J	7.3 J
MW-23 (DUP)	W-R2330012-051914-ACN-023	5/19/2014	8.5 J	0.076 J	12	550	<1.0	<1.0	0.70 J	1.8 J	<4.0	<0.005	11,000	<3.0	150	<0.2	3.1 J	<5.0	<0.20	<2.0	0.84 J	1.9 J
MW-24 ^A	W-R2330012-052014-ACN-030	5/20/2014	310	<2.0	5.7	170	<1.0	<1.0	0.57 J	0.50 J	1.6 J		5,300	0.38 J	640	<0.2	3.8 J	0.69 J	<0.20	<2.0	0.69 J	4.9 J
MW-24	W-R2330012-052014-ACN-030	5/20/2014	4.8 J	0.074 J	5.2	160	<1.0	<1.0	<10	0.76 J	0.75 J	<0.005	4,700	<3.0	620	<0.2	2.9 J	<5.0	<0.20	<2.0	<4.0	1.7 J
MW-25 ^A	W-R2330012-051914-ACN-025	5/19/2014	2,600	0.24 J	1.9 J	83 J	<1.0	<1.0	3.8 J	1.5 J	7.4		3,800	2.5 J	190	<0.2	6.3 J	2.4 J	<0.20	<2.0	6.8	12 J
MW-25	W-R2330012-051914-ACN-025	5/19/2014	51	0.21 J	0.63 J	68 J	<1.0	<1.0	<10	0.59 J	3.7 J	<0.005	110 J	0.25 J	150	<0.2	2.3 J	1.7 J	<0.20	<2.0	0.35 J	2.2 J
MW-26 ^A	W-R2330012-051914-ACN-020	5/19/2014	900	0.37 J	2.7 J	37 J	<1.0	<1.0	1.8 J	1.2 J	4.6		1,900	1.1 J	110	<0.2	4.3 J	0.9 J	<0.20	<2.0	3.1 J	7.3 J
MW-26	W-R2330012-051914-ACN-020	5/19/2014	36 J	0.39 J	1.5 J	34 J	<1.0	<1.0	<10	1.1 J	1.0 J	<0.005	55 J	<3.0	86	<0.2	0.23 J	<5.0	<0.20	<2.0	0.41 J	1.6 J
SB-13 ^A	W-R2330009-121013-AJL-008	12/10/2013	120,000	2.8 J	300	730 J	5.9 J	4.0 J	240	140 J	510		310,000	250	5,300	0.98	410	13 J	0.78 J	7.6 J	380	1,500
SB-13	W-R2330009-121013-AJL-008	12/10/2013	23 J	0.37 J	<2.0	59 J	<1.0	0.071 J	<10	8.0 J	2.3 J	<0.005	71 J	0.072 J	610	<0.2	14 J	<5.0	<0.20	<2.0	0.20 J	4.0 J
SB-14 ^A	W-R2330009-121013-AJL-007	12/10/2013	2,100	0.54 J	2.1 J	65 J	0.12 J	0.20 J	4.6 J	9.6 J	7.4		3,500	4.0	800	<0.2	22	0.68 J	<0.20	0.35 J	7.3	22 J
SB-14	W-R2330009-121013-AJL-007	12/10/2013	14 J	0.37 J	<2.0	49 J	<1.0	0.064 J	<10	5.4 J	1.9 J	<0.005	150 J	0.11 J	470	<0.2	12 J	0.68 J	<0.20	<2.0	0.19 J	4.8 J
SB-15 ^A	W-R2330009-120913-AJL-006	12/9/2013	790	0.32 J	2.0 J	33 J	<1.0	0.052 J	5.2 J	1.5 J	2.9 J		1,600	0.79 J	53	<0.2	10 J	0.77 J	<0.20	<2.0	2.4 J	8.1 J
SB-15	W-R2330009-120913-AJL-006	12/9/2013	6.9 J	0.43 J	0.77 J	34 J	<1.0	<1.0	<10	2.2 J	2.0 J	2.3 J	770	<3.0	53	<0.2	8.5 J	0.84 J	<0.20	<2.0	0.17 J	3.0 J
SB-21 ^A	W-R2330009-120513-RD-001	12/5/2013	38,000 J	13 J	37 J	2,900	1.7 J	11	75 J	38 J	320		73,000	1,700	1,800	0.39	86 J	<5.0	2.7	<2.0	86	2,200
SB-21	W-R2330009-120513-RD-001	12/5/2013	24 J	0.97 J	2.3 J	2,000	<1.0	<1.0	1.7 J	5.5 J	2.3 J	6.9	13,000	0.49 J	530	<0.2	10 J	<5.0	<0.20	1.1 J	1.3 J	26 J
SB-22 ^A	W-R2330009-120513-RD-002	12/5/2013	1,900	2.2 J	<5.0	1,000	<1.0	<1.0	8.1 J	4.3 J	40 J		16,000	59	550	<0.2	20 J	<5.0	<0.20	<2.0	4.0 J	210 J
SB-22	W-R2330009-120513-RD-002	12/5/2013	10 J	0.99 J	2.0 J	960	<1.0	<1.0	1.1 J	3.9 J	2.8 J	3.6 J	12,000	0.21 J	560	<0.2	16 J	<5.0	<0.20	0.081 J	0.77 J	24 J
SB-23 ^A	W-R2330009-120513-RD-003	12/5/2013	3,200	2.8 J	72	880 J	1.8 J	<1.0	130	40 J	150		8,600	86	1,600	0.12 J	130 J	12 J	<0.20	0.96 J	9.3	420 J
SB-23	W-R2330009-120513-RD-003	12/5/2013	17 J	0.39 J	23	690	<1.0	<1.0	2.3 J	3.0 J	1.5 J	31	12,000	0.084 J	70	<0.2	9.1 J	0.76 J	<0.20	<2.0	1.7 J	5.6 J
SB-24 ^A	W-R2330009-120613-RD-004	12/6/2013	6,700	2.6 J	130	860 J	3.5 J	2.9 J	130	77 J	220		190,000	150	4,100	0.30	210	9.8 J	0.53 J	2.4 J	86	580
SB-24	W-R2330009-120613-RD-004	12/6/2013	52 J	0.60 J	6.7	410	<1.0	<1.0	<10	2.5 J	2.5 J	9.2	4,700	<3.0	360	<0.2	14 J	0.73 J	<0.20	<2.0	0.38 J	4.8 J
SB-25 ^A	W-R2330009-120613-RD-005	12/6/2013	250,000	2.6 J	470	1300	9.8 J	13	540	270	700		520,000	440	9,200	0.95	1,100	27 J	1.7 J	6.3 J	590	1,700
SB-25	W-R2330009-120613-RD-005	12/6/2013	930	4.3	11	84 J	<1.0	0.10 J	1.4 J	4.0 J	1.5 J	46.0	1,100	0.63 J	530	<0.2	5.0 J	<5.0	<0.20	0.26 J	3.2 J	4.5 J
SB-26 ^A	W-R2330009-121013-AJL-009	12/10/2013	15,000	5.0 J	610	970 J	12	17	1000	310	1,100		700,000	640	14,000	0.51	1,100	47 J	2.5	13 J	660	2,900
SB-26	W-R2330009-121013-AJL-009	12/10/2013	60	22	8.6	57 J	<1.0	<1.0	<10	2.8 J	1.4 J	1.0 J	1,900	0.11 J	92	<0.2	14 J	0.75 J	<0.20	<2.0	0.67 J	14 J
SB-27 ^A	W-R2330009-121113-AJL-010	12/11/2013	62,000	2.5 J	86	610 J	3.2 J	3.2 J	290	57 J	220		140,000	100	2,800	<0.2	210	9.4 J	<0.20	2.3 J	180	680
SB-27	W-R2330009-121113-AJL-010	12/11/2013	22 J	0.56 J	2.1 J	160	<1.0	<1.0	<10	5.3 J	2.8 J	1.5 J	7,400	<3.0	310	<0.2	25	<5.0	<0.20	<2.0	0.46 J	19 J
SB-27 ³ (DUP)	W-R2330009-121113-AJL-011	12/11/2013	17,000	1.1 J	18 J	300 J	<1.0	0.61 J	59 J	13 J	46		38,000	19 J	730	<0.2	53 J	<5.0	<0.20	<2.0	46	140 J
SB-27 (DUP)	W-R2330009-121113-AJL-011	12/11/2013	11 J	0.48 J	2.0 J	150	<1.0	<1.0	<10	4.7 J	2.4 J	1.3 J	4,900	<3.0	300	<0.2	24	<5.0	<0.20	<2.0	<4.0	18 J
SB-28 ^A	W-R2330009-121113-AJL-012	12/11/2013	95,000	3.2 J	210	550 J	5.2 J	5.2 J	350	85 J	330		230,000	200	4,100	0.23	310	13 J	0.75 J	3.3 J	320	800
SB-28	W-R2330009-121113-AJL-012	12/11/2013	31 J	1.8 J	10	110	<1.0	<1.0	<10	2.8 J	2.1 J	<0.005	1,400	<3.0	180	<0.2	15 J	<5.0	<0.20	<2.0	0.49 J	4.2 J
SB-29 ^A	W-R2330009-121213-AJL-014	12/12/2013	7,600	4.1 J	10 J	2,100	<1.0	2.8 J	71 J	12 J	90		51,000	330	980	0.13	51 J	<5.0	<0.20	<2.0	24 J	470 J
SB-29	W-R2330009-121213-AJL-014	12/12/2013	25 J	0.83 J	<5.0	1,700	<1.0	<1.0	3.1 J	5.2 J	6.2 J	4.2 J	22,000	<3.0	58							

Table 4
Summary Of Ground Water Sample Results

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

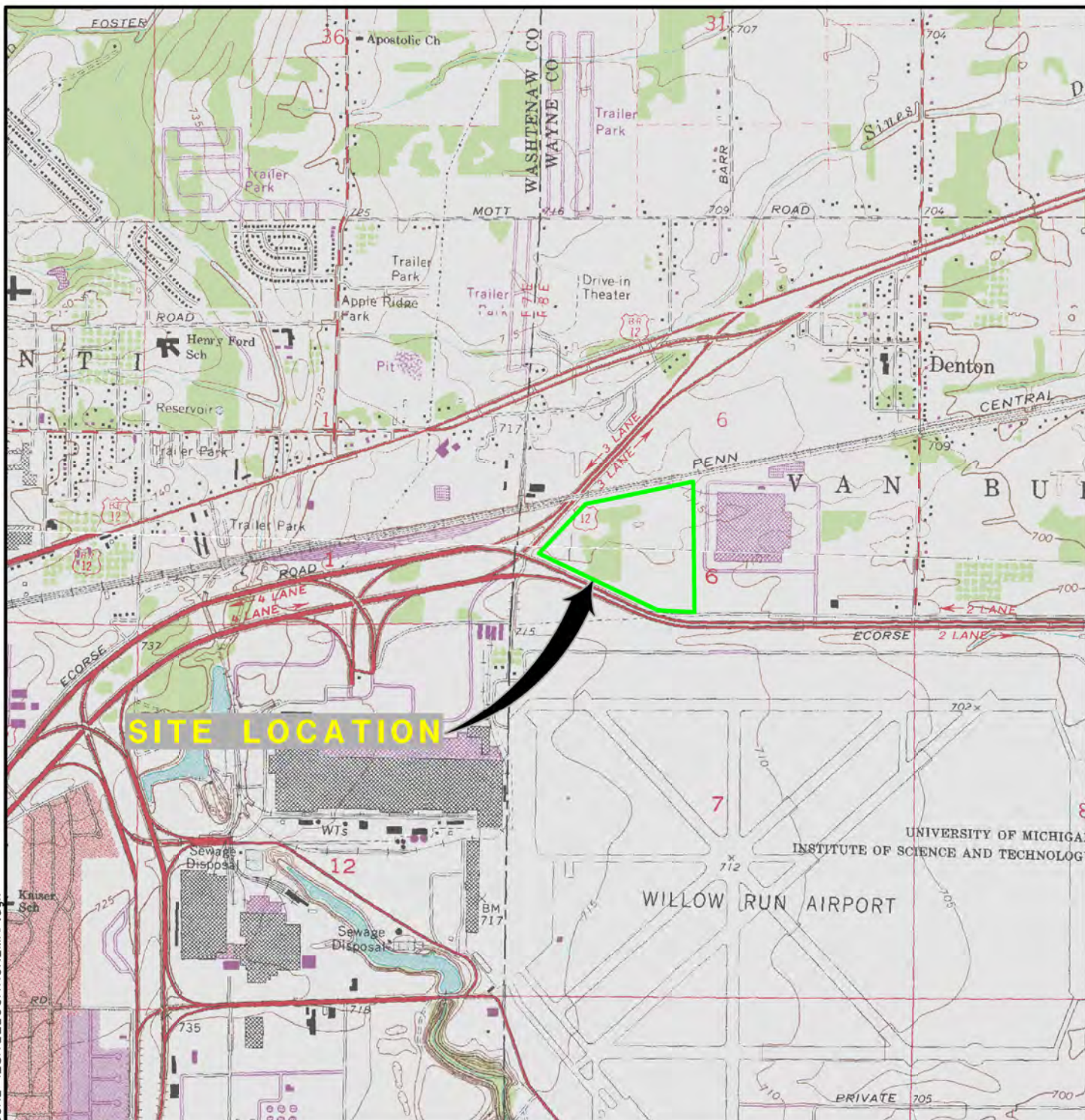
GROUNDWATER: Part 201/213 Generic Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/L			Metals																			
			Aluminum	Antimony	Arsenic	Barium	Beryllium	Calcium	Chromium	Cobalt	Copper (B)	Cyanide (P-R)	Iron (B)	Lead (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Residential Drinking Water Criteria (II)			50 (E)(V)	6.0 (A)	10 (A)	2,000 (A)	4.0 (A)	5.0 (A)	100 (A)	40	1,000 (E)	200 (A)	300 (E)	4.0 (L)	50 (E)	2.0 (A)	100 (A)	50 (A)	34	2.0 (A)	4.5	2,400
Residential Health-Based Drinking Water Value			300	NA	NA	NA	NA	NA	NA	NA	1,400	NA	2,000	NA	860	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	29	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	551	12,112 (G)	2.8	1,320 (G)	120	1.1	94	220	330 (G)
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI}) (a)			NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
SB-20	W-2330012-040114-ACN-005	4/1/2014	300	0.19 J	<5.0	21 J	<1.0	<1.0	<10	1.8 J	1.2 J	1.3	490	0.13 J	98	<0.2	2.6 J	0.73 J	<0.20	<2.0	1.3 J	2.8 J
SB-35	W-2330012-040114-ACN-006	4/1/2014	43 J	0.81 J	4.3 J	1,000	<1.0	<1.0	3.6 J	3.2 J	<4.0	2.4 J	25,000	0.43 J	550	<0.2	10 J	<5.0	<0.20	<2.0	2.2 J	16 J
SB-36	W-R2330012-040314-ACN-007	4/3/2014	160 J	0.75 J	4.3 J	2,800	<1.0	<1.0	1.6 J	6.4 J	<4.0	2.5 J	27,000	0.47 J	260	<0.2	9.7 J	<5.0	<0.20	<2.0	3.3 J	2.9 J
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	130 J	0.43 J	4.4 J	2,600	<1.0	<1.0	1.4 J	6.6 J	<4.0	6.3 J	27,000	0.41 J	250 J	<0.2	9.6 J	<5.0	<0.20	<2.0	3.3 J	2.5 J
SB-37	W-R2330012-040314-ACN-009	4/3/2014	66 J	1.5 J	24 J	640	<1.0	<1.0	3.5 J	8.8 J	<4.0	9.5 J	16,000	3.1 J	530	<0.2	31 J	<5.0	<0.20	<2.0	1.1 J	340
SB-38	W-R2330012-040314-ACN-010	4/3/2014	13 J	2.5 J	14 J	380	<1.0	<1.0	<10	6.2 J	<4.0	5.2 J	2,200	0.47 J	430	<0.2	15 J	<5.0	<0.20	<2.0	<4.0	21 J
SB-39	W-R2330012-040314-ACN-011	4/3/2014	75	0.61 J	2.3 J	2,100	<1.0	<1.0	4.4 J	4.6 J	2.3 J	6.6 J	25,000	1.5 J	300	<0.2	11 J	1.1 J	<0.20	1.5 J	1.1 J	6.9 J
SB-46	W-R2330012-041114-ACN-015	4/11/2014	38 J	0.40 J	6.4 J	100 J	<1.0	<1.0	1.8 J	3.1 J	2.7 J	<0.005	5,100	1.2 J	960	<0.2	9.6 J	<5.0	<0.20	<2.0	<4.0	7.8 J
SB-47	W-R2330012-041114-ACN-016	4/11/2014	39 J	0.43 J	2.8 J	160	<1.0	<1.0	0.95 J	6.7 J	2.4 J	<0.005	3,200	0.18 J	1,200	<0.2	17 J	7.2	<0.2	<2.0	0.59 J	9.0 J
SB-48	W-R2330012-040314-ACN-013	4/9/2014	170 J	1.4 J	<5.0	69 J	<1.0	<1.0	<10	7.7 J	6.1 J	<0.005	280 J	<3.0	410	<0.2	20 J	5.4 J	<0.20	<2.0	2.4 J	21 J
SB-49	W-R2330012-040314-ACN-014	4/9/2014	21 J	<2.0	<5.0	9.3 J	<1.0	<1.0	<10	0.17 J	0.65 J	2.3 J	31 J	0.62 J	59	<0.2	1.4 J	<5.0	<0.20	<2.0	<4.0	1.3 J
SB-50	W-R2330012-040314-ACN-012	4/9/2014	74 J	0.43 J	<5.0	44 J	<1.0	0.58 J	<10	2.6 J	<4.0	2.6 J	200 J	14 J	110 J	<0.2	4.3 J	<5.0	<0.20	<2.0	<4.0	8.0 J
SW-1	W-R2330009-050313-MJF-015	5/3/2013	25 J	0.40 J	<5.0	27 J	<1.0	<1.0	1.1 J	1.5 J	4.0	<0.005	50 J	0.069 J	22 J	<0.2	6.4 J	<5.0	<0.20	<2.0	<4.0	1.9 J
SW-1	W-R2330012-041514-ACN-017	4/15/2014	16 J	1.3 J	<5.0	34 J	<1.0	0.4 J	4.3 J	1.7 J	36 J	110	33 J	2.3 J	51 J	<0.2	4.0 J	<5.0	<0.20	<2.0	1.2 J	38 J
SW-2	W-R2330009-050313-MJF-014	5/3/2013	3.4 J	1.1 J	0.93 J	93 J	<1.0	0.063 J	0.44 J	0.55 J	5.2 J	0.0012 J	170 J	0.25 J	69	<0.2	4.8 J	<5.0	<0.20	<2.0	0.28 J	10 J
SW-2	W-R2330012-041514-ACN-019	4/15/2014	<250	1.4 J	<25	78 J	<1.0	0.23 J	<10	1.3 J	5.9 J	<0.005	250 J	0.77 J	460 J	<0.2	5.2 J	<5.0	<0.20	<2.0	<4.0	80 J
SW-3	W-R2330009-051013-MJF-016	5/10/2013	26 J	0.43 J	4.6 J	340	<1.0	0.046 J	1.2 J	3.4 J	13 J	<0.005	4,100	1.7 J	880	<0.2	13 J	<50	<0.20	0.093 J	1.1 J	51
SW-3	W-R2330012-041514-ACN-018	4/15/2014	11 J	0.52 J	<5.0	150 J	<1.0	<1.0	<10	0.93 J	5.7 J	<0.005	<100	2.6 J	6.2 J	<0.2	4.2 J	<5.0	<0.20	<2.0	<4.0	8.8 J
Equipment Blank	W-R2330004-090512-MJF-05	9/5/2012	2.9 J	<2.0	<5.0	0.59 J	<1.0	<1.0	0.14 J	0.26 J	0.70 J	<0.005	24 J	0.27 J	1.5 J	<0.2	0.42 J	0.48 J	<0.025	<2.0	<0.30	15 J
Equipment Blank	W-R2330009-050113-MJF-006	5/1/2013	2.4 J	0.11 J	<5.0	3.1 J	<1.0	<1.0	0.59 J	0.79 J	0.57 J	<0.005	23 J	0.0053 J	2.3 J	<0.2	0.6 J	<5.0	<0.20	<2.0	<4.0	1.8 J
Equipment Blank ^a	W-R2330009-080813-ZTR-012	8/8/2013	3.4 J	<2.0	<5.0	2.7 J	<1.0	0.049 J	0.28 J	<20	1.5 J	<0.005	26 J	0.053 J	0.38 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	4.1 J
Equipment Blank	W-R2330009-080813-ZTR-012	8/8/2013	1.7 J	0.080 J	<5.0	2.2 J	<1.0	<1.0	<10	0.46 J	1.1 J	<0.005	21 J	<3.0	1.0 J	<0.2	0.46 J	<5.0	<0.20	<2.0	<4.0	3.1 J
Equipment Blank ^a	W-R2330009-121113-AJL-013	12/11/2013	7.0 J	<2.0	<5.0	0.085 J	<1.0	<1.0	<10	<20	0.72 J		12 J	<3.0	0.13 J	<0.2	<20	<5.0	<0.20	<2.0	0.3 J	2.2 J
Equipment Blank	W-R2330009-121113-AJL-013	12/11/2013	2.7 J	<2.0	<5.0	0.11 J	<1.0	<1.0	<10	0.14 J	<4.0	<0.005	10 J	<3.0	0.31 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	1.7 J
Equipment Blank ^a	W-R2330012-032814-ACN-012	3/28/2014	51	0.094 J	<5.0	14 J	0.15 J	<1.0	<1.0	0.17 J	65 J		17 J	0.16 J	0.17 J	<0.2	1.3 J	<5.0	<0.20	<2.0	<4.0	5.3 J
Equipment Blank	W-R2330012-032814-ACN-012	3/28/2014	150	0.48 J	<5.0	7.5 J	91 J	<1.0	<1.0	0.076 J	53 J	14 J	29 J	0.037 J	1.2 J	<0.2	0.57 J	<5.0	<0.20	<2.0	<4.0	2.1 J
Equipment Blank ^a	W-R2330012-052014-ACN-031	5/20/2014	5.0 J	<2.0	<5.0	0.28 J	<1.0	<1.0	<1.0	<20	0.56 J		8.4 J	0.054 J	0.25 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	0.57 J
Equipment Blank	W-R2330012-052014-ACN-031	5/20/2014	9.4 J	<2.0	<5.0	0.35 J	<1.0	<1.0	<1.0	<20	<4.0	<0.005	13 J	<3.0	0.39 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	0.87 J

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number
A = Total Metals sample collected for comparison to dissolved metals analytical results.
E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of NREPA
G = Calculated value based on a hardness of 150 mg/L
H = Analyzed outside of holding time
J = Analyte detected below quantitation limit.
Exceeds Generic Drinking Water Cleanup Criteria (II)
Exceeds Generic Drinking Water Cleanup Criteria (II) and the Generic Health-Based Drinking Water Value
Exceeds Generic Ground Water Surface Water Interface Criteria (III)
Exceeds Two or More DW (II), GSI (III) and/or Nonresidential Health-Based Water Value (E)
Exceeds GSI Final Acute Value (FAV), also exceeds others
Notes in parentheses and standard abbreviations from MDEQ Operational Memorandum 1, Attachment 1, dated September 28, 2012 or MDEQ Guidance Document for the Vapor Intrusion Pathway, dated May 2013

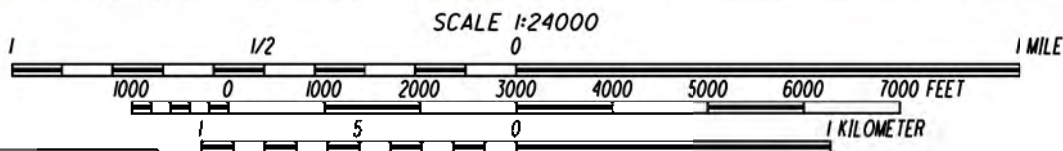
FIGURES



W:\Projects\Projects P-T\R2330012\CAD\R2330012-FIGURE 1-SITE-LOCATION-MAP.dgn



SITE LOCATION



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 REVISED 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)



**FIGURE 1
SITE LOCATION MAP**

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

DATE 3/12/14	DRAWN BY CJB	DESIGNED BY MJF	PROJECT NO. R2330012



LEGEND

A A' GEOLOGIC CROSS SECTION PROFILE LOCATION

--- PROPERTY LINE

--- R/W LINE

--- FENCE

--- EXTENT OF EARTH DISTURBANCE BASED ON APRIL 26, 1970 AERIAL PHOTO

--- GAS --- EXISTING GAS MAIN

--- FO --- EXISTING FIBER OPTIC CABLE

--- W --- EXISTING FIRE WATER

--- W --- EXISTING WATER MAIN

--- EXISTING STORM

ST (3) THREE EX. PARALLEL STORM SEWERS

○ SURFACE WATER SAMPLE LOCATION

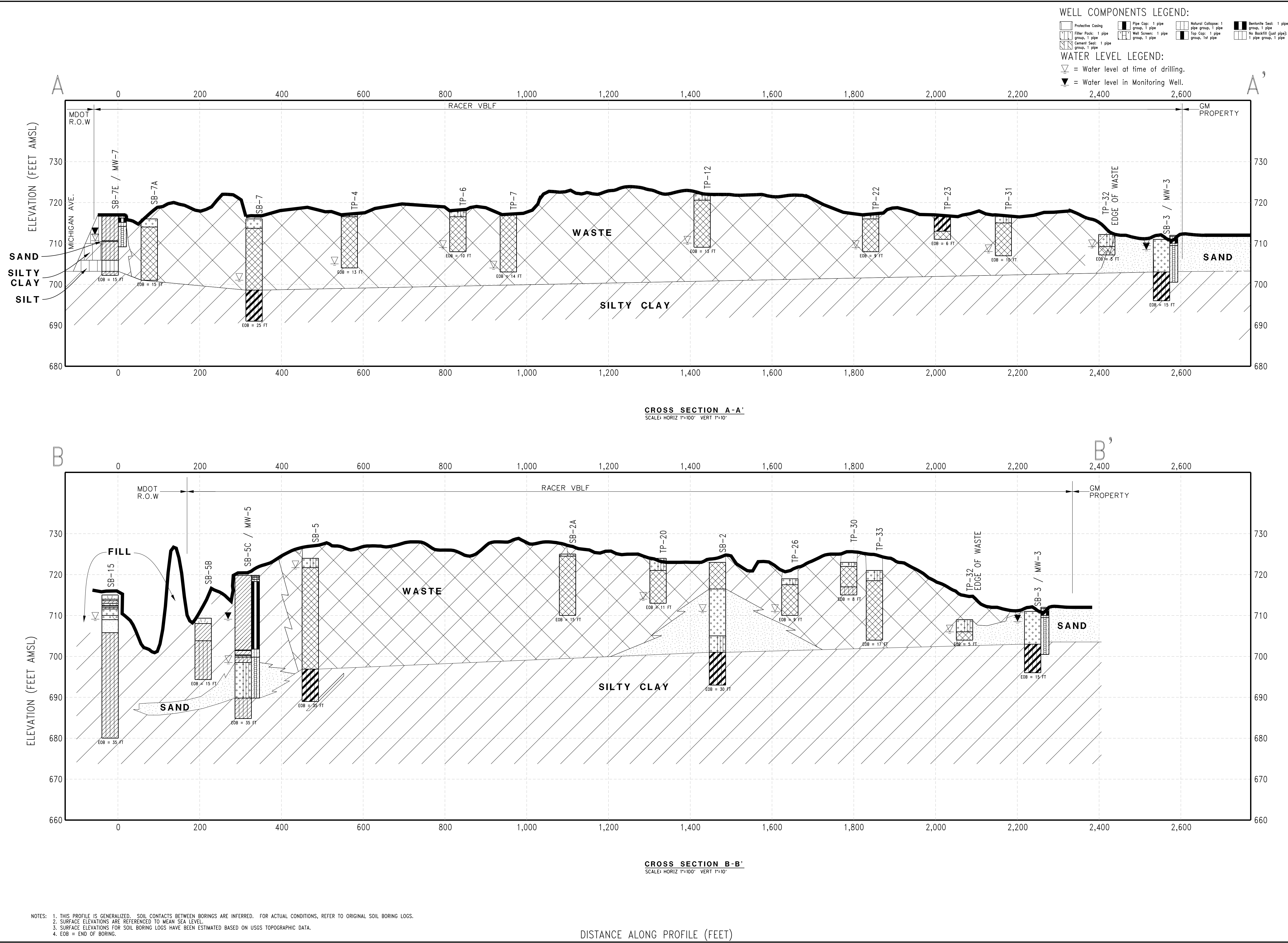
● SOIL BORING LOCATION

● MONITORING WELL LOCATION

TP-32 TEST PIT LOCATION

- GENERAL NOTES:
1. AERIAL PHOTO FROM SEMCOG DATED 2010.
 2. MONITORING WELL AND SURFACE WATER LOCATIONS SURVEYED APRIL 2013 AND MAY 2014 BY MSG TO AN ACCURACY OF 0.01'. EXCLUDING SB-43/MW-27.
 3. PHASE IA, IB AND II SITE INVESTIGATIONS, SOIL BORING, MONITORING WELL AND TEST PIT LOCATIONS SURVEYED JULY 2012, MAY 2013 AND DECEMBER 2013, RESPECTIVELY BY MSG USING SUBDECIMETER ACCURACY GLOBAL POSITIONING SYSTEM (GPS) UNIT.
 4. UTILITY LOCATIONS BASED ON INFORMATION FROM SAP/QAPP AND MISS DIG UTILITY MARKINGS.
 5. EASEMENT DIMENSIONS OBTAINED FROM MDOT RIGHT-OF-WAY MAP NO. 82-R-1, PAGE 242, DATED SEPT 2006.
 6. PHASE III SITE INVESTIGATION BORINGS AND/OR MONITORING WELLS SB-16, SB-17/MW-23, SB-18, SB-19/MW-22, SB-20, SB-24/MW-18, SB-25/MW-19, SB-28/MW-17, SB-35 THROUGH SB-39, SB-40/MW-14, SB-41/MW-15, SB-42/MW-16, SB-44/MW-20, SB-46/MW-24, SB-47, SB-48, SB-49/MW-25, SB-50/MW-21, SB-51/MW-26 COMPLETED MARCH THROUGH APRIL 2014.

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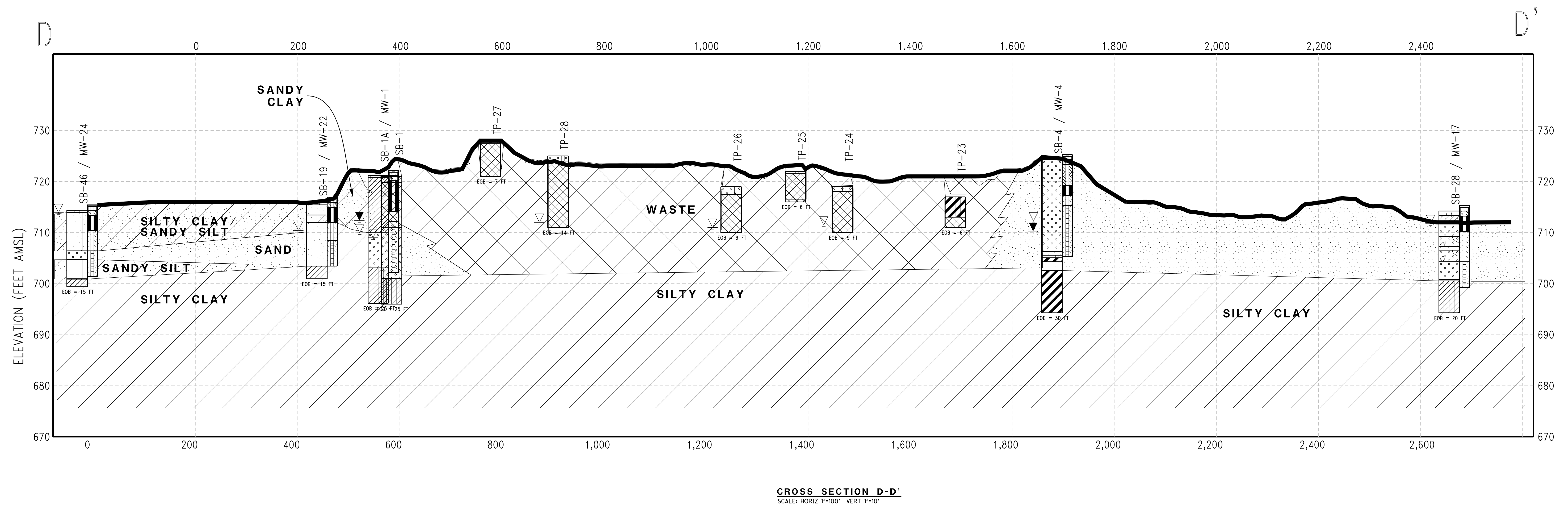
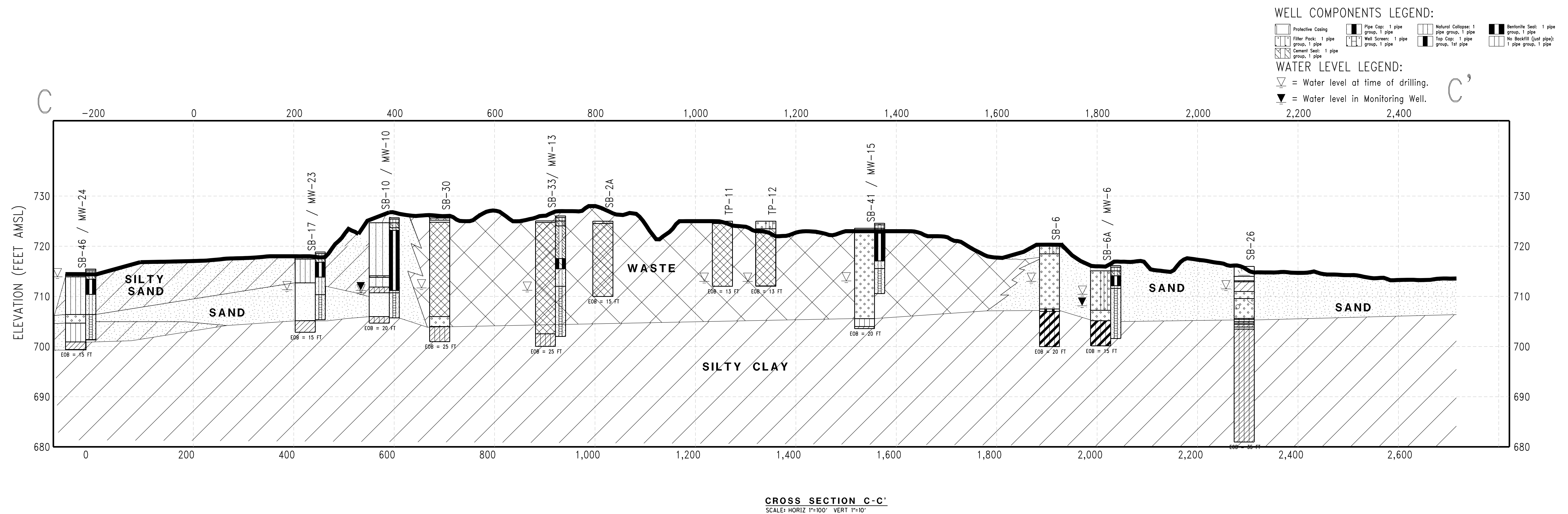


NO.	DATE	BY	DESCRIPTION

MANIK GROUP
TECHNICAL BILLS
CREATING SINCE 1981
www.manikgroup.com

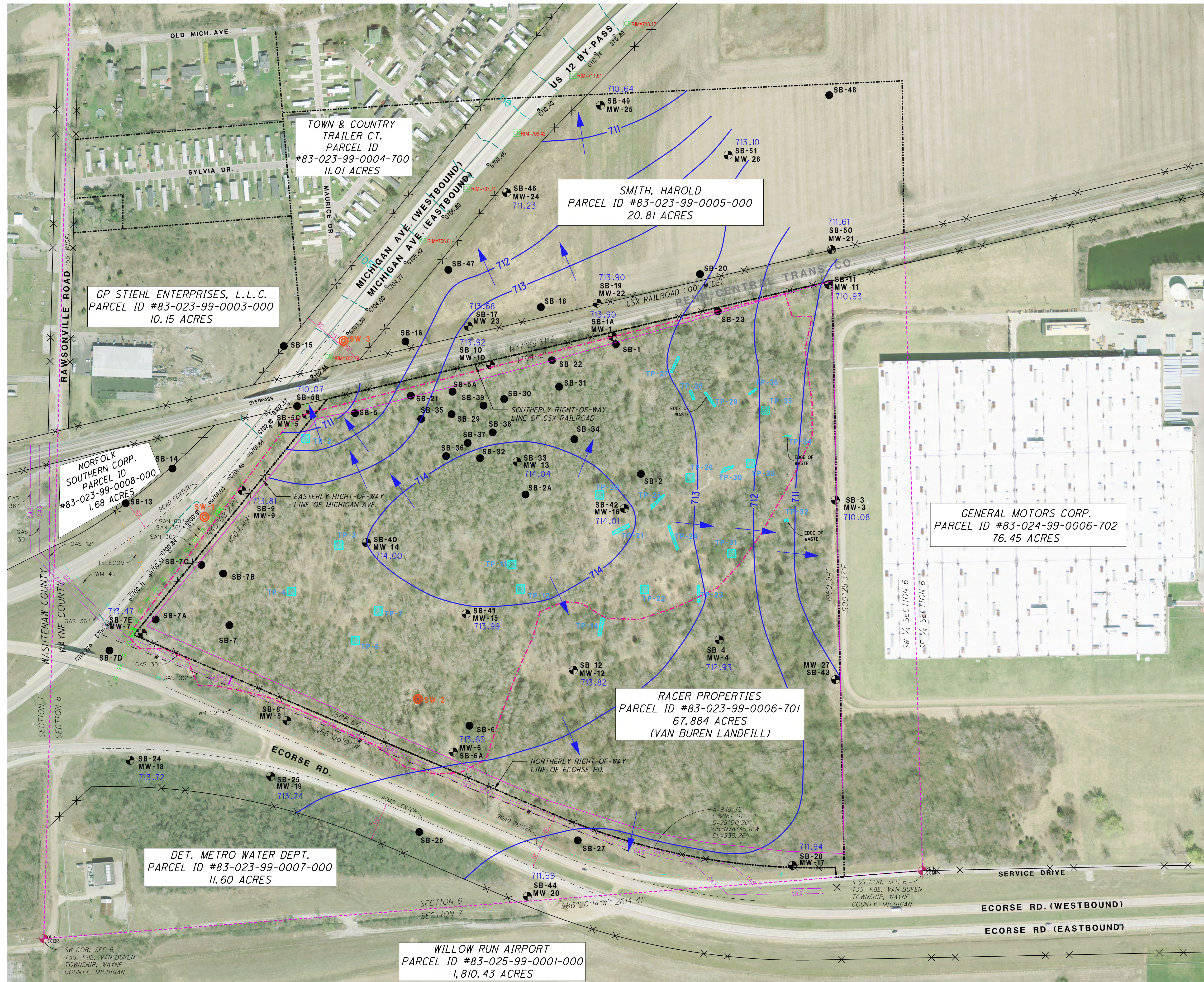
RACER
Providing A-As Communities
Environmental Response Trust

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



NOTES: 1. THIS PROFILE IS GENERALIZED. SOIL CONTACTS BETWEEN BORINGS ARE INFERRED. FOR ACTUAL CONDITIONS, REFER TO ORIGINAL SOIL BORING LOGS.
2. SURFACE ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL.
3. SURFACE ELEVATIONS FOR SOIL BORING LOGS HAVE BEEN ESTIMATED BASED ON USGS TOPOGRAPHIC DATA.
4. EOB = END OF BORING.

DISTANCE ALONG PROFILE (FEET)





LEGEND

- BENZENE ISOCONCENTRATION CONTOUR (ug/L)
- SURFACE WATER SAMPLE LOCATION
- SOIL BORING LOCATION
- MONITORING WELL LOCATION AND GROUNDWATER SAMPLE BENZENE CONCENTRATION (ug/L)
- TEST PIT LOCATION
- EXTENT OF AREA OF INTEREST (AOI)
- PROPERTY LINE
- R/W LINE
- FENCE
- EXISTING GAS MAIN
- EXISTING FIBER OPTIC CABLE
- EXISTING FIRE WATER
- EXISTING WATER MAIN
- EXISTING STORM
- ST (3) THREE EXISTING STORM SEWERS SIDE BY SIDE

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

Benz = Benzene
CB = Chlorobenzene
Al = Dissolved Aluminum
As = Dissolved Antimony
As = Dissolved Arsenic
Ba = Dissolved Barium
Cn = Cyanide (Amenable)
Fe = Dissolved Iron
Mn = Dissolved Manganese
Se = Dissolved Selenium
Pb = Dissolved Lead
Zn = Dissolved Zinc
NE = NOT EXCEEDING

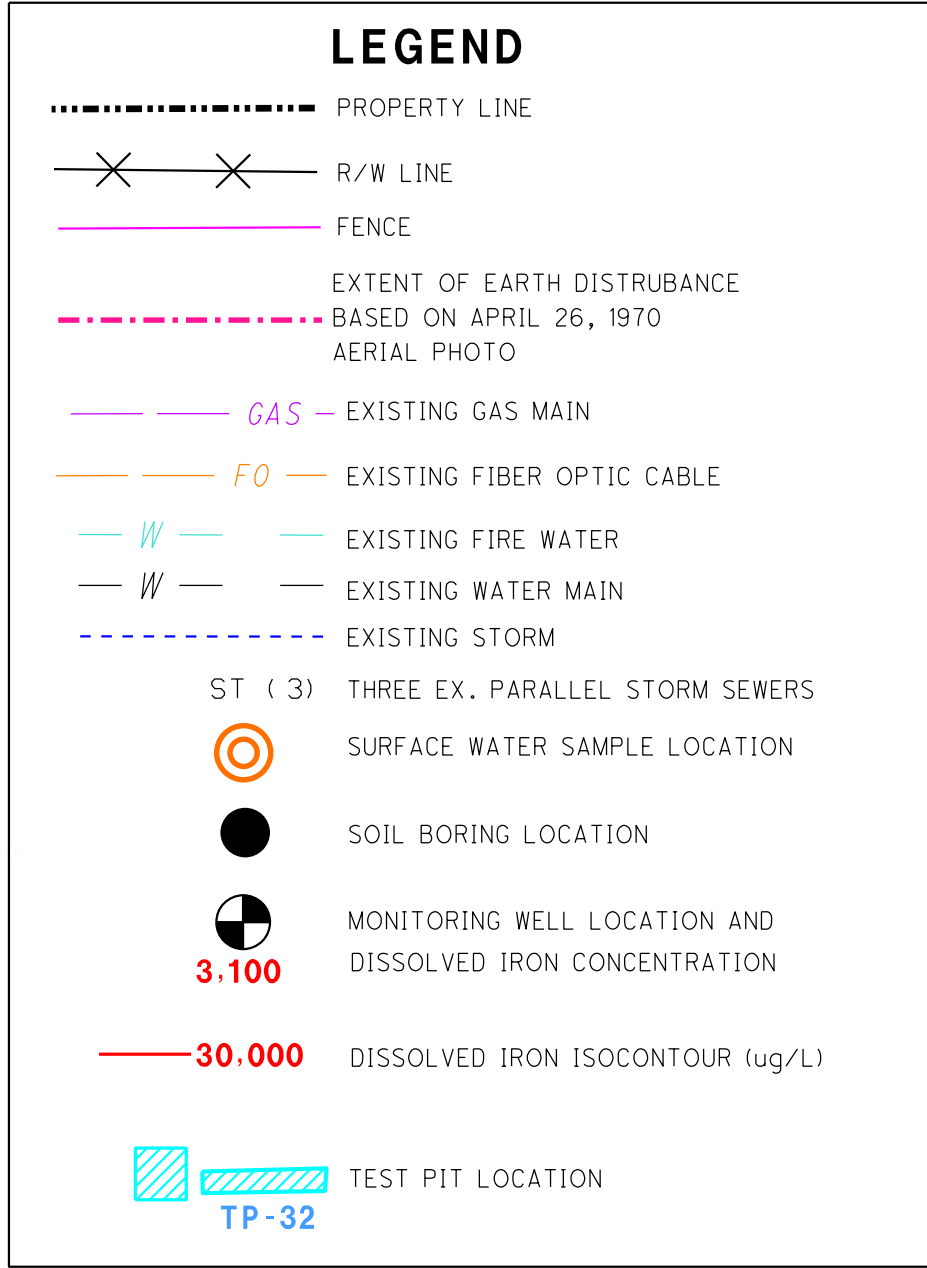
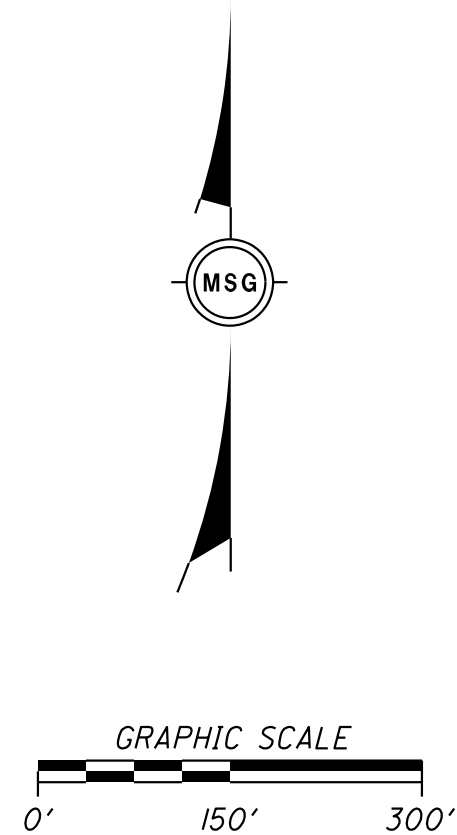
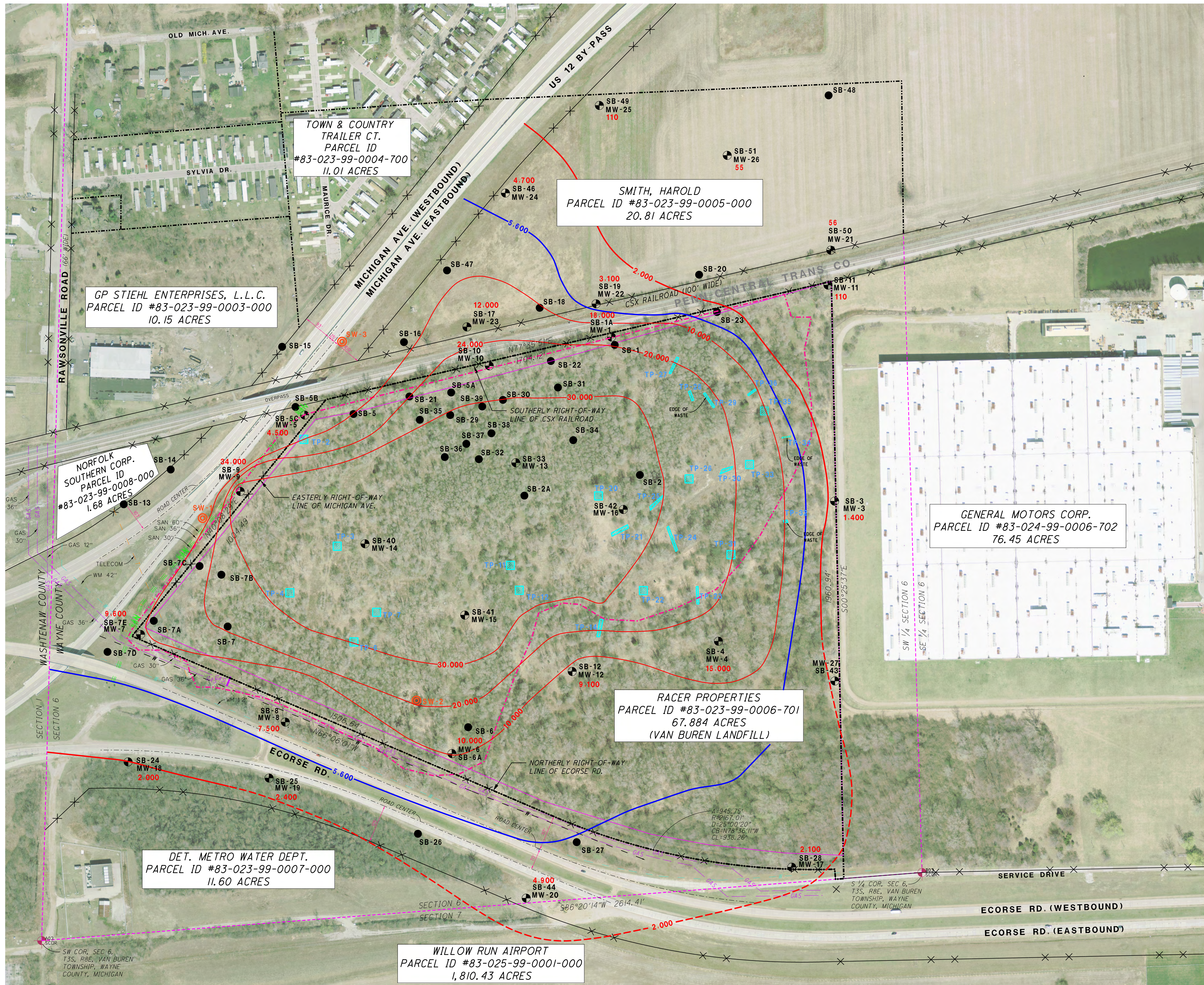
- EXCEEDANCE OF APPLICABLE NONRESIDENTIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS (REVISED DECEMBER 30, 2013)
- I EXCEEDS MDEQ NON-RESIDENTIAL OR RESIDENTIAL (WHERE APPLICABLE) (OFFSITE LOCATIONS) HEALTH BASED DRINKING WATER VALUE
 - II EXCEEDS MDEQ NON-RESIDENTIAL OR RESIDENTIAL (WHERE APPLICABLE) (OFFSITE LOCATIONS) DRINKING WATER CRITERIA
 - III EXCEEDS MDEQ NON-RESIDENTIAL OR RESIDENTIAL (WHERE APPLICABLE) (OFFSITE LOCATIONS) GROUNDWATER SURFACE WATER INTERFACE CRITERIA

GENERAL NOTES:

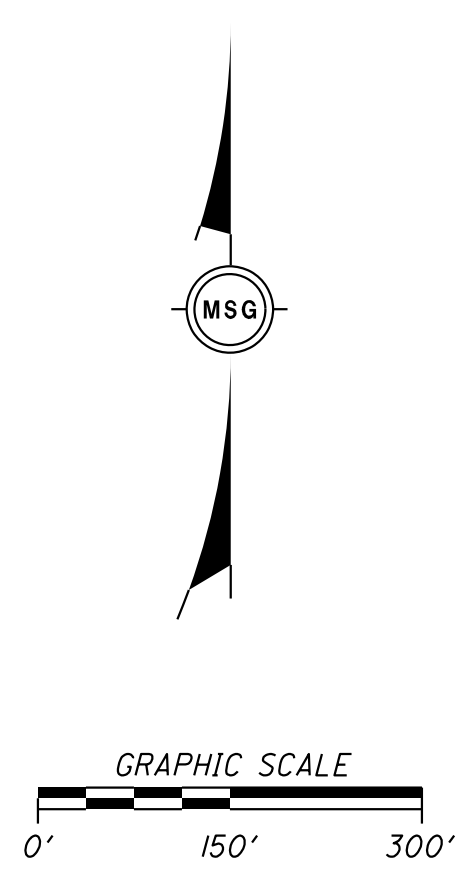
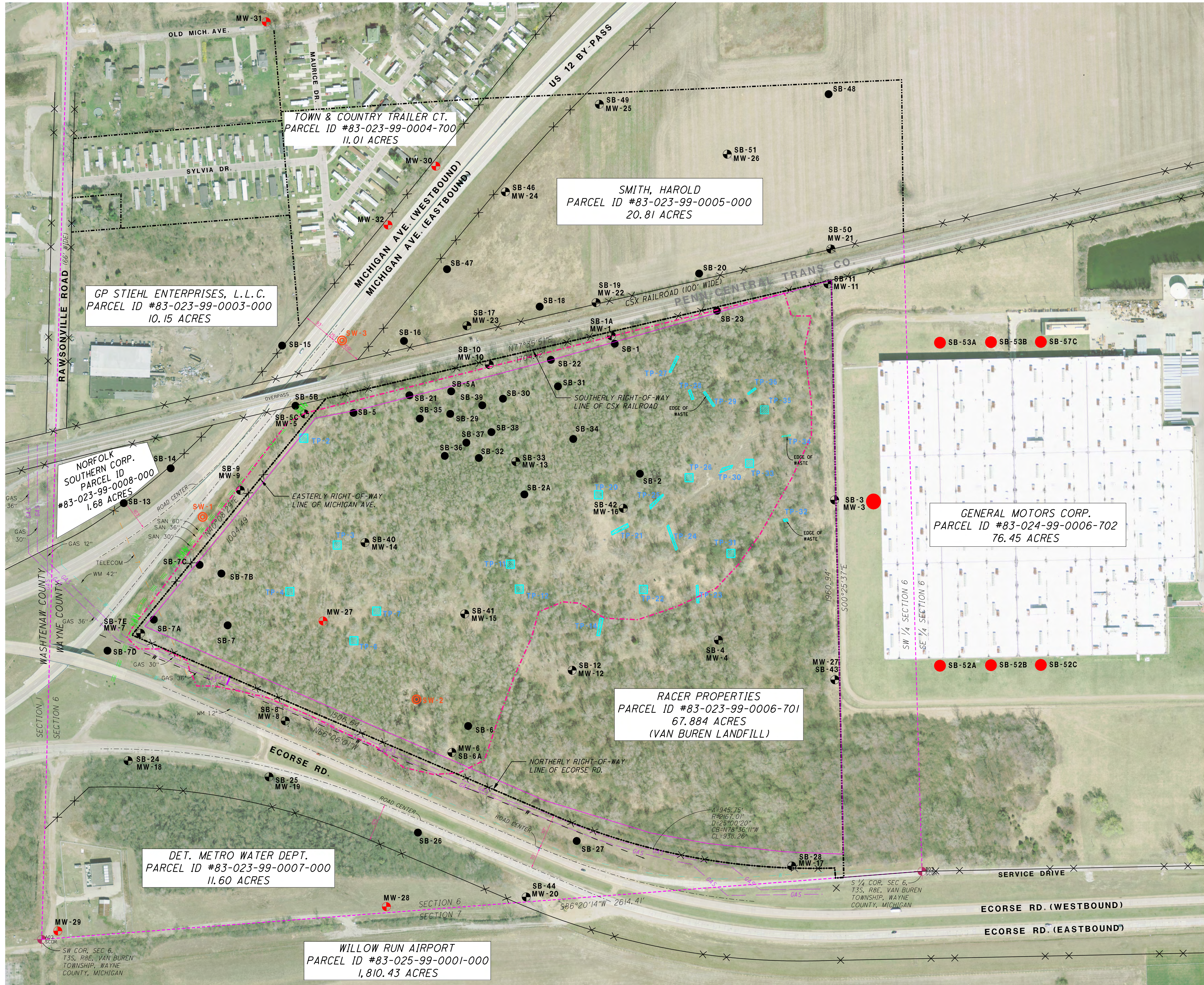
- AERIAL PHOTO FROM SEMCOG DATED 2010.
- MONITORING WELL AND SURFACE WATER LOCATIONS SURVEYED APRIL 2013 AND MAY 2014 BY MSG TO AN ACCURACY OF 0.01'.
- PHASE I, II, AND III SITE INVESTIGATIONS, SOIL BORING, MONITORING WELL, TEST PIT AND CLEARED AND GRUBBED TRAIL LOCATIONS SURVEYED JULY 2012, MAY 2013 AND DECEMBER 2013, RESPECTIVELY BY MSG USING SUBDECIMETER ACCURACY GLOBAL POSITIONING SYSTEM (GPS) UNIT.
- UTILITY LOCATIONS BASED ON INFORMATION FROM SAP/OAPP AND MISS DIG UTILITY MARKINGS.
- EASEMENT DIMENSIONS OBTAINED FROM MDOOT RIGHT-OF-WAY MAP NO. 82-R-1, PAGE 242, DATED SEPT 2006.
- PHASE III SITE INVESTIGATION GROUNDWATER SAMPLING INCLUDED COLLECTION OF WATER SAMPLES FROM TEMPORARY MONITORING WELLS AT SOIL BORING LOCATIONS SB-16 THROUGH SB-20, SB-35 THROUGH SB-39, AND SB-46 THROUGH SB-50.
- BENZENE CONCENTRATIONS IN GROUNDWATER SHOWN ON FIGURE ARE THE MOST RECENT ANALYTICAL DATA FOR EACH SAMPLE LOCATION (EITHER DECEMBER 2013 PHASE II INVESTIGATION, AND/OR MARCH AND MAY 2014 GROUNDWATER SAMPLING EVENTS). FOR LOCATIONS WHERE A GROUNDWATER SAMPLE WAS COLLECTED FROM A TEMPORARY MONITORING WELL DURING SOIL BORING INSTALLATION, THEN COLLECTED FROM A PERMANENT WELL LATER INSTALLED AT THE LOCATION, ANALYTICAL DATA FROM THE PERMANENT MONITORING WELL SAMPLE IS USED.
- DOES NOT INCLUDE MW-27 GROUNDWATER RESULTS.

9/3/2014

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- GENERAL NOTES:
1. AERIAL PHOTO FROM SEMCOG DATED 2010.
 2. MONITORING WELL AND SURFACE WATER LOCATIONS SURVEYED APRIL 2013 AND MAY 2014 BY MSG TO AN ACCURACY OF 0.01'.
 3. PHASE IA, IB AND II SITE INVESTIGATIONS, SOIL BORING, MONITORING WELL AND TEST PIT LOCATIONS SURVEYED JULY 2012, MAY 2013 AND DECEMBER 2013, RESPECTIVELY BY MSG USING SUBDECIMETER ACCURACY GLOBAL POSITIONING SYSTEM (GPS) UNIT.
 4. UTILITY LOCATIONS BASED ON INFORMATION FROM SAP/QAPP AND MISS DIG UTILITY MARKINGS.
 5. EASEMENT DIMENSIONS OBTAINED FROM MDOT RIGHT-OF-WAY MAP NO. 82-R-1, PAGE 242, DATED SEPT 2006.
 6. PHASE III SITE INVESTIGATION BORINGS AND/OR MONITORING WELLS SB-16, SB-17/MW-23, SB-18, SB-19/MW-22, SB-20, SB-24/MW-18, SB-25/MW-19, SB-28/MW-17, SB-35 THROUGH SB-39, SB-40/MW-14, SB-41/MW-15, SB-42/MW-16, SB-44/MW-20, SB-46/MW-24, SB-47, SB-48, SB-49/MW-25, SB-50/MW-21, SB-51/MW-26 COMPLETED MARCH THROUGH APRIL 2014.
 7. DISSOLVED IRON CONCENTRATIONS SHOWN ARE FROM THE MOST RECENT SAMPLING EVENT, FROM PERMANENT MONITORING WELL LOCATIONS ONLY. THE RED AND BOLD 2,000 ISOCONTOUR LINE DISPLAYS THE APPROXIMATE LIMIT OF DISSOLVED IRON IN GROUND WATER EXCEEDING THE MICHIGAN PART 201 RESIDENTIAL HEALTH-BASED DRINKING WATER VALUE (2,000 ug/L). THE BLUE AND BOLD 5,600 ISOCONTOUR LINE DISPLAYS THE APPROXIMATE LIMIT OF DISSOLVED IRON IN GROUND WATER EXCEEDING THE MICHIGAN PART 201 NON-RESIDENTIAL HEALTH-BASED DRINKING WATER VALUE (5,600 ug/L).
 8. DOES NOT INCLUDE MW-27 GROUNDWATER SAMPLE RESULTS.



ATTACHMENT 1

SOIL BORING AND MONITORING WELL LOGS



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BORING ID: SB-35

PAGE 2 OF 2

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER Trust **PROJECT NAME** Van Buren Landfill

PROJECT NUMBER R2330012 **PROJECT LOCATION** Michigan and Ecorse, Van Buren Township, MI

DATE STARTED 4/1/14 **COMPLETED** 4/1/14 **BORING DIAMETER:** 2"

DRILLING CONTRACTOR MSG **SURVEY COORDINATES:** 275,050.0 N; 13,347,216.0 E (US ST PLN 83)

DRILLING METHOD MacroCore **GROUND SURFACE ELEV.:** N/A

LOGGED BY ACN **CHECKED BY** MJF **GROUND WATER ENCOUNTERED DURING DRILLING:** 15.5 FEET BGS

NOTES Soil boring backfilled from bottom with medium bentonite chips. **WATER LEVEL AFTER DRILLING:** N/A

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:24 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\IR2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
20							
	MC 5	1.0		Stiff, gray Sandy CLAY; some trash and wood fragments; moist to saturated at 15.5'. (continued)	0.0 12.8 0.0 0.0		
				24.0	0.0		
25				Stiff, gray Silty CLAY; moist.			
				25.0			
				Bottom of borehole at 25.0 feet.			

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BORING ID: SB-36

PAGE 2 OF 2

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER Trust

PROJECT NAME Van Buren Landfill

PROJECT NUMBER R2330012

PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MI

DATE STARTED 4/3/14

COMPLETED 4/3/14

BORING DIAMETER: 2"

DRILLING CONTRACTOR MSG

SURVEY COORDINATES: 274,953.3 N; 13,347,243.2 E (US ST PLN 83)

DRILLING METHOD MacroCore

GROUND SURFACE ELEV.: N/A

LOGGED BY ACN

CHECKED BY MJF

GROUND WATER ENCOUNTERED DURING DRILLING: 15.5 FEET BGS

NOTES Soil boring backfilled from bottom with medium bentonite chips.

WATER LEVEL AFTER DRILLING: N/A

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:24 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
15.0							
				Loose, black fine to coarse grained SAND; some wood fragments and glass fragments; moist to saturated at 15.5'. (continued)			
				16.5			
				Loose, gray medium grained SAND; saturated.			
17.5	MC 4	2.5			0.0 0.0 0.0 0.0		
				19.0			
				Stiff, gray Silty CLAY; moist.	0.0		
20.0				20.0			
				Bottom of borehole at 20.0 feet.			

Collected groundwater sample W-R2330012-040314
-ACN-007

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BORING ID: SB-37

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2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT	RACER Trust	PROJECT NAME	Van Buren Landfill
PROJECT NUMBER	R2330012	PROJECT LOCATION	Michigan and Ecorse, Van Buren Township, MI
DATE STARTED	4/3/14	COMPLETED	4/3/14
BORING DIAMETER:	2"		
DRILLING CONTRACTOR	MSG	SURVEY COORDINATES:	274,978.9 N; 13,347,340.0 E (US ST PLN 83)
DRILLING METHOD	MacroCore	GROUND SURFACE ELEV.:	N/A
LOGGED BY	ACN	CHECKED BY	MJF
		GROUND WATER ENCOUNTERED DURING DRILLING:	15 FEET BGS
NOTES	Soil boring backfilled from bottom with medium bentonite chips.		
		WATER LEVEL AFTER DRILLING:	N/A

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:24 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
20							
	MC 5	5.0		Loose, gray fine grained SAND; saturated. (continued)	0.0 0.0 0.0 0.0 0.0		
25				24.6 25.0 Stiff, gray Silty CLAY; moist.			
				Bottom of borehole at 25.0 feet.			

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BORING ID: SB-39

PAGE 1 OF 2

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER Trust

PROJECT NAME Van Buren Landfill

PROJECT NUMBER R2330012

PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MI

DATE STARTED 4/3/14

COMPLETED 4/3/14

BORING DIAMETER: 2"

DRILLING CONTRACTOR MSG

SURVEY COORDINATES: 275,098.7 N; 13,347,409.2 E (US ST PLN 83)

DRILLING METHOD MacroCore

GROUND SURFACE ELEV.: N/A

LOGGED BY ACN

CHECKED BY MJF

▽ GROUND WATER ENCOUNTERED DURING DRILLING: 17 FEET BGS

NOTES Soil boring backfilled from bottom 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							
				0.5 Brown TOPSOIL; dry.			
				Loose, dark brown fine to coarse grained SAND; some glass fragments and trash; moist.	0.0		
					0.0		
					0.0		
					0.0		
5							
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
10							
					0.0		
					1.3		
					0.0		
					36.1		
					44.1		
				14.4			
				Stiff, gray CLAY; some trash; saturated at 17'.			
15							
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
20							

(Continued Next Page)



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BORING ID: SB-39

PAGE 2 OF 2

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT	RACER Trust	PROJECT NAME	Van Buren Landfill
PROJECT NUMBER	R2330012	PROJECT LOCATION	Michigan and Ecorse, Van Buren Township, MI
DATE STARTED	4/3/14	COMPLETED	4/3/14
BORING DIAMETER:	2"		
DRILLING CONTRACTOR	MSG	SURVEY COORDINATES:	275,098.7 N; 13,347,409.2 E (US ST PLN 83)
DRILLING METHOD	MacroCore	GROUND SURFACE ELEV.:	N/A
LOGGED BY	ACN	CHECKED BY	MJF
		GROUND WATER ENCOUNTERED DURING DRILLING:	17 FEET BGS
NOTES	Soil boring backfilled from bottom with medium bentonite chips.		
		WATER LEVEL AFTER DRILLING:	N/A

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:24 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
20							
				Stiff, gray CLAY; some trash; saturated at 17'. (continued)			
				21.0			
				Stiff, gray Silty CLAY; moist.			
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
25	MC 5	4.4		25.0			
				Bottom of borehole at 25.0 feet.			

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BORING ID: SB-48

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER Trust

PROJECT NAME Van Buren Landfill

PROJECT NUMBER R2330012

PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MI

DATE STARTED 4/9/14

COMPLETED 4/9/14

BORING DIAMETER: 2"

DRILLING CONTRACTOR MSG

SURVEY COORDINATES: 276,099.4 N; 13,348,553.8 E (US ST PLN 83)

DRILLING METHOD MacroCore

GROUND SURFACE ELEV.: N/A

LOGGED BY ACN

CHECKED BY MJF

GROUND WATER ENCOUNTERED DURING DRILLING: 2 FEET BGS

NOTES Soil boring backfilled from bottom with medium bentonite chips.

WATER LEVEL AFTER DRILLING: N/A

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:24 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
	MC 1	4.3		0.5 Brown TOPSOIL; dry. Loose, brown fine grained SAND; moist to saturated at 2'.	0.0 0.0 0.0 0.0		Collected soil sample S-R2330012-040914 -ACN-017
5	MC 2	0.5		Gray SILT; saturated.	0.0 0.0 0.0 0.0 0.0		Collected groundwater sample W-R2330012-040914 -ACN-013
10	MC 3	4.5		10.5 Gray SILT; saturated. Stiff, gray Silty CLAY; moist.	0.0 0.0 0.0 0.0 0.0		
15				Bottom of borehole at 15.0 feet.			



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BORING / WELL ID: SB-17 / MW-23

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/29/14COMPLETED 4/29/14BORING DIAMETER: 2"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 275,364.3 N; 13,347,367.0 E (US ST PLN 83)DRILLING METHOD MacroCore/HSATOP OF CASING ELEV.: 721.07 feet NAVD88LOGGED BY ACNCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 6.5 FEET BGSNOTES Geologic material description from SB-17 completed 3/31/2014.WATER LEVEL AFTER DRILLING: 4.15 FEET BGS

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:32 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0				0.4	Brown TOPSOIL; dry.	717.4				Stickup Pro-Casing Surface Elev. = 717.83 feet
					Stiff, dark brown Sandy SILT; some Gravel; dry.		0.0			Surface Seal (Neat Cement)
				2.2		715.6	7.5			Bentonite Seal (Medium Bentonite Chips)
					Stiff, brown SILT; some fine to coarse grained Sand; trace Gravel; moist.		0.0			
							8.9		Collected soil sample S-R2330012-033114 -ACN-002	
5				5.1		712.7	0.0			2-Inch Diameter PVC Riser
					Loose, brown fine to coarse grained SAND; some Silt; saturated at 6.5'.		2.2			Sand Filter Pack (K&E Well Gravel)
							0.0		Collected groundwater sample W-R2330012-033114 -ACN-002	
							0.0			
							0.0			
10							0.0			2-Inch Diameter PVC Well Screen (10-Slot)
							2.2			
							0.7			
				12.7		705.1	0.0			
					Stiff, gray Silty CLAY; moist.		0.0			
							0.0			
15				15.0		702.8				
					Bottom of borehole at 15.0 feet.					



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BORING / WELL ID: SB-19 / MW-22

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

PAGE 1 OF 1

CLIENT RACER Trust	PROJECT NAME Van Buren Landfill
PROJECT NUMBER R2330012	PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MI
DATE STARTED 4/29/14 COMPLETED 4/29/14	BORING DIAMETER: 2" / 8"
DRILLING CONTRACTOR MSG	SURVEY COORDINATES: 275,440.1 N; 13,347,791.2 E (US ST PLN 83)
DRILLING METHOD MacroCore / 4.25" Hollow Stem Auger	TOP OF CASING ELEV.: 715.87 feet NAVD88
LOGGED BY ACN CHECKED BY MJF	GROUND WATER ENCOUNTERED DURING DRILLING: 5.5 FEET BGS
NOTES Geologic material description from SB-19 completed 4/1/2014.	WATER LEVEL AFTER DRILLING: 2.02 FEET BGS

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:32 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0										Stickup Pro-Casing Surface Elev. = 715.91 feet
	MC 1	4.0		0.5	Brown TOPSOIL; dry.	715.4				
					Loose, light brown fine grained SAND; moist.		0.0			Surface Seal (Neat Cement)
				2.5	Medium stiff, brown Sandy CLAY; moist.	713.4	0.0			Bentonite Seal (Medium Bentonite Chips)
				4.0	Loose, brown fine to medium grained SAND; moist.	711.9	0.0			
5	MC 2	4.0		5.5	Loose, gray fine to medium grained SAND; saturated at 5.5'.	710.4	0.0	Collected soil sample S-R2330012-040114 -ACN-004		2-Inch Diameter PVC Riser
							0.0			Sand Filter Pack (K&E Well Gravel)
10	MC 3	4.5		12.5	Stiff, gray Silty CLAY; moist.	703.4	0.0	Collected groundwater sample W-R2330012-040114 -ACN-004		
				15.0	Bottom of borehole at 15.0 feet.	700.9	0.0			2-Inch Diameter PVC Well Screen (10-Slot)



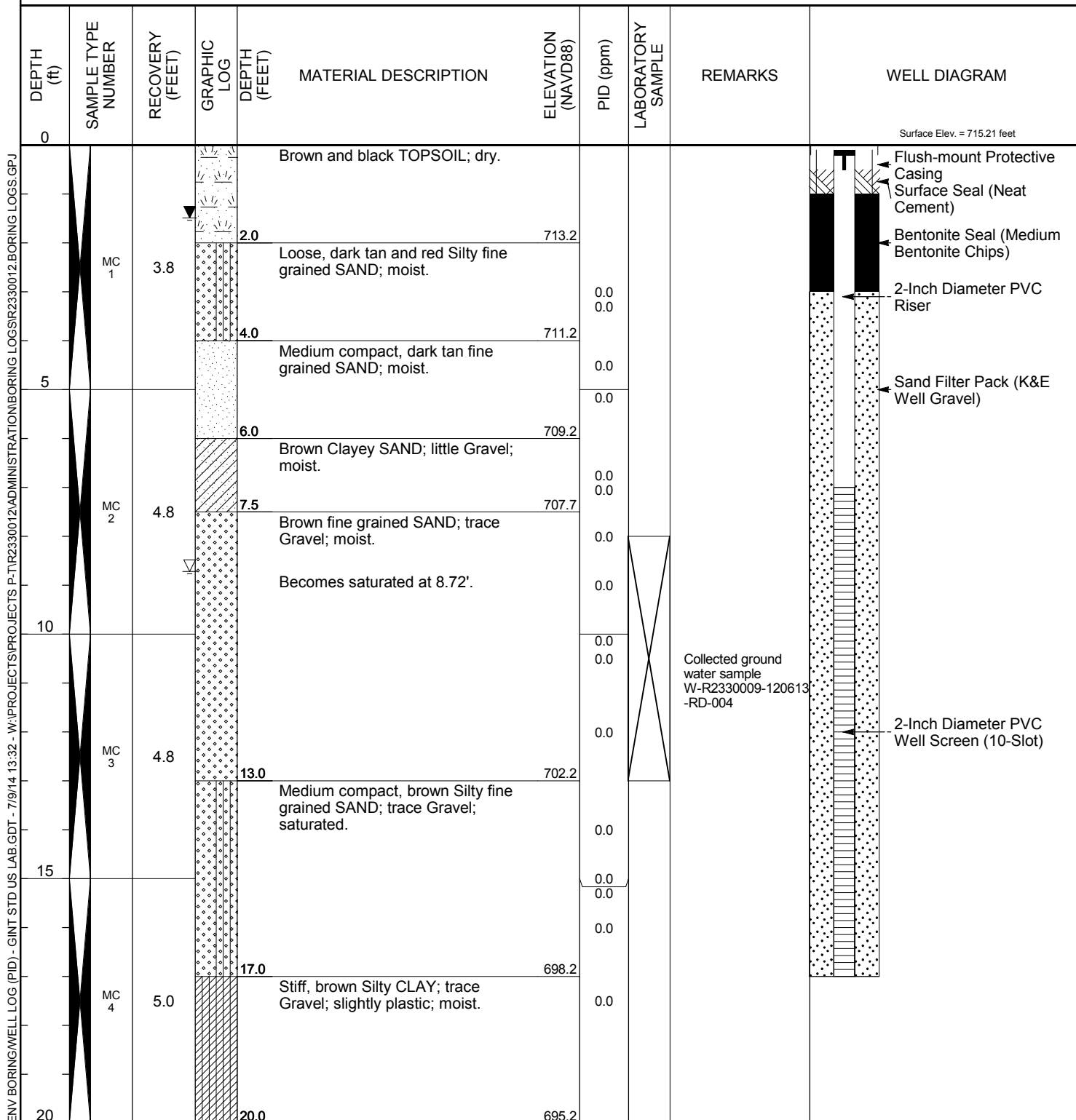
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BORING / WELL ID: SB-24 / MW-18

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/10/14COMPLETED 4/10/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 273,945.6 N; 13,346,269.9 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 714.85 feet NAVD88LOGGED BY RDCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 8.72 FEET BGSNOTES Soil boring backfilled from bottom with medium bentonite chips.WATER LEVEL AFTER DRILLING: 1.49 FEET BGS



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BORING / WELL ID: SB-25 / MW-19

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/10/14COMPLETED 4/10/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 273,878.4 N; 13,346,737.0 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 715.65 feet NAVD88LOGGED BY RDCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 8.58 FEET BGSNOTES Soil boring backfilled from bottom with medium bentonite chips.WATER LEVEL AFTER DRILLING: 2.49 FEET BGS

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0										Surface Elev. = 715.72 feet
	MC 1	3.0		2.0	Brown and black TOPSOIL; dry.	713.7	0.0			Flush-mount Protective Casing Surface Seal (Neat Cement)
							0.0			Bentonite Seal (Medium Bentonite Chips)
							0.0			
							0.0			
5	MC 2	4.0		5.0	Loose, tan and red Silty fine to medium grained SAND; trace Gravel; moist.	710.7	0.0			2-Inch Diameter PVC Riser
							0.0			Sand Filter Pack (K&E Well Gravel)
				7.0	Loose, tan and red Silty SAND; trace Gravel; moist.	708.7	0.0			
				7.5	Soft, brown Silty Clay; some plastic; moist.	708.2	0.0			
					Brown coarse grained SAND; trace Gravel; moist.		0.0			
				9.0	Becomes saturated at 8.58'.	706.7	0.0			
10	MC 3	4.8			Brown fine to medium grained SAND; trace Gravel interbedded with Silty CLAY less than 0.25" thick; saturated.		0.0			2-Inch Diameter PVC Well Screen (10-Slot)
				11.0	Brown fine to medium grained SAND; trace Gravel; saturated.	704.7	0.0		Collected ground water sample W-R2330009-120613 -RD-005	
							0.0			
							0.0			
							0.0			
				14.0	Brown Silty CLAY; trace Gravel; some plastic; moist.	701.7	0.0			
15	MC 4	4.8					0.0			
							0.0			
							0.0			
							0.0			
							0.0			
20				20.0		695.7	0.0			

Bottom of borehole at 20.0 feet.



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BORING / WELL ID: SB-28 / MW-17

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/8/14 COMPLETED 4/8/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 273,611.8 N; 13,348,486.1 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 713.37 feet NAVD88LOGGED BY AJL CHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 2.5 FEET BGSNOTES Geologic material description from SB-28 completed 12/11/2013.WATER LEVEL AFTER DRILLING: 2.3 FEET BGS

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0										Stickup Pro-Casing Surface Elev. = 714.24 feet
				0.9	Black Sandy TOPSOIL; dry.	713.3	0.0			
				2.0	Loose, brown Sandy CLAY; moist.	712.2	0.0			Surface Seal (Neat Cement)
	MC 1	3.5			Loose, brown fine to medium grained SAND; saturated.		0.0			Bentonite Seal (Medium Bentonite Chips)
5				5.0	Loose, gray Gravelly SAND; saturated.	709.2	0.0			
	MC 2	2.6		7.0	Loose, gray fine grained SAND; saturated.	707.2	0.0			
				7.7	Loose, gray Gravelly SAND; saturated.	706.5	0.0		Collected ground water sample W-R2330009-121113 -AJL-012	2-Inch Diameter PVC Riser
10				10.0	Loose, gray fine to medium grained SAND; saturated.	704.2	0.0			
	MC 3	4.5		13.4	Gray SILT; saturated.	700.8	0.0			2-Inch Diameter PVC Well Screen (10-Slot)
				13.7	Gray Silty CLAY; moist to dry.	700.5	0.0			Sand Filter Pack (K&E Well Gravel)
15							0.0			
	MC 4	3.5					0.0			
20				20.0		694.2	0.0			

Bottom of borehole at 20.0 feet.



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BORING / WELL ID: SB-40 / MW-14

PAGE 1 OF 2

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/2/14COMPLETED 4/7/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 274,652.5 N; 13,347,032.3 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 724.31 feet NAVD88LOGGED BY ACNCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 12.8 FEET BGS

NOTES

WATER LEVEL AFTER DRILLING: 10.44 FEET BGS

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:32 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0				0.4	Brown TOPSOIL; dry.	724.0				Stickup Pro-Casing Surface Elev. = 724.44 feet
	MC 1	2.5			Loose, brown fine grained SAND; dry.		0.0			Surface Seal (Neat Cement)
				4.0		720.4				
5	MC 2	3.8			Loose, dark brown fine to coarse grained SAND; some glass fragments; slag fragments; dry.		0.0			Bentonite Seal (Medium Bentonite Chips)
							0.0			
10				10.2	Brown Silty SAND; moist.	714.2	0.0			
	MC 3	5.0		12.1	Loose, brown fine to coarse grained SAND; saturated at 12.1'.	712.3	0.0		Collected soil sample S-R2330012-040214 -ACN-007	2-Inch Diameter PVC Riser
							0.0			Sand Filter Pack (K&E Well Gravel)
15	MC 4	5.0		16.0	Loose, gray fine to coarse grained SAND; some Silt; saturated.	708.4	0.0			2-Inch Diameter PVC Well Screen (10-Slot)
				18.2	Gray SILT; moist.	706.2	0.0			
20							0.0			

(Continued Next Page)



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BORING / WELL ID: SB-40 / MW-14

PAGE 2 OF 2
The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER Trust PROJECT NAME Van Buren Landfill
PROJECT NUMBER R2330012 PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MI
DATE STARTED 4/2/14 COMPLETED 4/7/14 BORING DIAMETER: 2" / 8"
DRILLING CONTRACTOR MSG SURVEY COORDINATES: 274,652.5 N; 13,347,032.3 E (US ST PLN 83)
DRILLING METHOD MacroCore / 4.25" Hollow Stem Auger TOP OF CASING ELEV.: 724.31 feet NAVD88
LOGGED BY ACN CHECKED BY MJF ☒ GROUND WATER ENCOUNTERED DURING DRILLING: 12.8 FEET BGS
NOTES ☒ WATER LEVEL AFTER DRILLING: 10.44 FEET BGS

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:32 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
20					Gray SILT; moist. (continued)		0.0			
				21.0	Stiff, gray Silty CLAY; dry.	703.4	0.0			
							0.0			
							0.0			
							0.0			
							0.0			
25				25.0	Bottom of borehole at 25.0 feet.	699.4				



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BORING / WELL ID: SB-41 / MW-15

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/2/14COMPLETED 4/7/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 274,418.3 N; 13,347,359.9 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 723.38 feet NAVD88LOGGED BY ACNCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 10.5 FEET BGS

NOTES

WATER LEVEL AFTER DRILLING: 9.59 FEET BGS

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:32 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0				0.3	Brown TOPSOIL; dry.	723.3				Stickup Pro-Casing Surface Elev. = 723.58 feet
	MC 1	2.5			Loose, dark brown fine to coarse grained SAND; some brick debris; slag fragments; glass fragments; dry to moist with depth.		0.0			Surface Seal (Neat Cement)
5							0.0			Bentonite Seal (Medium Bentonite Chips)
	MC 2	1.0					0.0			
10				10.5	Very loose, gray fine to coarse grained SAND; saturated at 10.5'.	713.1	0.0			2-Inch Diameter PVC Riser
	MC 3	2.7					0.0			Sand Filter Pack (K&E Well Gravel)
15							0.0			2-Inch Diameter PVC Well Screen (10-Slot)
	MC 4	4.7		18.0	Stiff, gray SILT; moist.	705.6	0.0			
20				19.6		704.0	0.0			
				20.0	Stiff, gray Silty CLAY; dry.	703.6				
					Bottom of borehole at 20.0 feet.					

Collected soil sample
S-R2330012-040214
-ACN-008

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BORING / WELL ID: SB-43 / MW-27

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 9/2/14COMPLETED 9/2/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: N/ADRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: N/ALOGGED BY ACNCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 4.2 FEET BGS

NOTES

WATER LEVEL AFTER DRILLING: N/A

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 9/3/14 17:24 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0										Stickup Pro-Casing
	MC 1	3.8		0.4	Brown TOPSOIL; dry.					Surface Seal (Neat Cement)
					Brown Sandy CLAY; stiff; trace Gravel; moist.		0.0			Bentonite Seal (Medium Bentonite Chips)
							0.0			2-Inch Diameter PVC Riser
				4.2			0.0			
5	MC 2	4.5			Gray fine to coarse SAND; some Gravel, increasing Gravel content with depth; loose; saturated at 4.2'.		0.0			Sand Filter Pack (K&E Well Gravel)
							0.0			
							0.0			
							0.0			
							0.0			
10							0.0			
	MC 3	4.5		11.0	Stiff, gray Silty CLAY; moist.		0.0			2-Inch Diameter PVC Well Screen (10-Slot)
							0.0			
							0.0			
15				15.0	Bottom of borehole at 15.0 feet.		0.0			



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BORING / WELL ID: SB-44 / MW-20

PAGE 1 OF 1

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2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/2/14COMPLETED 4/11/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 273,489.2 N; 13,347,561.7 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 716.81 feet NAVD88LOGGED BY ACNCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 7 FEET BGS

NOTES

WATER LEVEL AFTER DRILLING: 5.45 FEET BGS

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0										Surface Elev. = 717.04 feet
	MC 1	4.0		0.5	Brown TOPSOIL; dry. Loose, dark brown fine grained SAND; dry to moist with depth.	716.5	0.0			Flush-mount Protective Casing Surface Seal (Neat Cement) Bentonite Seal (Medium Bentonite Chips)
5							0.0			
	MC 2	4.8		6.5	Stiff, brown Sandy SILT; saturated at 7".	710.5	0.0		Collected soil sample S-R2330012-040214 -ACN-010	2-Inch Diameter PVC Riser Sand Filter Pack (K&E Well Gravel)
10							0.0			
	MC 3	1.0		9.0	Loose, gray fine to coarse grained SAND; saturated.	708.0	0.0			
15							0.0			
	MC 4	4.6		16.0	Stiff, gray Silty CLAY; moist.	701.0	0.0			2-Inch Diameter PVC Well Screen (10-Slot)
20				20.0		697.0	0.0			

Bottom of borehole at 20.0 feet.



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BORING / WELL ID: SB-46 / MW-24

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/11/14COMPLETED 4/29/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 275,803.7 N; 13,347,493.4 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 713.84 feet NAVD88LOGGED BY ACNCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 0.5 FEET BGS

NOTES

WATER LEVEL AFTER DRILLING: 5.41 FEET BGS

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:32 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0										Stickup Pro-Casing Surface Elev. = 714.4 feet
	MC 1	1.5		0.5	Brown TOPSOIL; saturated at 0.5'. Medium stiff, brown Sandy SILT; grading to gray with depth; saturated.	713.9	0.0			Surface Seal (Neat Cement)
							0.0	Collected soil sample S-R2330012-041114 -ACN-019		Bentonite Seal (Medium Bentonite Chips)
							0.0			2-Inch Diameter PVC Riser
5	MC 2	5.0					0.0			
							0.0	Collected groundwater sample W-R2330012-041114 -ACN-015		Sand Filter Pack (K&E Well Gravel)
				8.0	Loose, gray fine to coarse grained SAND; saturated.	706.4	0.0			
				9.7		704.7	0.0			
10	MC 3	3.8			Dense, gray SILT; moist.		0.0			
				13.5	Stiff, gray Silty CLAY; moist.	700.9	0.0			2-Inch Diameter PVC Well Screen (10-Slot)
15				15.0	Bottom of borehole at 15.0 feet.	699.4	0.0			



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BORING / WELL ID: SB-50 / MW-21

PAGE 1 OF 1

The Mannik & Smith Group, Inc.
2365 Haggerty Road South, Canton, Michigan 48188
ph: (734) 397-3100 fax: (734) 397-3131

CLIENT RACER TrustPROJECT NAME Van Buren LandfillPROJECT NUMBER R2330012PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MIDATE STARTED 4/9/14COMPLETED 4/28/14BORING DIAMETER: 2" / 8"DRILLING CONTRACTOR MSGSURVEY COORDINATES: 275,616.1 N; 13,348,561.8 E (US ST PLN 83)DRILLING METHOD MacroCore / 4.25" Hollow Stem AugerTOP OF CASING ELEV.: 714.61 feet NAVD88LOGGED BY ACNCHECKED BY MJFGROUND WATER ENCOUNTERED DURING DRILLING: 2 FEET BGS

NOTES

WATER LEVEL AFTER DRILLING: 3.12 FEET BGS

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 7/9/14 13:32 - W:\PROJECTS\PROJECTS P-T\R2330012\ADMINISTRATION\BORING LOGS\R2330012.BORING LOGS.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	DEPTH (FEET)	MATERIAL DESCRIPTION	ELEVATION (NAVD88)	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0										Surface Elev. = 714.73 feet
	MC 1	4.0		0.5	Brown TOPSOIL; dry. Loose, gray fine to medium grained SAND; moist to saturated at 2'.	714.2	0.0		Collected soil sample S-R2330012-040914 -ACN-016	Flush-mount Protective Casing Surface Seal (Neat Cement) 2-Inch Diameter PVC Riser Bentonite Seal (Medium Bentonite Chips)
5	MC 2	4.2		6.0	Loose, brown fine to coarse grained SAND; saturated.	708.7	0.0			Sand Filter Pack (K&E Well Gravel)
10	MC 3	5.0		12.5	Stiff, gray Silty CLAY; moist.	702.2	0.0		Collected groundwater sample W-R2330012-040914 -ACN-012	2-Inch Diameter PVC Well Screen (10-Slot)
15				15.0	Bottom of borehole at 15.0 feet.	699.7	0.0			

[illegible]

ATTACHMENT 2

LABORATORY ANALYTICAL DATA REPORTS



Work Order: 14031379

Project Name:

RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

10-Apr-2014



Certificate No: MN 532786



10-Apr-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **14031379**

Dear Frank,

ALS Environmental received 13 samples on 29-Mar-2014 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 106.

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: MN 532786

Report of Laboratory Analysis

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

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Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 14031379

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>
14031379-01	W-R2330012-032614-ACN-001	Groundwater		03/26/14 11:05	03/29/14 10:00	☐
14031379-02	W-R2330012-032614-ACN-002	Groundwater		03/26/14 14:10	03/29/14 10:00	☐
14031379-03	W-R2330012-032614-ACN-003	Groundwater		03/26/14 15:30	03/29/14 10:00	☐
14031379-04	W-R2330012-032714-ACN-004	Groundwater		03/27/14 10:35	03/29/14 10:00	☐
14031379-05	W-R2330012-032714-ACN-005	Groundwater		03/27/14 11:35	03/29/14 10:00	☐
14031379-06	W-R2330012-032714-ACN-006	Groundwater		03/27/14 12:40	03/29/14 10:00	☐
14031379-07	W-R2330012-032714-ACN-007	Groundwater		03/27/14 13:52	03/29/14 10:00	☐
14031379-08	W-R2330012-032814-ACN-008	Groundwater		03/28/14 09:50	03/29/14 10:00	☐
14031379-09	W-R2330012-032814-ACN-009	Groundwater		03/28/14 11:00	03/29/14 10:00	☐
14031379-10	W-R2330012-032814-ACN-010	Groundwater		03/28/14 12:00	03/29/14 10:00	☐
14031379-11	W-R2330012-032814-ACN-011	Groundwater		03/28/14 12:15	03/29/14 10:00	☐
14031379-12	W-R2330012-032814-ACN-012	Groundwater		03/28/14 13:30	03/29/14 10:00	☐
14031379-13	Trip Blank	Water		03/26/14	03/29/14 10:00	☐

Client: The Mannik & Smith Group, Inc.
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WorkOrder: 14031379

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-001
Collection Date: 03/26/14 11:05 AM

Work Order: 14031379
Lab ID: 14031379-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:32
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:13
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.011	J	0.00078	0.050	mg/L	1	04/03/14 13:11
Antimony	0.00018	J	0.000036	0.0020	mg/L	1	04/01/14 20:50
Arsenic	0.0035	J	0.00058	0.0050	mg/L	1	04/01/14 20:50
Barium	0.33		0.000063	0.10	mg/L	1	04/01/14 20:50
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 13:11
Cadmium	0.00054	J	0.000045	0.0010	mg/L	1	04/01/14 20:50
Chromium	0.00072	J	0.00027	0.010	mg/L	1	04/01/14 20:50
Cobalt	0.0038	J	0.000041	0.020	mg/L	1	04/01/14 20:50
Copper	0.0079		0.00053	0.0040	mg/L	1	04/01/14 20:50
Iron	8.9		0.0053	0.20	mg/L	1	04/01/14 20:50
Lead	0.00039	J	0.000051	0.0030	mg/L	1	04/02/14 19:01
Manganese	0.56		0.000054	0.050	mg/L	1	04/01/14 20:50
Nickel	0.018	J	0.00025	0.020	mg/L	1	04/01/14 20:50
Selenium	0.00084	J	0.00064	0.0050	mg/L	1	04/01/14 20:50
Silver	U		0.000042	0.00020	mg/L	1	04/01/14 20:50
Thallium	0.00022	J	0.000062	0.0020	mg/L	1	04/01/14 20:50
Vanadium	0.0012	J	0.00016	0.0040	mg/L	1	04/01/14 20:50
Zinc	0.015	J	0.00048	0.050	mg/L	1	04/01/14 20:50
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.0036	J	0.00078	0.050	mg/L	1	04/02/14 21:24
Antimony	0.00016	J	0.000036	0.0020	mg/L	1	04/02/14 21:24
Arsenic	0.0034	J	0.00058	0.0050	mg/L	1	04/02/14 21:24
Barium	0.37		0.000063	0.10	mg/L	1	04/02/14 21:24
Beryllium	U		0.000082	0.0010	mg/L	1	04/02/14 21:24
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 21:24
Copper	0.0044		0.00053	0.0040	mg/L	1	04/02/14 21:24
Iron	9.6		0.0053	0.20	mg/L	1	04/02/14 21:24
Lead	U		0.000051	0.0030	mg/L	1	04/02/14 21:24
Manganese	0.53		0.000054	0.050	mg/L	1	04/02/14 21:24

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-001
Collection Date: 03/26/14 11:05 AM

Work Order: 14031379
Lab ID: 14031379-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Nickel	0.016	J	0.00025	0.020	mg/L	1	04/02/14 21:24
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 21:24
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 21:24
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 21:24
Vanadium	0.0010	J	0.00016	0.0040	mg/L	1	04/02/14 21:24
Zinc	0.0082	J	0.00048	0.050	mg/L	1	04/02/14 21:24
<u>BatchID: 57103</u>							
Chromium	U		0.00054	0.020	mg/L	2	04/08/14 23:38
Cobalt	0.0032	J	0.000082	0.040	mg/L	2	04/08/14 23:38
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270		Prep: SW3510 / 4/1/14		Analyst: RM
<u>BatchID: 57082</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/01/14 20:27
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 20:27
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 20:27
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 20:27
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 20:27
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 20:27
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 20:27
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 20:27
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 20:27
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 20:27
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 20:27
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 20:27
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 20:27
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 20:27
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 20:27
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 20:27
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 20:27
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 20:27
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 20:27
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 20:27
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 20:27
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 20:27
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 20:27
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 20:27
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 20:27
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 20:27
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 20:27
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 20:27

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

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Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-001
Collection Date: 03/26/14 11:05 AM

Work Order: 14031379
Lab ID: 14031379-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 20:27
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 20:27
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 20:27
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 20:27
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 20:27
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 20:27
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 20:27
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 20:27
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 20:27
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 20:27
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 20:27
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 20:27
Caprolactam	U		4.7	10	µg/L	1	04/01/14 20:27
Carbazole	U		0.16	10	µg/L	1	04/01/14 20:27
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 20:27
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 20:27
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 20:27
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 20:27
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 20:27
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 20:27
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 20:27
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 20:27
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 20:27
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 20:27
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 20:27
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 20:27
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 20:27
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 20:27
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 20:27
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 20:27
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 20:27
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 20:27
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 20:27
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 20:27
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 20:27
Phenol	U		0.32	5.0	µg/L	1	04/01/14 20:27
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 20:27
Surr: 2,4,6-Tribromophenol	83.9			32-115	%REC	1	04/01/14 20:27
Surr: 2-Fluorobiphenyl	67.6			32-100	%REC	1	04/01/14 20:27
Surr: 2-Fluorophenol	31.2			22-59	%REC	1	04/01/14 20:27

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-001
Collection Date: 03/26/14 11:05 AM

Work Order: 14031379
Lab ID: 14031379-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	57.0			23-112	%REC	1	04/01/14 20:27
Surr: Nitrobenzene-d5	77.3			31-93	%REC	1	04/01/14 20:27
Surr: Phenol-d6	17.4			13-36	%REC	1	04/01/14 20:27
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	03/31/14 23:35
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	03/31/14 23:35
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	03/31/14 23:35
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	03/31/14 23:35
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	03/31/14 23:35
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	03/31/14 23:35
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	03/31/14 23:35
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	03/31/14 23:35
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	03/31/14 23:35
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	03/31/14 23:35
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	03/31/14 23:35
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	03/31/14 23:35
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	03/31/14 23:35
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	03/31/14 23:35
2-Butanone	U		0.64	25	µg/L	1	03/31/14 23:35
2-Hexanone	U		0.19	50	µg/L	1	03/31/14 23:35
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	03/31/14 23:35
Acetone	U		3.0	50	µg/L	1	03/31/14 23:35
Benzene	U		0.14	1.0	µg/L	1	03/31/14 23:35
Bromodichloromethane	U		0.22	1.0	µg/L	1	03/31/14 23:35
Bromoform	U		0.18	1.0	µg/L	1	03/31/14 23:35
Bromomethane	U		0.38	5.0	µg/L	1	03/31/14 23:35
Carbon disulfide	U		0.26	5.0	µg/L	1	03/31/14 23:35
Carbon tetrachloride	U		0.16	1.0	µg/L	1	03/31/14 23:35
Chlorobenzene	U		0.12	1.0	µg/L	1	03/31/14 23:35
Chloroethane	U		0.25	5.0	µg/L	1	03/31/14 23:35
Chloroform	U		0.15	1.0	µg/L	1	03/31/14 23:35
Chloromethane	U		0.29	5.0	µg/L	1	03/31/14 23:35
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	03/31/14 23:35
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	03/31/14 23:35
Cyclohexane	U		0.20	1.0	µg/L	1	03/31/14 23:35
Dibromochloromethane	U		0.12	5.0	µg/L	1	03/31/14 23:35
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	03/31/14 23:35
Ethylbenzene	U		0.12	1.0	µg/L	1	03/31/14 23:35

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

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Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-001
Collection Date: 03/26/14 11:05 AM

Work Order: 14031379
Lab ID: 14031379-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	U		0.11	5.0	µg/L	1	03/31/14 23:35
Methyl acetate	U		0.76	10	µg/L	1	03/31/14 23:35
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	03/31/14 23:35
Methylcyclohexane	U		0.19	1.0	µg/L	1	03/31/14 23:35
Methylene chloride	U		0.75	5.0	µg/L	1	03/31/14 23:35
Styrene	U		0.12	1.0	µg/L	1	03/31/14 23:35
Tetrachloroethene	U		0.098	1.0	µg/L	1	03/31/14 23:35
Toluene	U		0.13	1.0	µg/L	1	03/31/14 23:35
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	03/31/14 23:35
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	03/31/14 23:35
Trichloroethene	U		0.16	1.0	µg/L	1	03/31/14 23:35
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	03/31/14 23:35
Vinyl chloride	U		0.15	1.0	µg/L	1	03/31/14 23:35
Xylenes, Total	U		0.30	3.0	µg/L	1	03/31/14 23:35
Surr: 1,2-Dichloroethane-d4	81.1			70-120	%REC	1	03/31/14 23:35
Surr: 4-Bromofluorobenzene	98.3			75-120	%REC	1	03/31/14 23:35
Surr: Dibromofluoromethane	92.4			85-115	%REC	1	03/31/14 23:35
Surr: Toluene-d8	93.8			85-120	%REC	1	03/31/14 23:35
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: <u>57141</u>							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-002
Collection Date: 03/26/14 02:10 PM

Work Order: 14031379
Lab ID: 14031379-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:34
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:16
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.18		0.00078	0.050	mg/L	1	04/03/14 13:16
Antimony	0.00012	J	0.000036	0.0020	mg/L	1	04/02/14 19:06
Arsenic	U		0.00058	0.0050	mg/L	1	04/02/14 19:06
Barium	0.038	J	0.000063	0.10	mg/L	1	04/02/14 19:06
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 13:16
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 19:06
Chromium	0.00055	J	0.00027	0.010	mg/L	1	04/02/14 19:06
Cobalt	0.00074	J	0.000041	0.020	mg/L	1	04/02/14 19:06
Copper	0.0015	J	0.00053	0.0040	mg/L	1	04/02/14 19:06
Iron	0.38		0.0053	0.20	mg/L	1	04/02/14 19:06
Lead	0.00037	J	0.000051	0.0030	mg/L	1	04/02/14 19:06
Manganese	0.052		0.000054	0.050	mg/L	1	04/02/14 19:06
Nickel	0.0034	J	0.00025	0.020	mg/L	1	04/02/14 19:06
Selenium	0.0013	J	0.00064	0.0050	mg/L	1	04/02/14 19:06
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 19:06
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 19:06
Vanadium	0.00034	J	0.00016	0.0040	mg/L	1	04/02/14 19:06
Zinc	0.00091	J	0.00048	0.050	mg/L	1	04/02/14 19:06
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.0074	J	0.00078	0.050	mg/L	1	04/02/14 21:30
Antimony	0.000096	J	0.000036	0.0020	mg/L	1	04/02/14 00:54
Arsenic	U		0.00058	0.0050	mg/L	1	04/02/14 00:54
Barium	0.047	J	0.000063	0.10	mg/L	1	04/02/14 21:30
Beryllium	U		0.000082	0.0010	mg/L	1	04/02/14 21:30
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 21:30
Chromium	U		0.00027	0.010	mg/L	1	04/02/14 00:54
Cobalt	0.00080	J	0.000041	0.020	mg/L	1	04/02/14 21:30
Copper	0.00096	J	0.00053	0.0040	mg/L	1	04/02/14 00:54
Iron	0.11	J	0.0053	0.20	mg/L	1	04/02/14 00:54

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-002
Collection Date: 03/26/14 02:10 PM

Work Order: 14031379
Lab ID: 14031379-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	U		0.000051	0.0030	mg/L	1	04/02/14 00:54
Manganese	0.054		0.000054	0.050	mg/L	1	04/02/14 00:54
Nickel	0.0033	J	0.00025	0.020	mg/L	1	04/02/14 00:54
Selenium	0.00083	J	0.00064	0.0050	mg/L	1	04/02/14 00:54
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 00:54
Thallium	0.000098	J	0.000062	0.0020	mg/L	1	04/02/14 00:54
Vanadium	0.00028	J	0.00016	0.0040	mg/L	1	04/02/14 00:54
Zinc	U		0.00048	0.050	mg/L	1	04/02/14 00:54
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/1/14		Analyst: RM	
<u>BatchID: 57082</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/01/14 20:47
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 20:47
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 20:47
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 20:47
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 20:47
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 20:47
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 20:47
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 20:47
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 20:47
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 20:47
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 20:47
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 20:47
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 20:47
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 20:47
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 20:47
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 20:47
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 20:47
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 20:47
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 20:47
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 20:47
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 20:47
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 20:47
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 20:47
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 20:47
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 20:47
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 20:47
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 20:47
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 20:47
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 20:47

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-002
Collection Date: 03/26/14 02:10 PM

Work Order: 14031379
Lab ID: 14031379-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 20:47
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 20:47
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 20:47
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 20:47
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 20:47
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 20:47
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 20:47
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 20:47
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 20:47
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 20:47
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 20:47
Caprolactam	U		4.7	10	µg/L	1	04/01/14 20:47
Carbazole	U		0.16	10	µg/L	1	04/01/14 20:47
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 20:47
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 20:47
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 20:47
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 20:47
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 20:47
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 20:47
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 20:47
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 20:47
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 20:47
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 20:47
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 20:47
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 20:47
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 20:47
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 20:47
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 20:47
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 20:47
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 20:47
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 20:47
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 20:47
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 20:47
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 20:47
Phenol	U		0.32	5.0	µg/L	1	04/01/14 20:47
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 20:47
Surr: 2,4,6-Tribromophenol	75.8			32-115	%REC	1	04/01/14 20:47
Surr: 2-Fluorobiphenyl	67.1			32-100	%REC	1	04/01/14 20:47
Surr: 2-Fluorophenol	34.1			22-59	%REC	1	04/01/14 20:47
Surr: 4-Terphenyl-d14	80.5			23-112	%REC	1	04/01/14 20:47

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-002
Collection Date: 03/26/14 02:10 PM

Work Order: 14031379
Lab ID: 14031379-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	78.7			31-93	%REC	1	04/01/14 20:47
Surr: Phenol-d6	17.2			13-36	%REC	1	04/01/14 20:47
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	03/31/14 23:59
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	03/31/14 23:59
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	03/31/14 23:59
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	03/31/14 23:59
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	03/31/14 23:59
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	03/31/14 23:59
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	03/31/14 23:59
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	03/31/14 23:59
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	03/31/14 23:59
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	03/31/14 23:59
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	03/31/14 23:59
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	03/31/14 23:59
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	03/31/14 23:59
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	03/31/14 23:59
2-Butanone	U		0.64	25	µg/L	1	03/31/14 23:59
2-Hexanone	U		0.19	50	µg/L	1	03/31/14 23:59
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	03/31/14 23:59
Acetone	U		3.0	50	µg/L	1	03/31/14 23:59
Benzene	U		0.14	1.0	µg/L	1	03/31/14 23:59
Bromodichloromethane	U		0.22	1.0	µg/L	1	03/31/14 23:59
Bromoform	U		0.18	1.0	µg/L	1	03/31/14 23:59
Bromomethane	U		0.38	5.0	µg/L	1	03/31/14 23:59
Carbon disulfide	U		0.26	5.0	µg/L	1	03/31/14 23:59
Carbon tetrachloride	U		0.16	1.0	µg/L	1	03/31/14 23:59
Chlorobenzene	U		0.12	1.0	µg/L	1	03/31/14 23:59
Chloroethane	U		0.25	5.0	µg/L	1	03/31/14 23:59
Chloroform	U		0.15	1.0	µg/L	1	03/31/14 23:59
Chloromethane	U		0.29	5.0	µg/L	1	03/31/14 23:59
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	03/31/14 23:59
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	03/31/14 23:59
Cyclohexane	U		0.20	1.0	µg/L	1	03/31/14 23:59
Dibromochloromethane	U		0.12	5.0	µg/L	1	03/31/14 23:59
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	03/31/14 23:59
Ethylbenzene	U		0.12	1.0	µg/L	1	03/31/14 23:59
Isopropylbenzene	U		0.11	5.0	µg/L	1	03/31/14 23:59

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-002
Collection Date: 03/26/14 02:10 PM

Work Order: 14031379
Lab ID: 14031379-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	03/31/14 23:59
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	03/31/14 23:59
Methylcyclohexane	U		0.19	1.0	µg/L	1	03/31/14 23:59
Methylene chloride	U		0.75	5.0	µg/L	1	03/31/14 23:59
Styrene	U		0.12	1.0	µg/L	1	03/31/14 23:59
Tetrachloroethene	U		0.098	1.0	µg/L	1	03/31/14 23:59
Toluene	U		0.13	1.0	µg/L	1	03/31/14 23:59
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	03/31/14 23:59
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	03/31/14 23:59
Trichloroethene	U		0.16	1.0	µg/L	1	03/31/14 23:59
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	03/31/14 23:59
Vinyl chloride	U		0.15	1.0	µg/L	1	03/31/14 23:59
Xylenes, Total	U		0.30	3.0	µg/L	1	03/31/14 23:59
Surr: 1,2-Dichloroethane-d4	80.2			70-120	%REC	1	03/31/14 23:59
Surr: 4-Bromofluorobenzene	95.5			75-120	%REC	1	03/31/14 23:59
Surr: Dibromofluoromethane	91.4			85-115	%REC	1	03/31/14 23:59
Surr: Toluene-d8	92.9			85-120	%REC	1	03/31/14 23:59
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: <u>57141</u>							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-003
Collection Date: 03/26/14 03:30 PM

Work Order: 14031379
Lab ID: 14031379-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:48
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:18
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.19		0.00078	0.050	mg/L	1	04/03/14 13:22
Antimony	0.00019	J	0.000036	0.0020	mg/L	1	04/02/14 19:12
Arsenic	0.051		0.00058	0.0050	mg/L	1	04/02/14 19:12
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 13:22
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 19:12
Chromium	0.0010	J	0.00027	0.010	mg/L	1	04/02/14 19:12
Cobalt	0.0022	J	0.000041	0.020	mg/L	1	04/02/14 19:12
Copper	0.0026	J	0.00053	0.0040	mg/L	1	04/02/14 19:12
Iron	34		0.0053	0.20	mg/L	1	04/02/14 19:12
Lead	0.00099	J	0.000051	0.0030	mg/L	1	04/02/14 19:12
Manganese	0.60		0.000054	0.050	mg/L	1	04/02/14 19:12
Nickel	0.0080	J	0.00025	0.020	mg/L	1	04/02/14 19:12
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 19:12
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 19:12
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 19:12
Vanadium	0.0019	J	0.00016	0.0040	mg/L	1	04/02/14 19:12
Zinc	0.0053	J	0.00048	0.050	mg/L	1	04/02/14 19:12
<u>BatchID: 57103</u>							
Barium	1.7		0.00063	1.0	mg/L	10	04/02/14 14:12
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.0078	J	0.00078	0.050	mg/L	1	04/02/14 21:35
Antimony	0.00015	J	0.000036	0.0020	mg/L	1	04/02/14 01:00
Arsenic	0.047		0.00058	0.0050	mg/L	1	04/02/14 01:00
Beryllium	U		0.000082	0.0010	mg/L	1	04/02/14 01:00
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 21:35
Chromium	0.00070	J	0.00027	0.010	mg/L	1	04/02/14 01:00
Cobalt	0.0022	J	0.000041	0.020	mg/L	1	04/02/14 21:35
Copper	0.0014	J	0.00053	0.0040	mg/L	1	04/02/14 01:00
Iron	34		0.0053	0.20	mg/L	1	04/02/14 01:00

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-003
Collection Date: 03/26/14 03:30 PM

Work Order: 14031379
Lab ID: 14031379-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.00021	J	0.000051	0.0030	mg/L	1	04/02/14 01:00
Manganese	0.57		0.000054	0.050	mg/L	1	04/02/14 01:00
Nickel	0.0079	J	0.00025	0.020	mg/L	1	04/02/14 01:00
Selenium		U	0.00064	0.0050	mg/L	1	04/02/14 01:00
Silver		U	0.000042	0.00020	mg/L	1	04/02/14 01:00
Thallium		U	0.000062	0.0020	mg/L	1	04/02/14 01:00
Vanadium	0.0013	J	0.00016	0.0040	mg/L	1	04/02/14 01:00
Zinc	0.0021	J	0.00048	0.050	mg/L	1	04/02/14 01:00
BatchID: 57103							
Barium	1.9		0.00063	1.0	mg/L	10	04/08/14 22:55
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3510 / 4/1/14		Analyst: RM
BatchID: 57082							
1,1'-Biphenyl		U	0.095	10	µg/L	1	04/01/14 21:07
2,4,5-Trichlorophenol		U	0.25	5.0	µg/L	1	04/01/14 21:07
2,4,6-Trichlorophenol		U	0.27	4.0	µg/L	1	04/01/14 21:07
2,4-Dichlorophenol		U	0.22	10	µg/L	1	04/01/14 21:07
2,4-Dimethylphenol		U	1.8	5.0	µg/L	1	04/01/14 21:07
2,4-Dinitrophenol		U	0.67	25	µg/L	1	04/01/14 21:07
2,4-Dinitrotoluene		U	0.27	5.0	µg/L	1	04/01/14 21:07
2,6-Dinitrotoluene		U	0.23	5.0	µg/L	1	04/01/14 21:07
2-Chloronaphthalene		U	0.13	5.0	µg/L	1	04/01/14 21:07
2-Chlorophenol		U	0.32	10	µg/L	1	04/01/14 21:07
2-Methylnaphthalene		U	0.13	5.0	µg/L	1	04/01/14 21:07
2-Methylphenol		U	0.20	10	µg/L	1	04/01/14 21:07
2-Nitroaniline		U	0.34	25	µg/L	1	04/01/14 21:07
2-Nitrophenol		U	0.28	5.0	µg/L	1	04/01/14 21:07
3,3'-Dichlorobenzidine		U	3.9	1.0	µg/L	1	04/01/14 21:07
3-Nitroaniline		U	0.34	25	µg/L	1	04/01/14 21:07
4,6-Dinitro-2-methylphenol		U	1.2	20	µg/L	1	04/01/14 21:07
4-Bromophenyl phenyl ether		U	0.23	5.0	µg/L	1	04/01/14 21:07
4-Chloro-3-methylphenol		U	0.31	5.0	µg/L	1	04/01/14 21:07
4-Chloroaniline		U	0.32	10	µg/L	1	04/01/14 21:07
4-Chlorophenyl phenyl ether		U	0.23	5.0	µg/L	1	04/01/14 21:07
4-Methylphenol		U	0.20	10	µg/L	1	04/01/14 21:07
4-Nitroaniline		U	0.30	25	µg/L	1	04/01/14 21:07
4-Nitrophenol		U	0.51	25	µg/L	1	04/01/14 21:07
Acenaphthene		U	0.11	5.0	µg/L	1	04/01/14 21:07
Acenaphthylene		U	0.12	5.0	µg/L	1	04/01/14 21:07
Acetophenone		U	0.090	5.0	µg/L	1	04/01/14 21:07

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-003
Collection Date: 03/26/14 03:30 PM

Work Order: 14031379
Lab ID: 14031379-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 21:07
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 21:07
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 21:07
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 21:07
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 21:07
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 21:07
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 21:07
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 21:07
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 21:07
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 21:07
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 21:07
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 21:07
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 21:07
Caprolactam	U		4.7	10	µg/L	1	04/01/14 21:07
Carbazole	U		0.16	10	µg/L	1	04/01/14 21:07
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 21:07
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 21:07
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 21:07
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 21:07
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 21:07
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 21:07
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 21:07
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 21:07
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 21:07
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 21:07
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 21:07
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 21:07
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 21:07
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 21:07
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 21:07
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 21:07
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 21:07
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 21:07
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 21:07
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 21:07
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 21:07
Phenol	U		0.32	5.0	µg/L	1	04/01/14 21:07
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 21:07
Surr: 2,4,6-Tribromophenol	86.1			32-115	%REC	1	04/01/14 21:07
Surr: 2-Fluorobiphenyl	69.4			32-100	%REC	1	04/01/14 21:07

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-003
Collection Date: 03/26/14 03:30 PM

Work Order: 14031379
Lab ID: 14031379-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 2-Fluorophenol	38.6			22-59	%REC	1	04/01/14 21:07
Surr: 4-Terphenyl-d14	79.5			23-112	%REC	1	04/01/14 21:07
Surr: Nitrobenzene-d5	81.4			31-93	%REC	1	04/01/14 21:07
Surr: Phenol-d6	20.0			13-36	%REC	1	04/01/14 21:07
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 12:25
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 12:25
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 12:25
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 12:25
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 12:25
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 12:25
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 12:25
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 12:25
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 12:25
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 12:25
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 12:25
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 12:25
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 12:25
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 12:25
2-Butanone	U		0.64	25	µg/L	1	04/01/14 12:25
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 12:25
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 12:25
Acetone	U		3.0	50	µg/L	1	04/01/14 12:25
Benzene	0.36	J	0.14	1.0	µg/L	1	04/01/14 12:25
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 12:25
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 12:25
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 12:25
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 12:25
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 12:25
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 12:25
Chloroethane	U		0.25	5.0	µg/L	1	04/01/14 12:25
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 12:25
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 12:25
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 12:25
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 12:25
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 12:25
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 12:25
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 12:25

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032614-ACN-003
Collection Date: 03/26/14 03:30 PM

Work Order: 14031379
Lab ID: 14031379-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 12:25
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 12:25
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 12:25
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 12:25
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 12:25
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 12:25
Styrene	U		0.12	1.0	µg/L	1	04/01/14 12:25
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 12:25
Toluene	U		0.13	1.0	µg/L	1	04/01/14 12:25
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 12:25
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 12:25
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 12:25
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 12:25
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 12:25
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 12:25
Surr: 1,2-Dichloroethane-d4	79.8			70-120	%REC	1	04/01/14 12:25
Surr: 4-Bromofluorobenzene	98.2			75-120	%REC	1	04/01/14 12:25
Surr: Dibromofluoromethane	94.5			85-115	%REC	1	04/01/14 12:25
Surr: Toluene-d8	93.6			85-120	%REC	1	04/01/14 12:25
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: 57141							
Cyanide, Amenable	0.0021	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-004
Collection Date: 03/27/14 10:35 AM

Work Order: 14031379
Lab ID: 14031379-04
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID:</u> 57157							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:50
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID:</u> 57157							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:20
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID:</u> 57103							
Aluminum	0.076		0.00078	0.050	mg/L	1	04/03/14 13:44
Antimony	0.00015	J	0.000036	0.0020	mg/L	1	04/02/14 20:45
Arsenic	0.0030	J	0.00058	0.0050	mg/L	1	04/02/14 20:45
Barium	0.46		0.000063	0.10	mg/L	1	04/02/14 20:45
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 13:44
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 20:45
Chromium	0.00056	J	0.00027	0.010	mg/L	1	04/03/14 13:44
Cobalt	0.0020	J	0.000041	0.020	mg/L	1	04/02/14 20:45
Copper	0.0020	J	0.00053	0.0040	mg/L	1	04/02/14 20:45
Iron	11		0.0053	0.20	mg/L	1	04/02/14 20:45
Lead	0.00031	J	0.000051	0.0030	mg/L	1	04/02/14 20:45
Manganese	0.41		0.000054	0.050	mg/L	1	04/02/14 20:45
Nickel	0.011	J	0.00025	0.020	mg/L	1	04/02/14 20:45
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 20:45
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 20:45
Thallium	0.000084	J	0.000062	0.0020	mg/L	1	04/02/14 20:45
Vanadium	0.0012	J	0.00016	0.0040	mg/L	1	04/02/14 20:45
Zinc	0.0050	J	0.00048	0.050	mg/L	1	04/02/14 20:45
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: ML
<u>BatchID:</u> 57103							
Aluminum	0.0086	J	0.00078	0.050	mg/L	1	04/08/14 14:07
Antimony	0.00017	J	0.000036	0.0020	mg/L	1	04/02/14 01:05
Arsenic	0.0034	J	0.00058	0.0050	mg/L	1	04/02/14 01:05
Barium	0.46		0.000063	0.10	mg/L	1	04/08/14 14:07
Beryllium	U		0.000082	0.0010	mg/L	1	04/02/14 01:05
Cadmium	U		0.000045	0.0010	mg/L	1	04/08/14 14:07
Chromium	0.00037	J	0.00027	0.010	mg/L	1	04/02/14 01:05
Copper	0.0019	J	0.00053	0.0040	mg/L	1	04/02/14 01:05
Iron	10		0.0053	0.20	mg/L	1	04/02/14 01:05
Lead	U		0.000051	0.0030	mg/L	1	04/02/14 01:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-004
Collection Date: 03/27/14 10:35 AM

Work Order: 14031379
Lab ID: 14031379-04
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Manganese	0.41		0.000054	0.050	mg/L	1	04/02/14 01:05
Nickel	0.012	J	0.00025	0.020	mg/L	1	04/02/14 01:05
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 01:05
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 01:05
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 01:05
Vanadium	0.00099	J	0.00016	0.0040	mg/L	1	04/02/14 01:05
Zinc	0.0030	J	0.00048	0.050	mg/L	1	04/02/14 01:05
BatchID: 57103							
Cobalt	0.0014	J	0.000082	0.040	mg/L	2	04/08/14 23:45
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/1/14		Analyst: RM	
BatchID: 57082							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/01/14 21:28
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 21:28
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 21:28
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 21:28
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 21:28
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 21:28
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 21:28
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 21:28
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 21:28
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 21:28
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 21:28
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 21:28
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 21:28
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 21:28
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 21:28
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 21:28
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 21:28
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 21:28
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 21:28
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 21:28
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 21:28
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 21:28
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 21:28
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 21:28
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 21:28
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 21:28
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 21:28
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 21:28

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-004
Collection Date: 03/27/14 10:35 AM

Work Order: 14031379
Lab ID: 14031379-04
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 21:28
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 21:28
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 21:28
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 21:28
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 21:28
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 21:28
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 21:28
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 21:28
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 21:28
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 21:28
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 21:28
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 21:28
Caprolactam	U		4.7	10	µg/L	1	04/01/14 21:28
Carbazole	U		0.16	10	µg/L	1	04/01/14 21:28
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 21:28
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 21:28
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 21:28
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 21:28
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 21:28
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 21:28
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 21:28
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 21:28
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 21:28
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 21:28
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 21:28
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 21:28
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 21:28
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 21:28
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 21:28
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 21:28
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 21:28
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 21:28
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 21:28
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 21:28
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 21:28
Phenol	U		0.32	5.0	µg/L	1	04/01/14 21:28
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 21:28
Surr: 2,4,6-Tribromophenol	88.0			32-115	%REC	1	04/01/14 21:28
Surr: 2-Fluorobiphenyl	70.2			32-100	%REC	1	04/01/14 21:28
Surr: 2-Fluorophenol	43.9			22-59	%REC	1	04/01/14 21:28

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-004
Collection Date: 03/27/14 10:35 AM

Work Order: 14031379
Lab ID: 14031379-04
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	79.9			23-112	%REC	1	04/01/14 21:28
Surr: Nitrobenzene-d5	85.8			31-93	%REC	1	04/01/14 21:28
Surr: Phenol-d6	22.0			13-36	%REC	1	04/01/14 21:28
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 12:50
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 12:50
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 12:50
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 12:50
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 12:50
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 12:50
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 12:50
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 12:50
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 12:50
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 12:50
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 12:50
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 12:50
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 12:50
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 12:50
2-Butanone	U		0.64	25	µg/L	1	04/01/14 12:50
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 12:50
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 12:50
Acetone	U		3.0	50	µg/L	1	04/01/14 12:50
Benzene	2.7		0.14	1.0	µg/L	1	04/01/14 12:50
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 12:50
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 12:50
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 12:50
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 12:50
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 12:50
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 12:50
Chloroethane	U		0.25	5.0	µg/L	1	04/01/14 12:50
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 12:50
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 12:50
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 12:50
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 12:50
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 12:50
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 12:50
Dichlorodifluoromethane	1.3	J	0.18	5.0	µg/L	1	04/01/14 12:50
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 12:50

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-004
Collection Date: 03/27/14 10:35 AM

Work Order: 14031379
Lab ID: 14031379-04
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene		U	0.11	5.0	µg/L	1	04/01/14 12:50
Methyl acetate		U	0.76	10	µg/L	1	04/01/14 12:50
Methyl tert-butyl ether		U	0.28	5.0	µg/L	1	04/01/14 12:50
Methylcyclohexane		U	0.19	1.0	µg/L	1	04/01/14 12:50
Methylene chloride		U	0.75	5.0	µg/L	1	04/01/14 12:50
Styrene		U	0.12	1.0	µg/L	1	04/01/14 12:50
Tetrachloroethene		U	0.098	1.0	µg/L	1	04/01/14 12:50
Toluene		U	0.13	1.0	µg/L	1	04/01/14 12:50
trans-1,2-Dichloroethene		U	0.12	1.0	µg/L	1	04/01/14 12:50
trans-1,3-Dichloropropene		U	0.093	1.0	µg/L	1	04/01/14 12:50
Trichloroethene		U	0.16	1.0	µg/L	1	04/01/14 12:50
Trichlorofluoromethane		U	0.22	1.0	µg/L	1	04/01/14 12:50
Vinyl chloride		U	0.15	1.0	µg/L	1	04/01/14 12:50
Xylenes, Total		U	0.30	3.0	µg/L	1	04/01/14 12:50
Surr: 1,2-Dichloroethane-d4	81.8			70-120	%REC	1	04/01/14 12:50
Surr: 4-Bromofluorobenzene	101			75-120	%REC	1	04/01/14 12:50
Surr: Dibromofluoromethane	93.6			85-115	%REC	1	04/01/14 12:50
Surr: Toluene-d8	95.0			85-120	%REC	1	04/01/14 12:50
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: 57141							
Cyanide, Amenable	0.0013	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-005
Collection Date: 03/27/14 11:35 AM

Work Order: 14031379
Lab ID: 14031379-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:53
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:22
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.061		0.00078	0.050	mg/L	1	04/03/14 13:52
Antimony	0.00018	J	0.000036	0.0020	mg/L	1	04/02/14 20:50
Arsenic	0.00082	J	0.00058	0.0050	mg/L	1	04/02/14 20:50
Barium	1.2		0.000063	0.10	mg/L	1	04/02/14 20:50
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 13:52
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 20:50
Chromium	0.00053	J	0.00027	0.010	mg/L	1	04/03/14 13:52
Cobalt	0.0019	J	0.000041	0.020	mg/L	1	04/02/14 20:50
Copper	0.0036	J	0.00053	0.0040	mg/L	1	04/02/14 20:50
Iron	8.8		0.0053	0.20	mg/L	1	04/02/14 20:50
Lead	0.00024	J	0.000051	0.0030	mg/L	1	04/02/14 20:50
Manganese	0.75		0.000054	0.050	mg/L	1	04/02/14 20:50
Nickel	0.0070	J	0.00025	0.020	mg/L	1	04/02/14 20:50
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 20:50
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 20:50
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 20:50
Vanadium	0.0011	J	0.00016	0.0040	mg/L	1	04/02/14 20:50
Zinc	0.0041	J	0.00048	0.050	mg/L	1	04/02/14 20:50
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00019	J	0.000036	0.0020	mg/L	1	04/02/14 01:11
Arsenic	U		0.00058	0.0050	mg/L	1	04/02/14 01:11
Beryllium	U		0.000082	0.0010	mg/L	1	04/02/14 01:11
Chromium	0.00043	J	0.00027	0.010	mg/L	1	04/02/14 01:11
Copper	0.0046		0.00053	0.0040	mg/L	1	04/02/14 01:11
Iron	9.1		0.0053	0.20	mg/L	1	04/02/14 01:11
Lead	0.00022	J	0.000051	0.0030	mg/L	1	04/02/14 01:11
Manganese	0.66		0.000054	0.050	mg/L	1	04/02/14 01:11
Nickel	0.0084	J	0.00025	0.020	mg/L	1	04/02/14 01:11
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 01:11

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-005
Collection Date: 03/27/14 11:35 AM

Work Order: 14031379
Lab ID: 14031379-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 01:11
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 01:11
Vanadium	0.0011	J	0.00016	0.0040	mg/L	1	04/02/14 01:11
Zinc	0.0058	J	0.00048	0.050	mg/L	1	04/02/14 01:11
BatchID: 57103							
Aluminum	0.0049	J	0.0016	0.10	mg/L	2	04/08/14 23:51
Barium	1.3		0.00013	0.20	mg/L	2	04/08/14 23:51
Cadmium	U		0.000090	0.0020	mg/L	2	04/08/14 23:51
Cobalt	0.0015	J	0.000082	0.040	mg/L	2	04/08/14 23:51
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3510 / 4/1/14		Analyst: RM
BatchID: 57082							
1,1`-Biphenyl	U		0.095	10	µg/L	1	04/01/14 21:48
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 21:48
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 21:48
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 21:48
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 21:48
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 21:48
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 21:48
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 21:48
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 21:48
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 21:48
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 21:48
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 21:48
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 21:48
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 21:48
3,3`-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 21:48
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 21:48
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 21:48
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 21:48
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 21:48
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 21:48
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 21:48
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 21:48
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 21:48
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 21:48
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 21:48
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 21:48
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 21:48
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 21:48

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-005
Collection Date: 03/27/14 11:35 AM

Work Order: 14031379
Lab ID: 14031379-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 21:48
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 21:48
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 21:48
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 21:48
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 21:48
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 21:48
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 21:48
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 21:48
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 21:48
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 21:48
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 21:48
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 21:48
Caprolactam	U		4.7	10	µg/L	1	04/01/14 21:48
Carbazole	U		0.16	10	µg/L	1	04/01/14 21:48
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 21:48
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 21:48
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 21:48
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 21:48
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 21:48
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 21:48
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 21:48
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 21:48
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 21:48
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 21:48
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 21:48
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 21:48
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 21:48
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 21:48
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 21:48
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 21:48
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 21:48
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 21:48
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 21:48
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 21:48
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 21:48
Phenol	U		0.32	5.0	µg/L	1	04/01/14 21:48
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 21:48
Surr: 2,4,6-Tribromophenol	92.2			32-115	%REC	1	04/01/14 21:48
Surr: 2-Fluorobiphenyl	72.6			32-100	%REC	1	04/01/14 21:48
Surr: 2-Fluorophenol	45.3			22-59	%REC	1	04/01/14 21:48

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-005
Collection Date: 03/27/14 11:35 AM

Work Order: 14031379
Lab ID: 14031379-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	82.6			23-112	%REC	1	04/01/14 21:48
Surr: Nitrobenzene-d5	89.6			31-93	%REC	1	04/01/14 21:48
Surr: Phenol-d6	23.5			13-36	%REC	1	04/01/14 21:48
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 01:16
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 01:16
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 01:16
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 01:16
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 01:16
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 01:16
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 01:16
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 01:16
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 01:16
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 01:16
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 01:16
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 01:16
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 01:16
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 01:16
2-Butanone	U		0.64	25	µg/L	1	04/01/14 01:16
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 01:16
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 01:16
Acetone	U		3.0	50	µg/L	1	04/01/14 01:16
Benzene	U		0.14	1.0	µg/L	1	04/01/14 01:16
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 01:16
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 01:16
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 01:16
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 01:16
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 01:16
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 01:16
Chloroethane	U		0.25	5.0	µg/L	1	04/01/14 01:16
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 01:16
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 01:16
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 01:16
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 01:16
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 01:16
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 01:16
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 01:16
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 01:16

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-005
Collection Date: 03/27/14 11:35 AM

Work Order: 14031379
Lab ID: 14031379-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 01:16
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 01:16
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 01:16
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 01:16
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 01:16
Styrene	U		0.12	1.0	µg/L	1	04/01/14 01:16
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 01:16
Toluene	U		0.13	1.0	µg/L	1	04/01/14 01:16
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 01:16
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 01:16
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 01:16
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 01:16
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 01:16
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 01:16
Surr: 1,2-Dichloroethane-d4	80.7			70-120	%REC	1	04/01/14 01:16
Surr: 4-Bromofluorobenzene	96.3			75-120	%REC	1	04/01/14 01:16
Surr: Dibromofluoromethane	93.6			85-115	%REC	1	04/01/14 01:16
Surr: Toluene-d8	89.8			85-120	%REC	1	04/01/14 01:16
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/2/14	Analyst: JB
BatchID: <u>57141</u>							
Cyanide, Amenable	0.0022	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-006
Collection Date: 03/27/14 12:40 PM

Work Order: 14031379
Lab ID: 14031379-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:55
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:25
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	2.8		0.00078	0.050	mg/L	1	04/03/14 13:58
Antimony	0.00040	J	0.000036	0.0020	mg/L	1	04/02/14 20:56
Arsenic	0.0051		0.00058	0.0050	mg/L	1	04/02/14 20:56
Barium	0.48		0.000063	0.10	mg/L	1	04/02/14 20:56
Beryllium	0.000095	J	0.000082	0.0010	mg/L	1	04/03/14 13:58
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 20:56
Chromium	0.0045	J	0.00027	0.010	mg/L	1	04/03/14 13:58
Cobalt	0.0057	J	0.000041	0.020	mg/L	1	04/02/14 20:56
Copper	0.0096		0.00053	0.0040	mg/L	1	04/02/14 20:56
Iron	20		0.0053	0.20	mg/L	1	04/02/14 20:56
Lead	0.0075		0.000051	0.0030	mg/L	1	04/02/14 20:56
Manganese	0.70		0.000054	0.050	mg/L	1	04/02/14 20:56
Nickel	0.016	J	0.00025	0.020	mg/L	1	04/02/14 20:56
Selenium	0.0014	J	0.00064	0.0050	mg/L	1	04/02/14 20:56
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 20:56
Thallium	0.00012	J	0.000062	0.0020	mg/L	1	04/02/14 20:56
Vanadium	0.0085		0.00016	0.0040	mg/L	1	04/02/14 20:56
Zinc	0.035	J	0.00048	0.050	mg/L	1	04/02/14 20:56
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00023	J	0.000036	0.0020	mg/L	1	04/02/14 01:17
Arsenic	0.0029	J	0.00058	0.0050	mg/L	1	04/02/14 01:17
Beryllium	U		0.000082	0.0010	mg/L	1	04/02/14 01:17
Chromium	0.00037	J	0.00027	0.010	mg/L	1	04/02/14 01:17
Copper	0.0020	J	0.00053	0.0040	mg/L	1	04/02/14 01:17
Iron	15		0.0053	0.20	mg/L	1	04/02/14 01:17
Lead	U		0.000051	0.0030	mg/L	1	04/02/14 01:17
Manganese	0.41		0.000054	0.050	mg/L	1	04/02/14 01:17
Nickel	0.0084	J	0.00025	0.020	mg/L	1	04/02/14 01:17
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 01:17

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-006
Collection Date: 03/27/14 12:40 PM

Work Order: 14031379
Lab ID: 14031379-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 01:17
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 01:17
Vanadium	0.00074	J	0.00016	0.0040	mg/L	1	04/02/14 01:17
Zinc	0.020	J	0.00048	0.050	mg/L	1	04/02/14 01:17
<u>BatchID: 57103</u>							
Aluminum	0.0060	J	0.0016	0.10	mg/L	2	04/09/14 00:16
Barium	0.45		0.00013	0.20	mg/L	2	04/09/14 00:16
Cadmium	U		0.000090	0.0020	mg/L	2	04/09/14 00:16
Cobalt	0.0024	J	0.000082	0.040	mg/L	2	04/09/14 00:16
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270			Prep: SW3510 / 4/1/14	Analyst: RM
<u>BatchID: 57082</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/01/14 22:08
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 22:08
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 22:08
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 22:08
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 22:08
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 22:08
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 22:08
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 22:08
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 22:08
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 22:08
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 22:08
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 22:08
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 22:08
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 22:08
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 22:08
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 22:08
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 22:08
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 22:08
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 22:08
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 22:08
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 22:08
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 22:08
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 22:08
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 22:08
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 22:08
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 22:08
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 22:08
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 22:08

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-006
Collection Date: 03/27/14 12:40 PM

Work Order: 14031379
Lab ID: 14031379-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 22:08
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 22:08
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 22:08
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 22:08
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 22:08
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 22:08
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 22:08
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 22:08
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 22:08
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 22:08
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 22:08
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 22:08
Caprolactam	U		4.7	10	µg/L	1	04/01/14 22:08
Carbazole	U		0.16	10	µg/L	1	04/01/14 22:08
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 22:08
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 22:08
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 22:08
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 22:08
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 22:08
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 22:08
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 22:08
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 22:08
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 22:08
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 22:08
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 22:08
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 22:08
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 22:08
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 22:08
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 22:08
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 22:08
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 22:08
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 22:08
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 22:08
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 22:08
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 22:08
Phenol	U		0.32	5.0	µg/L	1	04/01/14 22:08
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 22:08
Surr: 2,4,6-Tribromophenol	86.0			32-115	%REC	1	04/01/14 22:08
Surr: 2-Fluorobiphenyl	62.2			32-100	%REC	1	04/01/14 22:08
Surr: 2-Fluorophenol	39.0			22-59	%REC	1	04/01/14 22:08

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-006
Collection Date: 03/27/14 12:40 PM

Work Order: 14031379
Lab ID: 14031379-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	77.6			23-112	%REC	1	04/01/14 22:08
Surr: Nitrobenzene-d5	71.6			31-93	%REC	1	04/01/14 22:08
Surr: Phenol-d6	21.8			13-36	%REC	1	04/01/14 22:08
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 01:41
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 01:41
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 01:41
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 01:41
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 01:41
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 01:41
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 01:41
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 01:41
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 01:41
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 01:41
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 01:41
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 01:41
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 01:41
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 01:41
2-Butanone	U		0.64	25	µg/L	1	04/01/14 01:41
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 01:41
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 01:41
Acetone	U		3.0	50	µg/L	1	04/01/14 01:41
Benzene	U		0.14	1.0	µg/L	1	04/01/14 01:41
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 01:41
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 01:41
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 01:41
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 01:41
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 01:41
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 01:41
Chloroethane	U		0.25	5.0	µg/L	1	04/01/14 01:41
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 01:41
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 01:41
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 01:41
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 01:41
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 01:41
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 01:41
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 01:41
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 01:41

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-006
Collection Date: 03/27/14 12:40 PM

Work Order: 14031379
Lab ID: 14031379-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 01:41
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 01:41
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 01:41
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 01:41
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 01:41
Styrene	U		0.12	1.0	µg/L	1	04/01/14 01:41
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 01:41
Toluene	U		0.13	1.0	µg/L	1	04/01/14 01:41
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 01:41
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 01:41
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 01:41
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 01:41
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 01:41
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 01:41
Surr: 1,2-Dichloroethane-d4	81.0			70-120	%REC	1	04/01/14 01:41
Surr: 4-Bromofluorobenzene	98.7			75-120	%REC	1	04/01/14 01:41
Surr: Dibromofluoromethane	94.8			85-115	%REC	1	04/01/14 01:41
Surr: Toluene-d8	91.6			85-120	%REC	1	04/01/14 01:41
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: <u>57141</u>							
Cyanide, Amenable	0.0034	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-007
Collection Date: 03/27/14 01:52 PM

Work Order: 14031379
Lab ID: 14031379-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:57
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:27
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Aluminum	0.45		0.00078	0.050	mg/L	1	04/03/14 14:03
Antimony	0.00022	J	0.000036	0.0020	mg/L	1	04/02/14 21:02
Arsenic	0.00076	J	0.00058	0.0050	mg/L	1	04/02/14 21:02
Barium	0.13		0.000063	0.10	mg/L	1	04/02/14 21:02
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 14:03
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 21:02
Chromium	0.00048	J	0.00027	0.010	mg/L	1	04/03/14 14:03
Cobalt	0.00084	J	0.000041	0.020	mg/L	1	04/02/14 21:02
Copper	0.0026	J	0.00053	0.0040	mg/L	1	04/02/14 21:02
Iron	2.0		0.0053	0.20	mg/L	1	04/02/14 21:02
Lead	0.00079	J	0.000051	0.0030	mg/L	1	04/02/14 21:02
Manganese	0.033	J	0.000054	0.050	mg/L	1	04/02/14 21:02
Nickel	0.0048	J	0.00025	0.020	mg/L	1	04/02/14 21:02
Selenium	0.0012	J	0.00064	0.0050	mg/L	1	04/02/14 21:02
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 21:02
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 21:02
Vanadium	0.0011	J	0.00016	0.0040	mg/L	1	04/02/14 21:02
Zinc	0.0059	J	0.00048	0.050	mg/L	1	04/02/14 21:02
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00024	J	0.000036	0.0020	mg/L	1	04/02/14 01:23
Arsenic	0.00062	J	0.00058	0.0050	mg/L	1	04/02/14 01:23
Beryllium	U		0.000082	0.0010	mg/L	1	04/02/14 01:23
Chromium	U		0.00027	0.010	mg/L	1	04/02/14 01:23
Copper	0.0021	J	0.00053	0.0040	mg/L	1	04/02/14 01:23
Iron	1.4		0.0053	0.20	mg/L	1	04/02/14 01:23
Lead	0.000079	J	0.000051	0.0030	mg/L	1	04/02/14 01:23
Manganese	0.023	J	0.000054	0.050	mg/L	1	04/02/14 01:23
Nickel	0.0048	J	0.00025	0.020	mg/L	1	04/02/14 01:23
Selenium	0.0013	J	0.00064	0.0050	mg/L	1	04/02/14 01:23

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-007
Collection Date: 03/27/14 01:52 PM

Work Order: 14031379
Lab ID: 14031379-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 01:23
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 01:23
Vanadium	0.00041	J	0.00016	0.0040	mg/L	1	04/02/14 01:23
Zinc	0.0019	J	0.00048	0.050	mg/L	1	04/02/14 01:23
BatchID: 57103							
Aluminum	0.089	J	0.0016	0.10	mg/L	2	04/09/14 00:22
Barium	0.15	J	0.00013	0.20	mg/L	2	04/09/14 00:22
Cadmium	U		0.000090	0.0020	mg/L	2	04/09/14 00:22
Cobalt	0.0015	J	0.000082	0.040	mg/L	2	04/09/14 00:22
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3510 / 4/1/14		Analyst: RM
BatchID: 57082							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/01/14 22:29
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 22:29
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 22:29
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 22:29
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 22:29
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 22:29
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 22:29
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 22:29
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 22:29
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 22:29
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 22:29
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 22:29
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 22:29
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 22:29
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 22:29
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 22:29
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 22:29
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 22:29
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 22:29
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 22:29
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 22:29
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 22:29
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 22:29
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 22:29
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 22:29
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 22:29
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 22:29
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 22:29

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-007
Collection Date: 03/27/14 01:52 PM

Work Order: 14031379
Lab ID: 14031379-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 22:29
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 22:29
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 22:29
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 22:29
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 22:29
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 22:29
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 22:29
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 22:29
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 22:29
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 22:29
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 22:29
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 22:29
Caprolactam	U		4.7	10	µg/L	1	04/01/14 22:29
Carbazole	U		0.16	10	µg/L	1	04/01/14 22:29
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 22:29
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 22:29
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 22:29
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 22:29
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 22:29
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 22:29
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 22:29
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 22:29
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 22:29
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 22:29
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 22:29
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 22:29
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 22:29
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 22:29
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 22:29
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 22:29
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 22:29
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 22:29
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 22:29
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 22:29
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 22:29
Phenol	U		0.32	5.0	µg/L	1	04/01/14 22:29
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 22:29
Surr: 2,4,6-Tribromophenol	89.2			32-115	%REC	1	04/01/14 22:29
Surr: 2-Fluorobiphenyl	72.0			32-100	%REC	1	04/01/14 22:29
Surr: 2-Fluorophenol	41.0			22-59	%REC	1	04/01/14 22:29

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-007
Collection Date: 03/27/14 01:52 PM

Work Order: 14031379
Lab ID: 14031379-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	81.1			23-112	%REC	1	04/01/14 22:29
Surr: Nitrobenzene-d5	83.9			31-93	%REC	1	04/01/14 22:29
Surr: Phenol-d6	22.3			13-36	%REC	1	04/01/14 22:29
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:07
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 02:07
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:07
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 02:07
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 02:07
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 02:07
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 02:07
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 02:07
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 02:07
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 02:07
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:07
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 02:07
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 02:07
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 02:07
2-Butanone	U		0.64	25	µg/L	1	04/01/14 02:07
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 02:07
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 02:07
Acetone	U		3.0	50	µg/L	1	04/01/14 02:07
Benzene	U		0.14	1.0	µg/L	1	04/01/14 02:07
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 02:07
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 02:07
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 02:07
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 02:07
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 02:07
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 02:07
Chloroethane	U		0.25	5.0	µg/L	1	04/01/14 02:07
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 02:07
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 02:07
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 02:07
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 02:07
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 02:07
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 02:07
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 02:07
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 02:07

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032714-ACN-007
Collection Date: 03/27/14 01:52 PM

Work Order: 14031379
Lab ID: 14031379-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 02:07
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 02:07
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 02:07
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 02:07
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 02:07
Styrene	U		0.12	1.0	µg/L	1	04/01/14 02:07
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 02:07
Toluene	U		0.13	1.0	µg/L	1	04/01/14 02:07
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 02:07
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 02:07
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 02:07
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 02:07
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 02:07
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 02:07
Surr: 1,2-Dichloroethane-d4	82.7			70-120	%REC	1	04/01/14 02:07
Surr: 4-Bromofluorobenzene	98.0			75-120	%REC	1	04/01/14 02:07
Surr: Dibromofluoromethane	95.6			85-115	%REC	1	04/01/14 02:07
Surr: Toluene-d8	93.2			85-120	%REC	1	04/01/14 02:07
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: <u>57141</u>							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-008
Collection Date: 03/28/14 09:50 AM

Work Order: 14031379
Lab ID: 14031379-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:59
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:29
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00050	J	0.000036	0.0020	mg/L	1	04/02/14 21:07
Arsenic	0.040		0.00058	0.0050	mg/L	1	04/02/14 21:07
Barium	1.3		0.000063	0.10	mg/L	1	04/02/14 21:07
Beryllium	0.00025	J	0.000082	0.0010	mg/L	1	04/08/14 13:24
Cadmium	0.00049	J	0.000045	0.0010	mg/L	1	04/02/14 21:07
Chromium	0.0033	J	0.00027	0.010	mg/L	1	04/02/14 21:07
Cobalt	0.0031	J	0.000041	0.020	mg/L	1	04/02/14 21:07
Copper	0.0080		0.00053	0.0040	mg/L	1	04/02/14 21:07
Iron	8.1		0.0053	0.20	mg/L	1	04/02/14 21:07
Lead	0.012		0.000051	0.0030	mg/L	1	04/02/14 21:07
Manganese	0.093		0.000054	0.050	mg/L	1	04/02/14 21:07
Nickel	0.0092	J	0.00025	0.020	mg/L	1	04/02/14 21:07
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 21:07
Silver	0.000051	J	0.000042	0.00020	mg/L	1	04/02/14 21:07
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 21:07
Vanadium	0.0042		0.00016	0.0040	mg/L	1	04/02/14 21:07
Zinc	0.026	J	0.00048	0.050	mg/L	1	04/02/14 21:07
<u>BatchID: 57103</u>							
Aluminum	1.1		0.0078	0.50	mg/L	10	04/09/14 07:17
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00025	J	0.000036	0.0020	mg/L	1	04/02/14 23:33
Arsenic	0.031		0.00058	0.0050	mg/L	1	04/02/14 23:33
Copper	0.0010	J	0.00053	0.0040	mg/L	1	04/02/14 23:33
Iron	4.5		0.0053	0.20	mg/L	1	04/02/14 23:33
Lead	0.00034	J	0.000051	0.0030	mg/L	1	04/02/14 23:33
Manganese	0.057		0.000054	0.050	mg/L	1	04/02/14 23:33
Nickel	0.0065	J	0.00025	0.020	mg/L	1	04/02/14 23:33
Selenium	0.00070	J	0.00064	0.0050	mg/L	1	04/02/14 23:33
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 23:33

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-008
Collection Date: 03/28/14 09:50 AM

Work Order: 14031379
Lab ID: 14031379-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 23:33
Vanadium	0.0013	J	0.00016	0.0040	mg/L	1	04/02/14 23:33
Zinc	0.00065	J	0.00048	0.050	mg/L	1	04/02/14 23:33
<u>BatchID: 57103</u>							
Aluminum	U		0.0016	0.10	mg/L	2	04/09/14 00:28
Barium	1.2		0.00013	0.20	mg/L	2	04/09/14 00:28
Beryllium	U		0.00016	0.0020	mg/L	2	04/09/14 00:28
Cadmium	U		0.000090	0.0020	mg/L	2	04/09/14 00:28
Chromium	0.00061	J	0.00054	0.020	mg/L	2	04/09/14 00:28
Cobalt	0.0026	J	0.000082	0.040	mg/L	2	04/09/14 00:28
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/1/14			Analyst: RM
<u>BatchID: 57082</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/01/14 22:49
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 22:49
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 22:49
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 22:49
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 22:49
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 22:49
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 22:49
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 22:49
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 22:49
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 22:49
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 22:49
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 22:49
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 22:49
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 22:49
3,3' -Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 22:49
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 22:49
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 22:49
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 22:49
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 22:49
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 22:49
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 22:49
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 22:49
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 22:49
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 22:49
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 22:49
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 22:49
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 22:49

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-008
Collection Date: 03/28/14 09:50 AM

Work Order: 14031379
Lab ID: 14031379-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 22:49
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 22:49
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 22:49
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 22:49
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 22:49
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 22:49
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 22:49
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 22:49
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 22:49
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 22:49
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 22:49
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 22:49
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 22:49
Caprolactam	U		4.7	10	µg/L	1	04/01/14 22:49
Carbazole	U		0.16	10	µg/L	1	04/01/14 22:49
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 22:49
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 22:49
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 22:49
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 22:49
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 22:49
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 22:49
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 22:49
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 22:49
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 22:49
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 22:49
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 22:49
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 22:49
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 22:49
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 22:49
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 22:49
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 22:49
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 22:49
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 22:49
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 22:49
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 22:49
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 22:49
Phenol	U		0.32	5.0	µg/L	1	04/01/14 22:49
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 22:49
Surr: 2,4,6-Tribromophenol	84.9			32-115	%REC	1	04/01/14 22:49
Surr: 2-Fluorobiphenyl	64.4			32-100	%REC	1	04/01/14 22:49

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-008
Collection Date: 03/28/14 09:50 AM

Work Order: 14031379
Lab ID: 14031379-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 2-Fluorophenol	34.8			22-59	%REC	1	04/01/14 22:49
Surr: 4-Terphenyl-d14	78.1			23-112	%REC	1	04/01/14 22:49
Surr: Nitrobenzene-d5	76.7			31-93	%REC	1	04/01/14 22:49
Surr: Phenol-d6	18.0			13-36	%REC	1	04/01/14 22:49

VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: AK

BatchID: R138110

1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:32
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 02:32
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:32
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 02:32
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 02:32
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 02:32
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 02:32
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 02:32
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 02:32
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 02:32
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:32
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 02:32
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 02:32
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 02:32
2-Butanone	U		0.64	25	µg/L	1	04/01/14 02:32
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 02:32
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 02:32
Acetone	U		3.0	50	µg/L	1	04/01/14 02:32
Benzene	U		0.14	1.0	µg/L	1	04/01/14 02:32
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 02:32
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 02:32
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 02:32
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 02:32
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 02:32
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 02:32
Chloroethane	U		0.25	5.0	µg/L	1	04/01/14 02:32
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 02:32
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 02:32
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 02:32
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 02:32
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 02:32
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 02:32
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 02:32

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-008
Collection Date: 03/28/14 09:50 AM

Work Order: 14031379
Lab ID: 14031379-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 02:32
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 02:32
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 02:32
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 02:32
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 02:32
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 02:32
Styrene	U		0.12	1.0	µg/L	1	04/01/14 02:32
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 02:32
Toluene	U		0.13	1.0	µg/L	1	04/01/14 02:32
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 02:32
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 02:32
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 02:32
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 02:32
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 02:32
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 02:32
Surr: 1,2-Dichloroethane-d4	79.7			70-120	%REC	1	04/01/14 02:32
Surr: 4-Bromofluorobenzene	97.6			75-120	%REC	1	04/01/14 02:32
Surr: Dibromofluoromethane	93.4			85-115	%REC	1	04/01/14 02:32
Surr: Toluene-d8	91.4			85-120	%REC	1	04/01/14 02:32
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: 57141							
Cyanide, Amenable	0.0026	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-009
Collection Date: 03/28/14 11:00 AM

Work Order: 14031379
Lab ID: 14031379-09
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:02
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:32
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00018	J	0.000036	0.0020	mg/L	1	04/02/14 21:13
Arsenic	0.016		0.00058	0.0050	mg/L	1	04/02/14 21:13
Barium	1.3		0.000063	0.10	mg/L	1	04/02/14 21:13
Beryllium	0.00015	J	0.000082	0.0010	mg/L	1	04/08/14 13:30
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 21:13
Chromium	0.00078	J	0.00027	0.010	mg/L	1	04/02/14 21:13
Cobalt	0.0026	J	0.000041	0.020	mg/L	1	04/02/14 21:13
Copper	0.0024	J	0.00053	0.0040	mg/L	1	04/02/14 21:13
Iron	17		0.0053	0.20	mg/L	1	04/02/14 21:13
Lead	0.00013	J	0.000051	0.0030	mg/L	1	04/02/14 21:13
Manganese	0.069		0.000054	0.050	mg/L	1	04/02/14 21:13
Nickel	0.0075	J	0.00025	0.020	mg/L	1	04/02/14 21:13
Selenium	0.00071	J	0.00064	0.0050	mg/L	1	04/02/14 21:13
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 21:13
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 21:13
Vanadium	0.0018	J	0.00016	0.0040	mg/L	1	04/02/14 21:13
Zinc	0.0020	J	0.00048	0.050	mg/L	1	04/02/14 21:13
<u>BatchID: 57103</u>							
Aluminum	0.014	J	0.0016	0.10	mg/L	2	04/08/14 23:20
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00019	J	0.000036	0.0020	mg/L	1	04/02/14 23:39
Arsenic	0.016		0.00058	0.0050	mg/L	1	04/02/14 23:39
Beryllium	0.00019	J	0.000082	0.0010	mg/L	1	04/08/14 12:46
Cadmium	0.00018	J	0.000045	0.0010	mg/L	1	04/08/14 12:46
Chromium	0.0027	J	0.00027	0.010	mg/L	1	04/08/14 12:46
Cobalt	0.0030	J	0.000041	0.020	mg/L	1	04/08/14 12:46
Copper	0.0020	J	0.00053	0.0040	mg/L	1	04/02/14 23:39
Iron	18		0.0053	0.20	mg/L	1	04/02/14 23:39
Lead	U		0.000051	0.0030	mg/L	1	04/02/14 23:39

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-009
Collection Date: 03/28/14 11:00 AM

Work Order: 14031379
Lab ID: 14031379-09
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Manganese	0.065		0.000054	0.050	mg/L	1	04/02/14 23:39
Nickel	0.0075	J	0.00025	0.020	mg/L	1	04/02/14 23:39
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 23:39
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 23:39
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 23:39
Vanadium	0.0016	J	0.00016	0.0040	mg/L	1	04/02/14 23:39
Zinc	0.0014	J	0.00048	0.050	mg/L	1	04/02/14 23:39
<u>BatchID: 57103</u>							
Aluminum	U		0.0016	0.10	mg/L	2	04/08/14 23:01
<u>BatchID: 57103</u>							
Barium	1.6		0.00063	1.0	mg/L	10	04/02/14 14:18
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/1/14		Analyst: RM	
<u>BatchID: 57082</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/01/14 23:10
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/01/14 23:10
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/01/14 23:10
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/01/14 23:10
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/01/14 23:10
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/01/14 23:10
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/01/14 23:10
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/01/14 23:10
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/01/14 23:10
2-Chlorophenol	U		0.32	10	µg/L	1	04/01/14 23:10
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/01/14 23:10
2-Methylphenol	U		0.20	10	µg/L	1	04/01/14 23:10
2-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 23:10
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/01/14 23:10
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/01/14 23:10
3-Nitroaniline	U		0.34	25	µg/L	1	04/01/14 23:10
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/01/14 23:10
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 23:10
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/01/14 23:10
4-Chloroaniline	U		0.32	10	µg/L	1	04/01/14 23:10
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/01/14 23:10
4-Methylphenol	U		0.20	10	µg/L	1	04/01/14 23:10
4-Nitroaniline	U		0.30	25	µg/L	1	04/01/14 23:10
4-Nitrophenol	U		0.51	25	µg/L	1	04/01/14 23:10
Acenaphthene	U		0.11	5.0	µg/L	1	04/01/14 23:10
Acenaphthylene	U		0.12	5.0	µg/L	1	04/01/14 23:10

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-009
Collection Date: 03/28/14 11:00 AM

Work Order: 14031379
Lab ID: 14031379-09
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetophenone	U		0.090	5.0	µg/L	1	04/01/14 23:10
Anthracene	U		0.72	5.0	µg/L	1	04/01/14 23:10
Atrazine	U		0.13	5.0	µg/L	1	04/01/14 23:10
Benzaldehyde	U		0.46	10	µg/L	1	04/01/14 23:10
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/01/14 23:10
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/01/14 23:10
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/01/14 23:10
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/01/14 23:10
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/01/14 23:10
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/01/14 23:10
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/01/14 23:10
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/01/14 23:10
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/01/14 23:10
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/01/14 23:10
Caprolactam	U		4.7	10	µg/L	1	04/01/14 23:10
Carbazole	U		0.16	10	µg/L	1	04/01/14 23:10
Chrysene	U		0.71	1.0	µg/L	1	04/01/14 23:10
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/01/14 23:10
Dibenzofuran	U		0.28	4.0	µg/L	1	04/01/14 23:10
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/01/14 23:10
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/01/14 23:10
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/01/14 23:10
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/01/14 23:10
Fluoranthene	U		0.77	1.0	µg/L	1	04/01/14 23:10
Fluorene	U		0.10	5.0	µg/L	1	04/01/14 23:10
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/01/14 23:10
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/01/14 23:10
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/01/14 23:10
Hexachloroethane	U		0.47	5.0	µg/L	1	04/01/14 23:10
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/01/14 23:10
Isophorone	U		0.30	5.0	µg/L	1	04/01/14 23:10
Naphthalene	U		0.12	5.0	µg/L	1	04/01/14 23:10
Nitrobenzene	U		0.33	3.0	µg/L	1	04/01/14 23:10
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/01/14 23:10
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/01/14 23:10
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/01/14 23:10
Phenanthrene	U		0.86	2.0	µg/L	1	04/01/14 23:10
Phenol	U		0.32	5.0	µg/L	1	04/01/14 23:10
Pyrene	U		0.65	5.0	µg/L	1	04/01/14 23:10
Surr: 2,4,6-Tribromophenol	91.2			32-115	%REC	1	04/01/14 23:10

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-009
Collection Date: 03/28/14 11:00 AM

Work Order: 14031379
Lab ID: 14031379-09
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 2-Fluorobiphenyl	72.9			32-100	%REC	1	04/01/14 23:10
Surr: 2-Fluorophenol	49.3			22-59	%REC	1	04/01/14 23:10
Surr: 4-Terphenyl-d14	82.1			23-112	%REC	1	04/01/14 23:10
Surr: Nitrobenzene-d5	85.6			31-93	%REC	1	04/01/14 23:10
Surr: Phenol-d6	26.8			13-36	%REC	1	04/01/14 23:10
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:57
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 02:57
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:57
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 02:57
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 02:57
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 02:57
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 02:57
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 02:57
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 02:57
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 02:57
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 02:57
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 02:57
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 02:57
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 02:57
2-Butanone	U		0.64	25	µg/L	1	04/01/14 02:57
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 02:57
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 02:57
Acetone	U		3.0	50	µg/L	1	04/01/14 02:57
Benzene	0.57	J	0.14	1.0	µg/L	1	04/01/14 02:57
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 02:57
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 02:57
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 02:57
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 02:57
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 02:57
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 02:57
Chloroethane	5.1		0.25	5.0	µg/L	1	04/01/14 02:57
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 02:57
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 02:57
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 02:57
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 02:57
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 02:57
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 02:57

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-009
Collection Date: 03/28/14 11:00 AM

Work Order: 14031379
Lab ID: 14031379-09
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 02:57
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 02:57
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 02:57
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 02:57
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 02:57
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 02:57
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 02:57
Styrene	U		0.12	1.0	µg/L	1	04/01/14 02:57
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 02:57
Toluene	U		0.13	1.0	µg/L	1	04/01/14 02:57
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 02:57
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 02:57
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 02:57
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 02:57
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 02:57
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 02:57
Surr: 1,2-Dichloroethane-d4	81.0			70-120	%REC	1	04/01/14 02:57
Surr: 4-Bromofluorobenzene	100			75-120	%REC	1	04/01/14 02:57
Surr: Dibromofluoromethane	94.6			85-115	%REC	1	04/01/14 02:57
Surr: Toluene-d8	93.4			85-120	%REC	1	04/01/14 02:57
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/2/14	Analyst: JB
BatchID: 57141							
Cyanide, Amenable	0.0067		0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-010
Collection Date: 03/28/14 12:00 PM

Work Order: 14031379
Lab ID: 14031379-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:04
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57157</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 16:34
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00020	J	0.000036	0.0020	mg/L	1	04/02/14 21:18
Arsenic	0.0066		0.00058	0.0050	mg/L	1	04/02/14 21:18
Beryllium	U		0.000082	0.0010	mg/L	1	04/08/14 13:36
Cadmium	U		0.000045	0.0010	mg/L	1	04/02/14 21:18
Chromium	0.0016	J	0.00027	0.010	mg/L	1	04/02/14 21:18
Cobalt	0.0030	J	0.000041	0.020	mg/L	1	04/02/14 21:18
Copper	0.0019	J	0.00053	0.0040	mg/L	1	04/02/14 21:18
Iron	24		0.0053	0.20	mg/L	1	04/02/14 21:18
Lead	0.0016	J	0.000051	0.0030	mg/L	1	04/02/14 21:18
Manganese	0.55		0.000054	0.050	mg/L	1	04/02/14 21:18
Nickel	0.0081	J	0.00025	0.020	mg/L	1	04/02/14 21:18
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 21:18
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 21:18
Thallium	U		0.000062	0.0020	mg/L	1	04/02/14 21:18
Vanadium	0.0021	J	0.00016	0.0040	mg/L	1	04/02/14 21:18
Zinc	0.0021	J	0.00048	0.050	mg/L	1	04/02/14 21:18
<u>BatchID: 57103</u>							
Aluminum	0.032	J	0.0016	0.10	mg/L	2	04/08/14 23:26
<u>BatchID: 57103</u>							
Barium	1.7		0.00063	1.0	mg/L	10	04/02/14 14:01
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57103</u>							
Antimony	0.00022	J	0.000036	0.0020	mg/L	1	04/02/14 23:55
Arsenic	0.0065		0.00058	0.0050	mg/L	1	04/02/14 23:55
Copper	0.0033	J	0.00053	0.0040	mg/L	1	04/02/14 23:55
Iron	24		0.0053	0.20	mg/L	1	04/02/14 23:55
Lead	0.00014	J	0.000051	0.0030	mg/L	1	04/02/14 23:55
Manganese	0.54		0.000054	0.050	mg/L	1	04/02/14 23:55
Nickel	0.0098	J	0.00025	0.020	mg/L	1	04/02/14 23:55
Selenium	U		0.00064	0.0050	mg/L	1	04/02/14 23:55

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-010
Collection Date: 03/28/14 12:00 PM

Work Order: 14031379
Lab ID: 14031379-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Silver	U		0.000042	0.00020	mg/L	1	04/02/14 23:55
Thallium	0.00024	J	0.000062	0.0020	mg/L	1	04/02/14 23:55
Vanadium	0.0018	J	0.00016	0.0040	mg/L	1	04/02/14 23:55
Zinc	0.0030	J	0.00048	0.050	mg/L	1	04/02/14 23:55
<u>BatchID: 57103</u>							
Aluminum	0.0020	J	0.0016	0.10	mg/L	2	04/09/14 00:41
Beryllium	U		0.00016	0.0020	mg/L	2	04/09/14 00:41
Cadmium	U		0.000090	0.0020	mg/L	2	04/09/14 00:41
Chromium	0.00079	J	0.00054	0.020	mg/L	2	04/09/14 00:41
Cobalt	0.0025	J	0.000082	0.040	mg/L	2	04/09/14 00:41
<u>BatchID: 57103</u>							
Barium	1.7		0.00063	1.0	mg/L	10	04/03/14 20:28
SEMI-VOLATILE ORGANIC COMPOUNDS		SW8270		Prep: SW3510 / 4/2/14		Analyst: RM	
<u>BatchID: 57129</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/03/14 03:47
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/03/14 03:47
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/03/14 03:47
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/03/14 03:47
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/03/14 03:47
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/03/14 03:47
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/03/14 03:47
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/03/14 03:47
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/03/14 03:47
2-Chlorophenol	U		0.32	10	µg/L	1	04/03/14 03:47
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/03/14 03:47
2-Methylphenol	U		0.20	10	µg/L	1	04/03/14 03:47
2-Nitroaniline	U		0.34	25	µg/L	1	04/03/14 03:47
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/03/14 03:47
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/03/14 03:47
3-Nitroaniline	U		0.34	25	µg/L	1	04/03/14 03:47
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/03/14 03:47
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/03/14 03:47
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/03/14 03:47
4-Chloroaniline	U		0.32	10	µg/L	1	04/03/14 03:47
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/03/14 03:47
4-Methylphenol	U		0.20	10	µg/L	1	04/03/14 03:47
4-Nitroaniline	U		0.30	25	µg/L	1	04/03/14 03:47
4-Nitrophenol	U		0.51	25	µg/L	1	04/03/14 03:47
Acenaphthene	U		0.11	5.0	µg/L	1	04/03/14 03:47

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-010
Collection Date: 03/28/14 12:00 PM

Work Order: 14031379
Lab ID: 14031379-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acenaphthylene	U		0.12	5.0	µg/L	1	04/03/14 03:47
Acetophenone	U		0.090	5.0	µg/L	1	04/03/14 03:47
Anthracene	U		0.72	5.0	µg/L	1	04/03/14 03:47
Atrazine	U		0.13	5.0	µg/L	1	04/03/14 03:47
Benzaldehyde	U		0.46	10	µg/L	1	04/03/14 03:47
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/03/14 03:47
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/03/14 03:47
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/03/14 03:47
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/03/14 03:47
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/03/14 03:47
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/03/14 03:47
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/03/14 03:47
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/03/14 03:47
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/03/14 03:47
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/03/14 03:47
Caprolactam	U		4.7	10	µg/L	1	04/03/14 03:47
Carbazole	U		0.16	10	µg/L	1	04/03/14 03:47
Chrysene	U		0.71	1.0	µg/L	1	04/03/14 03:47
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/03/14 03:47
Dibenzofuran	U		0.28	4.0	µg/L	1	04/03/14 03:47
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/03/14 03:47
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/03/14 03:47
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/03/14 03:47
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/03/14 03:47
Fluoranthene	U		0.77	1.0	µg/L	1	04/03/14 03:47
Fluorene	U		0.10	5.0	µg/L	1	04/03/14 03:47
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/03/14 03:47
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/03/14 03:47
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/03/14 03:47
Hexachloroethane	U		0.47	5.0	µg/L	1	04/03/14 03:47
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/03/14 03:47
Isophorone	U		0.30	5.0	µg/L	1	04/03/14 03:47
Naphthalene	U		0.12	5.0	µg/L	1	04/03/14 03:47
Nitrobenzene	U		0.33	3.0	µg/L	1	04/03/14 03:47
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/03/14 03:47
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/03/14 03:47
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/03/14 03:47
Phenanthrene	U		0.86	2.0	µg/L	1	04/03/14 03:47
Phenol	U		0.32	5.0	µg/L	1	04/03/14 03:47
Pyrene	U		0.65	5.0	µg/L	1	04/03/14 03:47

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-010
Collection Date: 03/28/14 12:00 PM

Work Order: 14031379
Lab ID: 14031379-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 2,4,6-Tribromophenol	91.9			32-115	%REC	1	04/03/14 03:47
Surr: 2-Fluorobiphenyl	73.3			32-100	%REC	1	04/03/14 03:47
Surr: 2-Fluorophenol	43.6			22-59	%REC	1	04/03/14 03:47
Surr: 4-Terphenyl-d14	78.4			23-112	%REC	1	04/03/14 03:47
Surr: Nitrobenzene-d5	87.7			31-93	%REC	1	04/03/14 03:47
Surr: Phenol-d6	25.6			13-36	%REC	1	04/03/14 03:47

VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: AK

BatchID: R138110

1,1,1-Trichloroethane	U	0.11	1.0	µg/L	1	04/01/14 03:22
1,1,2,2-Tetrachloroethane	U	0.21	1.0	µg/L	1	04/01/14 03:22
1,1,2-Trichloroethane	U	0.11	1.0	µg/L	1	04/01/14 03:22
1,1,2-Trichlorotrifluoroethane	U	0.40	1.0	µg/L	1	04/01/14 03:22
1,1-Dichloroethane	U	0.14	1.0	µg/L	1	04/01/14 03:22
1,1-Dichloroethene	U	0.12	1.0	µg/L	1	04/01/14 03:22
1,2,4-Trichlorobenzene	U	0.096	5.0	µg/L	1	04/01/14 03:22
1,2-Dibromo-3-chloropropane	U	0.35	1.0	µg/L	1	04/01/14 03:22
1,2-Dibromoethane	U	0.14	1.0	µg/L	1	04/01/14 03:22
1,2-Dichlorobenzene	U	0.17	1.0	µg/L	1	04/01/14 03:22
1,2-Dichloroethane	U	0.11	1.0	µg/L	1	04/01/14 03:22
1,2-Dichloropropane	U	0.12	1.0	µg/L	1	04/01/14 03:22
1,3-Dichlorobenzene	U	0.15	1.0	µg/L	1	04/01/14 03:22
1,4-Dichlorobenzene	U	0.15	1.0	µg/L	1	04/01/14 03:22
2-Butanone	U	0.64	25	µg/L	1	04/01/14 03:22
2-Hexanone	U	0.19	50	µg/L	1	04/01/14 03:22
4-Methyl-2-pentanone	U	0.20	50	µg/L	1	04/01/14 03:22
Acetone	U	3.0	50	µg/L	1	04/01/14 03:22
Benzene	8.2	0.14	1.0	µg/L	1	04/01/14 03:22
Bromodichloromethane	U	0.22	1.0	µg/L	1	04/01/14 03:22
Bromoform	U	0.18	1.0	µg/L	1	04/01/14 03:22
Bromomethane	U	0.38	5.0	µg/L	1	04/01/14 03:22
Carbon disulfide	U	0.26	5.0	µg/L	1	04/01/14 03:22
Carbon tetrachloride	U	0.16	1.0	µg/L	1	04/01/14 03:22
Chlorobenzene	24	0.12	1.0	µg/L	1	04/01/14 03:22
Chloroethane	U	0.25	5.0	µg/L	1	04/01/14 03:22
Chloroform	U	0.15	1.0	µg/L	1	04/01/14 03:22
Chloromethane	U	0.29	5.0	µg/L	1	04/01/14 03:22
cis-1,2-Dichloroethene	U	0.10	1.0	µg/L	1	04/01/14 03:22
cis-1,3-Dichloropropene	U	0.097	1.0	µg/L	1	04/01/14 03:22
Cyclohexane	U	0.20	1.0	µg/L	1	04/01/14 03:22

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-010
Collection Date: 03/28/14 12:00 PM

Work Order: 14031379
Lab ID: 14031379-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 03:22
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 03:22
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 03:22
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 03:22
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 03:22
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 03:22
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 03:22
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 03:22
Styrene	U		0.12	1.0	µg/L	1	04/01/14 03:22
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 03:22
Toluene	U		0.13	1.0	µg/L	1	04/01/14 03:22
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 03:22
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 03:22
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 03:22
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 03:22
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 03:22
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 03:22
Surr: 1,2-Dichloroethane-d4	82.2			70-120	%REC	1	04/01/14 03:22
Surr: 4-Bromofluorobenzene	102			75-120	%REC	1	04/01/14 03:22
Surr: Dibromofluoromethane	94.4			85-115	%REC	1	04/01/14 03:22
Surr: Toluene-d8	94.6			85-120	%REC	1	04/01/14 03:22
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/2/14	Analyst: JB
BatchID: <u>57141</u>							
Cyanide, Amenable	0.0024	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-011
Collection Date: 03/28/14 12:15 PM

Work Order: 14031379
Lab ID: 14031379-11
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57173</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 14:55
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57173</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 14:57
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57102</u>							
Aluminum	0.045	J	0.00078	0.050	mg/L	1	04/01/14 17:09
Antimony	0.00023	J	0.000036	0.0020	mg/L	1	04/01/14 17:09
Arsenic	0.0071		0.00058	0.0050	mg/L	1	04/01/14 17:09
Beryllium	U		0.000082	0.0010	mg/L	1	04/08/14 13:43
Cadmium	U		0.000045	0.0010	mg/L	1	04/01/14 17:09
Chromium	0.0016	J	0.00027	0.010	mg/L	1	04/01/14 17:09
Cobalt	0.0029	J	0.000041	0.020	mg/L	1	04/01/14 17:09
Copper	0.0015	J	0.00053	0.0040	mg/L	1	04/01/14 17:09
Iron	25		0.0053	0.20	mg/L	1	04/01/14 17:09
Lead	0.0017	J	0.000051	0.0030	mg/L	1	04/01/14 17:09
Manganese	0.55		0.000054	0.050	mg/L	1	04/01/14 17:09
Nickel	0.0079	J	0.00025	0.020	mg/L	1	04/01/14 17:09
Selenium	0.00084	J	0.00064	0.0050	mg/L	1	04/01/14 17:09
Silver	U		0.000042	0.00020	mg/L	1	04/01/14 17:09
Thallium	U		0.000062	0.0020	mg/L	1	04/01/14 17:09
Vanadium	0.0023	J	0.00016	0.0040	mg/L	1	04/01/14 17:09
Zinc	0.0021	J	0.00048	0.050	mg/L	1	04/01/14 17:09
<u>BatchID: 57102</u>							
Barium	1.8		0.00063	1.0	mg/L	10	04/02/14 14:07
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57102</u>							
Aluminum	0.0047	J	0.00078	0.050	mg/L	1	04/01/14 17:48
Antimony	0.00021	J	0.000036	0.0020	mg/L	1	04/01/14 17:48
Arsenic	0.0068		0.00058	0.0050	mg/L	1	04/01/14 17:48
Cadmium	U		0.000045	0.0010	mg/L	1	04/01/14 17:48
Cobalt	0.0030	J	0.000041	0.020	mg/L	1	04/01/14 17:48
Copper	0.0011	J	0.00053	0.0040	mg/L	1	04/01/14 17:48
Iron	23		0.0053	0.20	mg/L	1	04/01/14 17:48
Lead	0.00014	J	0.000051	0.0030	mg/L	1	04/01/14 17:48
Manganese	0.53		0.000054	0.050	mg/L	1	04/01/14 17:48

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-011
Collection Date: 03/28/14 12:15 PM

Work Order: 14031379
Lab ID: 14031379-11
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Nickel	0.0080	J	0.00025	0.020	mg/L	1	04/01/14 17:48
Selenium	0.00083	J	0.00064	0.0050	mg/L	1	04/01/14 17:48
Silver	U		0.000042	0.00020	mg/L	1	04/01/14 17:48
Thallium	U		0.000062	0.0020	mg/L	1	04/01/14 17:48
Vanadium	0.0019	J	0.00016	0.0040	mg/L	1	04/01/14 17:48
Zinc	U		0.00048	0.050	mg/L	1	04/01/14 17:48
<u>BatchID: 57102</u>							
Beryllium	U		0.00016	0.0020	mg/L	2	04/09/14 00:47
Chromium	U		0.00054	0.020	mg/L	2	04/09/14 00:47
<u>BatchID: 57102</u>							
Barium	1.7		0.00063	1.0	mg/L	10	04/03/14 20:34
SEMI-VOLATILE ORGANIC COMPOUNDS		SW8270		Prep: SW3510 / 4/2/14		Analyst: RM	
<u>BatchID: 57129</u>							
1,1`-Biphenyl	U		0.095	10	µg/L	1	04/03/14 04:07
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/03/14 04:07
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/03/14 04:07
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/03/14 04:07
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/03/14 04:07
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/03/14 04:07
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/03/14 04:07
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/03/14 04:07
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/03/14 04:07
2-Chlorophenol	U		0.32	10	µg/L	1	04/03/14 04:07
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/03/14 04:07
2-Methylphenol	U		0.20	10	µg/L	1	04/03/14 04:07
2-Nitroaniline	U		0.34	25	µg/L	1	04/03/14 04:07
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/03/14 04:07
3,3`-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/03/14 04:07
3-Nitroaniline	U		0.34	25	µg/L	1	04/03/14 04:07
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/03/14 04:07
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/03/14 04:07
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/03/14 04:07
4-Chloroaniline	U		0.32	10	µg/L	1	04/03/14 04:07
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/03/14 04:07
4-Methylphenol	U		0.20	10	µg/L	1	04/03/14 04:07
4-Nitroaniline	U		0.30	25	µg/L	1	04/03/14 04:07
4-Nitrophenol	U		0.51	25	µg/L	1	04/03/14 04:07
Acenaphthene	U		0.11	5.0	µg/L	1	04/03/14 04:07
Acenaphthylene	U		0.12	5.0	µg/L	1	04/03/14 04:07

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-011
Collection Date: 03/28/14 12:15 PM

Work Order: 14031379
Lab ID: 14031379-11
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetophenone	U		0.090	5.0	µg/L	1	04/03/14 04:07
Anthracene	U		0.72	5.0	µg/L	1	04/03/14 04:07
Atrazine	U		0.13	5.0	µg/L	1	04/03/14 04:07
Benzaldehyde	U		0.46	10	µg/L	1	04/03/14 04:07
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/03/14 04:07
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/03/14 04:07
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/03/14 04:07
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/03/14 04:07
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/03/14 04:07
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/03/14 04:07
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/03/14 04:07
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/03/14 04:07
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/03/14 04:07
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/03/14 04:07
Caprolactam	U		4.7	10	µg/L	1	04/03/14 04:07
Carbazole	U		0.16	10	µg/L	1	04/03/14 04:07
Chrysene	U		0.71	1.0	µg/L	1	04/03/14 04:07
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/03/14 04:07
Dibenzofuran	U		0.28	4.0	µg/L	1	04/03/14 04:07
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/03/14 04:07
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/03/14 04:07
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/03/14 04:07
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/03/14 04:07
Fluoranthene	U		0.77	1.0	µg/L	1	04/03/14 04:07
Fluorene	U		0.10	5.0	µg/L	1	04/03/14 04:07
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/03/14 04:07
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/03/14 04:07
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/03/14 04:07
Hexachloroethane	U		0.47	5.0	µg/L	1	04/03/14 04:07
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/03/14 04:07
Isophorone	U		0.30	5.0	µg/L	1	04/03/14 04:07
Naphthalene	U		0.12	5.0	µg/L	1	04/03/14 04:07
Nitrobenzene	U		0.33	3.0	µg/L	1	04/03/14 04:07
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/03/14 04:07
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/03/14 04:07
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/03/14 04:07
Phenanthrene	U		0.86	2.0	µg/L	1	04/03/14 04:07
Phenol	U		0.32	5.0	µg/L	1	04/03/14 04:07
Pyrene	U		0.65	5.0	µg/L	1	04/03/14 04:07
Surr: 2,4,6-Tribromophenol	88.5			32-115	%REC	1	04/03/14 04:07

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-011
Collection Date: 03/28/14 12:15 PM

Work Order: 14031379
Lab ID: 14031379-11
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 2-Fluorobiphenyl	70.7			32-100	%REC	1	04/03/14 04:07
Surr: 2-Fluorophenol	44.2			22-59	%REC	1	04/03/14 04:07
Surr: 4-Terphenyl-d14	65.7			23-112	%REC	1	04/03/14 04:07
Surr: Nitrobenzene-d5	87.6			31-93	%REC	1	04/03/14 04:07
Surr: Phenol-d6	27.9			13-36	%REC	1	04/03/14 04:07

VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: AK

BatchID: R138110

1,1,1-Trichloroethane	U	0.11	1.0	µg/L	1	04/01/14 03:48
1,1,2,2-Tetrachloroethane	U	0.21	1.0	µg/L	1	04/01/14 03:48
1,1,2-Trichloroethane	U	0.11	1.0	µg/L	1	04/01/14 03:48
1,1,2-Trichlorotrifluoroethane	U	0.40	1.0	µg/L	1	04/01/14 03:48
1,1-Dichloroethane	U	0.14	1.0	µg/L	1	04/01/14 03:48
1,1-Dichloroethene	U	0.12	1.0	µg/L	1	04/01/14 03:48
1,2,4-Trichlorobenzene	U	0.096	5.0	µg/L	1	04/01/14 03:48
1,2-Dibromo-3-chloropropane	U	0.35	1.0	µg/L	1	04/01/14 03:48
1,2-Dibromoethane	U	0.14	1.0	µg/L	1	04/01/14 03:48
1,2-Dichlorobenzene	U	0.17	1.0	µg/L	1	04/01/14 03:48
1,2-Dichloroethane	U	0.11	1.0	µg/L	1	04/01/14 03:48
1,2-Dichloropropane	U	0.12	1.0	µg/L	1	04/01/14 03:48
1,3-Dichlorobenzene	U	0.15	1.0	µg/L	1	04/01/14 03:48
1,4-Dichlorobenzene	U	0.15	1.0	µg/L	1	04/01/14 03:48
2-Butanone	U	0.64	25	µg/L	1	04/01/14 03:48
2-Hexanone	U	0.19	50	µg/L	1	04/01/14 03:48
4-Methyl-2-pentanone	U	0.20	50	µg/L	1	04/01/14 03:48
Acetone	U	3.0	50	µg/L	1	04/01/14 03:48
Benzene	8.2	0.14	1.0	µg/L	1	04/01/14 03:48
Bromodichloromethane	U	0.22	1.0	µg/L	1	04/01/14 03:48
Bromoform	U	0.18	1.0	µg/L	1	04/01/14 03:48
Bromomethane	U	0.38	5.0	µg/L	1	04/01/14 03:48
Carbon disulfide	U	0.26	5.0	µg/L	1	04/01/14 03:48
Carbon tetrachloride	U	0.16	1.0	µg/L	1	04/01/14 03:48
Chlorobenzene	25	0.12	1.0	µg/L	1	04/01/14 03:48
Chloroethane	U	0.25	5.0	µg/L	1	04/01/14 03:48
Chloroform	U	0.15	1.0	µg/L	1	04/01/14 03:48
Chloromethane	U	0.29	5.0	µg/L	1	04/01/14 03:48
cis-1,2-Dichloroethene	U	0.10	1.0	µg/L	1	04/01/14 03:48
cis-1,3-Dichloropropene	U	0.097	1.0	µg/L	1	04/01/14 03:48
Cyclohexane	U	0.20	1.0	µg/L	1	04/01/14 03:48
Dibromochloromethane	U	0.12	5.0	µg/L	1	04/01/14 03:48

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-011
Collection Date: 03/28/14 12:15 PM

Work Order: 14031379
Lab ID: 14031379-11
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 03:48
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 03:48
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/01/14 03:48
Methyl acetate	U		0.76	10	µg/L	1	04/01/14 03:48
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/01/14 03:48
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/01/14 03:48
Methylene chloride	U		0.75	5.0	µg/L	1	04/01/14 03:48
Styrene	U		0.12	1.0	µg/L	1	04/01/14 03:48
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/01/14 03:48
Toluene	U		0.13	1.0	µg/L	1	04/01/14 03:48
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 03:48
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/01/14 03:48
Trichloroethene	U		0.16	1.0	µg/L	1	04/01/14 03:48
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/01/14 03:48
Vinyl chloride	U		0.15	1.0	µg/L	1	04/01/14 03:48
Xylenes, Total	U		0.30	3.0	µg/L	1	04/01/14 03:48
Surr: 1,2-Dichloroethane-d4	77.9			70-120	%REC	1	04/01/14 03:48
Surr: 4-Bromofluorobenzene	101			75-120	%REC	1	04/01/14 03:48
Surr: Dibromofluoromethane	91.5			85-115	%REC	1	04/01/14 03:48
Surr: Toluene-d8	94.4			85-120	%REC	1	04/01/14 03:48
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: 57158							
Cyanide, Amenable	0.0041	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-012
Collection Date: 03/28/14 01:30 PM

Work Order: 14031379
Lab ID: 14031379-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57173</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 15:00
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
<u>BatchID: 57173</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 13:43
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57102</u>							
Aluminum	0.051		0.00078	0.050	mg/L	1	04/01/14 17:15
Antimony	0.000094	J	0.000036	0.0020	mg/L	1	04/01/14 17:15
Arsenic	U		0.00058	0.0050	mg/L	1	04/01/14 17:15
Barium	0.014	J	0.000063	0.10	mg/L	1	04/01/14 17:15
Beryllium	0.00015	J	0.000082	0.0010	mg/L	1	04/08/14 12:27
Cadmium	U		0.000045	0.0010	mg/L	1	04/01/14 17:15
Chromium	U		0.00027	0.010	mg/L	1	04/02/14 13:01
Cobalt	0.00017	J	0.000041	0.020	mg/L	1	04/01/14 17:15
Copper	0.065		0.00053	0.0040	mg/L	1	04/01/14 17:15
Iron	0.017	J	0.0053	0.20	mg/L	1	04/01/14 17:15
Lead	0.00016	J	0.000051	0.0030	mg/L	1	04/01/14 17:15
Manganese	0.0017	J	0.000054	0.050	mg/L	1	04/01/14 17:15
Nickel	0.0013	J	0.00025	0.020	mg/L	1	04/01/14 17:15
Selenium	U		0.00064	0.0050	mg/L	1	04/01/14 17:15
Silver	U		0.000042	0.00020	mg/L	1	04/01/14 17:15
Thallium	U		0.000062	0.0020	mg/L	1	04/01/14 17:15
Vanadium	U		0.00016	0.0040	mg/L	1	04/01/14 17:15
Zinc	0.0053	J	0.00048	0.050	mg/L	1	04/01/14 17:15
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/1/14	Analyst: RH
<u>BatchID: 57102</u>							
Aluminum	0.15		0.00078	0.050	mg/L	1	04/01/14 17:53
Antimony	0.000048	J	0.000036	0.0020	mg/L	1	04/01/14 17:53
Arsenic	U		0.00058	0.0050	mg/L	1	04/01/14 17:53
Barium	0.0075	J	0.000063	0.10	mg/L	1	04/01/14 17:53
Cadmium	U		0.000045	0.0010	mg/L	1	04/01/14 17:53
Chromium	U		0.00027	0.010	mg/L	1	04/03/14 02:00
Cobalt	0.000076	J	0.000041	0.020	mg/L	1	04/01/14 17:53
Copper	0.053		0.00053	0.0040	mg/L	1	04/01/14 17:53
Iron	0.029	J	0.0053	0.20	mg/L	1	04/01/14 17:53
Lead	0.00037	J	0.000051	0.0030	mg/L	1	04/01/14 17:53

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-012
Collection Date: 03/28/14 01:30 PM

Work Order: 14031379
Lab ID: 14031379-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Manganese	0.0012	J	0.000054	0.050	mg/L	1	04/01/14 17:53
Nickel	0.00057	J	0.00025	0.020	mg/L	1	04/01/14 17:53
Selenium		U	0.00064	0.0050	mg/L	1	04/01/14 17:53
Silver		U	0.000042	0.00020	mg/L	1	04/01/14 17:53
Thallium		U	0.000062	0.0020	mg/L	1	04/01/14 17:53
Vanadium		U	0.00016	0.0040	mg/L	1	04/01/14 17:53
Zinc	0.0021	J	0.00048	0.050	mg/L	1	04/01/14 17:53
BatchID: 57102							
Beryllium	0.091		0.00016	0.0020	mg/L	2	04/09/14 00:53
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/2/14		Analyst: RM	
BatchID: 57129							
1,1'-Biphenyl		U	0.095	10	µg/L	1	04/03/14 04:28
2,4,5-Trichlorophenol		U	0.25	5.0	µg/L	1	04/03/14 04:28
2,4,6-Trichlorophenol		U	0.27	4.0	µg/L	1	04/03/14 04:28
2,4-Dichlorophenol		U	0.22	10	µg/L	1	04/03/14 04:28
2,4-Dimethylphenol		U	1.8	5.0	µg/L	1	04/03/14 04:28
2,4-Dinitrophenol		U	0.67	25	µg/L	1	04/03/14 04:28
2,4-Dinitrotoluene		U	0.27	5.0	µg/L	1	04/03/14 04:28
2,6-Dinitrotoluene		U	0.23	5.0	µg/L	1	04/03/14 04:28
2-Chloronaphthalene		U	0.13	5.0	µg/L	1	04/03/14 04:28
2-Chlorophenol		U	0.32	10	µg/L	1	04/03/14 04:28
2-Methylnaphthalene		U	0.13	5.0	µg/L	1	04/03/14 04:28
2-Methylphenol		U	0.20	10	µg/L	1	04/03/14 04:28
2-Nitroaniline		U	0.34	25	µg/L	1	04/03/14 04:28
2-Nitrophenol		U	0.28	5.0	µg/L	1	04/03/14 04:28
3,3'-Dichlorobenzidine		U	3.9	1.0	µg/L	1	04/03/14 04:28
3-Nitroaniline		U	0.34	25	µg/L	1	04/03/14 04:28
4,6-Dinitro-2-methylphenol		U	1.2	20	µg/L	1	04/03/14 04:28
4-Bromophenyl phenyl ether		U	0.23	5.0	µg/L	1	04/03/14 04:28
4-Chloro-3-methylphenol		U	0.31	5.0	µg/L	1	04/03/14 04:28
4-Chloroaniline		U	0.32	10	µg/L	1	04/03/14 04:28
4-Chlorophenyl phenyl ether		U	0.23	5.0	µg/L	1	04/03/14 04:28
4-Methylphenol		U	0.20	10	µg/L	1	04/03/14 04:28
4-Nitroaniline		U	0.30	25	µg/L	1	04/03/14 04:28
4-Nitrophenol		U	0.51	25	µg/L	1	04/03/14 04:28
Acenaphthene		U	0.11	5.0	µg/L	1	04/03/14 04:28
Acenaphthylene		U	0.12	5.0	µg/L	1	04/03/14 04:28
Acetophenone		U	0.090	5.0	µg/L	1	04/03/14 04:28
Anthracene		U	0.72	5.0	µg/L	1	04/03/14 04:28

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-012
Collection Date: 03/28/14 01:30 PM

Work Order: 14031379
Lab ID: 14031379-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/03/14 04:28
Benzaldehyde	U		0.46	10	µg/L	1	04/03/14 04:28
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/03/14 04:28
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/03/14 04:28
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/03/14 04:28
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/03/14 04:28
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/03/14 04:28
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/03/14 04:28
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/03/14 04:28
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/03/14 04:28
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/03/14 04:28
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/03/14 04:28
Caprolactam	U		4.7	10	µg/L	1	04/03/14 04:28
Carbazole	U		0.16	10	µg/L	1	04/03/14 04:28
Chrysene	U		0.71	1.0	µg/L	1	04/03/14 04:28
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/03/14 04:28
Dibenzofuran	U		0.28	4.0	µg/L	1	04/03/14 04:28
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/03/14 04:28
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/03/14 04:28
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/03/14 04:28
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/03/14 04:28
Fluoranthene	U		0.77	1.0	µg/L	1	04/03/14 04:28
Fluorene	U		0.10	5.0	µg/L	1	04/03/14 04:28
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/03/14 04:28
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/03/14 04:28
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/03/14 04:28
Hexachloroethane	U		0.47	5.0	µg/L	1	04/03/14 04:28
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/03/14 04:28
Isophorone	U		0.30	5.0	µg/L	1	04/03/14 04:28
Naphthalene	U		0.12	5.0	µg/L	1	04/03/14 04:28
Nitrobenzene	U		0.33	3.0	µg/L	1	04/03/14 04:28
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/03/14 04:28
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/03/14 04:28
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/03/14 04:28
Phenanthrene	U		0.86	2.0	µg/L	1	04/03/14 04:28
Phenol	U		0.32	5.0	µg/L	1	04/03/14 04:28
Pyrene	U		0.65	5.0	µg/L	1	04/03/14 04:28
Surr: 2,4,6-Tribromophenol	81.3			32-115	%REC	1	04/03/14 04:28
Surr: 2-Fluorobiphenyl	72.9			32-100	%REC	1	04/03/14 04:28
Surr: 2-Fluorophenol	40.7			22-59	%REC	1	04/03/14 04:28

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-012
Collection Date: 03/28/14 01:30 PM

Work Order: 14031379
Lab ID: 14031379-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	86.8			23-112	%REC	1	04/03/14 04:28
Surr: Nitrobenzene-d5	88.2			31-93	%REC	1	04/03/14 04:28
Surr: Phenol-d6	22.4			13-36	%REC	1	04/03/14 04:28
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R138110							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 04:13
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/01/14 04:13
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/01/14 04:13
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/01/14 04:13
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/01/14 04:13
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/01/14 04:13
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/01/14 04:13
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/01/14 04:13
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/01/14 04:13
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/01/14 04:13
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/01/14 04:13
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/01/14 04:13
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 04:13
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/01/14 04:13
2-Butanone	U		0.64	25	µg/L	1	04/01/14 04:13
2-Hexanone	U		0.19	50	µg/L	1	04/01/14 04:13
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/01/14 04:13
Acetone	U		3.0	50	µg/L	1	04/01/14 04:13
Benzene	U		0.14	1.0	µg/L	1	04/01/14 04:13
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/01/14 04:13
Bromoform	U		0.18	1.0	µg/L	1	04/01/14 04:13
Bromomethane	U		0.38	5.0	µg/L	1	04/01/14 04:13
Carbon disulfide	U		0.26	5.0	µg/L	1	04/01/14 04:13
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/01/14 04:13
Chlorobenzene	U		0.12	1.0	µg/L	1	04/01/14 04:13
Chloroethane	U		0.25	5.0	µg/L	1	04/01/14 04:13
Chloroform	U		0.15	1.0	µg/L	1	04/01/14 04:13
Chloromethane	U		0.29	5.0	µg/L	1	04/01/14 04:13
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/01/14 04:13
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/01/14 04:13
Cyclohexane	U		0.20	1.0	µg/L	1	04/01/14 04:13
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/01/14 04:13
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/01/14 04:13
Ethylbenzene	U		0.12	1.0	µg/L	1	04/01/14 04:13

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-032814-ACN-012
Collection Date: 03/28/14 01:30 PM

Work Order: 14031379
Lab ID: 14031379-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene		U	0.11	5.0	µg/L	1	04/01/14 04:13
Methyl acetate		U	0.76	10	µg/L	1	04/01/14 04:13
Methyl tert-butyl ether		U	0.28	5.0	µg/L	1	04/01/14 04:13
Methylcyclohexane		U	0.19	1.0	µg/L	1	04/01/14 04:13
Methylene chloride		U	0.75	5.0	µg/L	1	04/01/14 04:13
Styrene		U	0.12	1.0	µg/L	1	04/01/14 04:13
Tetrachloroethene		U	0.098	1.0	µg/L	1	04/01/14 04:13
Toluene		U	0.13	1.0	µg/L	1	04/01/14 04:13
trans-1,2-Dichloroethene		U	0.12	1.0	µg/L	1	04/01/14 04:13
trans-1,3-Dichloropropene		U	0.093	1.0	µg/L	1	04/01/14 04:13
Trichloroethene		U	0.16	1.0	µg/L	1	04/01/14 04:13
Trichlorofluoromethane		U	0.22	1.0	µg/L	1	04/01/14 04:13
Vinyl chloride		U	0.15	1.0	µg/L	1	04/01/14 04:13
Xylenes, Total		U	0.30	3.0	µg/L	1	04/01/14 04:13
Surr: 1,2-Dichloroethane-d4	82.2			70-120	%REC	1	04/01/14 04:13
Surr: 4-Bromofluorobenzene	97.4			75-120	%REC	1	04/01/14 04:13
Surr: Dibromofluoromethane	93.8			85-115	%REC	1	04/01/14 04:13
Surr: Toluene-d8	93.4			85-120	%REC	1	04/01/14 04:13
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/2/14		Analyst: JB
BatchID: 57158							
Cyanide, Amenable	0.0014	J	0.0010	0.0050	mg/L	1	04/03/14 14:05

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 03/26/14

Work Order: 14031379
Lab ID: 14031379-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: AK
<u>BatchID: R138110</u>							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	03/31/14 20:14
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	03/31/14 20:14
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	03/31/14 20:14
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	03/31/14 20:14
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	03/31/14 20:14
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	03/31/14 20:14
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	03/31/14 20:14
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	03/31/14 20:14
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	03/31/14 20:14
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	03/31/14 20:14
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	03/31/14 20:14
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	03/31/14 20:14
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	03/31/14 20:14
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	03/31/14 20:14
2-Butanone	U		0.64	25	µg/L	1	03/31/14 20:14
2-Hexanone	U		0.19	50	µg/L	1	03/31/14 20:14
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	03/31/14 20:14
Acetone	U		3.0	50	µg/L	1	03/31/14 20:14
Benzene	U		0.14	1.0	µg/L	1	03/31/14 20:14
Bromodichloromethane	U		0.22	1.0	µg/L	1	03/31/14 20:14
Bromoform	U		0.18	1.0	µg/L	1	03/31/14 20:14
Bromomethane	U		0.38	5.0	µg/L	1	03/31/14 20:14
Carbon disulfide	U		0.26	5.0	µg/L	1	03/31/14 20:14
Carbon tetrachloride	U		0.16	1.0	µg/L	1	03/31/14 20:14
Chlorobenzene	U		0.12	1.0	µg/L	1	03/31/14 20:14
Chloroethane	U		0.25	5.0	µg/L	1	03/31/14 20:14
Chloroform	U		0.15	1.0	µg/L	1	03/31/14 20:14
Chloromethane	U		0.29	5.0	µg/L	1	03/31/14 20:14
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	03/31/14 20:14
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	03/31/14 20:14
Cyclohexane	U		0.20	1.0	µg/L	1	03/31/14 20:14
Dibromochloromethane	U		0.12	5.0	µg/L	1	03/31/14 20:14
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	03/31/14 20:14
Ethylbenzene	U		0.12	1.0	µg/L	1	03/31/14 20:14
Isopropylbenzene	U		0.11	5.0	µg/L	1	03/31/14 20:14
Methyl acetate	U		0.76	10	µg/L	1	03/31/14 20:14
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	03/31/14 20:14

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

ALS Group USA, Corp

Date: 10-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 03/26/14

Work Order: 14031379
Lab ID: 14031379-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	1.0	µg/L	1	03/31/14 20:14
Methylene chloride	1.4	J	0.75	5.0	µg/L	1	03/31/14 20:14
Styrene	U		0.12	1.0	µg/L	1	03/31/14 20:14
Tetrachloroethene	U		0.098	1.0	µg/L	1	03/31/14 20:14
Toluene	U		0.13	1.0	µg/L	1	03/31/14 20:14
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	03/31/14 20:14
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	03/31/14 20:14
Trichloroethene	U		0.16	1.0	µg/L	1	03/31/14 20:14
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	03/31/14 20:14
Vinyl chloride	U		0.15	1.0	µg/L	1	03/31/14 20:14
Xylenes, Total	U		0.30	3.0	µg/L	1	03/31/14 20:14
Surr: 1,2-Dichloroethane-d4	82.6			70-120	%REC	1	03/31/14 20:14
Surr: 4-Bromofluorobenzene	98.5			75-120	%REC	1	03/31/14 20:14
Surr: Dibromofluoromethane	95.4			85-115	%REC	1	03/31/14 20:14
Surr: Toluene-d8	94.6			85-120	%REC	1	03/31/14 20:14

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

Client: The Mannik & Smith Group, Inc.

Work Order: 14031379

Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57157

Instrument ID HG1

Method: SW7470

MBLK		Sample ID: MBLK-57157-57157				Units: mg/L		Analysis Date: 04/04/14 03:27 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2700014		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS		Sample ID: LCS-57157-57157				Units: mg/L		Analysis Date: 04/04/14 03:29 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2700015		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00203 0.00020 0.002 0 102 80-120 0

MS		Sample ID: 14031379-02CMS				Units: mg/L		Analysis Date: 04/04/14 03:43 PM		
Client ID: W-R2330012-032614-ACN-002		Run ID: HG1_140404A				SeqNo: 2700029		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002206 0.00020 0.002 -0.000027 112 75-125 0

MSD		Sample ID: 14031379-02CMSD				Units: mg/L		Analysis Date: 04/04/14 03:46 PM		
Client ID: W-R2330012-032614-ACN-002		Run ID: HG1_140404A				SeqNo: 2700030		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002212 0.00020 0.002 -0.000027 112 75-125 0.002206 0.272 20

The following samples were analyzed in this batch:

14031379-01C	14031379-01D	14031379-02C
14031379-02D	14031379-03C	14031379-03D
14031379-04C	14031379-04D	14031379-05C
14031379-05D	14031379-06C	14031379-06D
14031379-07C	14031379-07D	14031379-08C
14031379-08D	14031379-09C	14031379-09D
14031379-10C	14031379-10D	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57173** Instrument ID **HG1** Method: **SW7470**

MBLK		Sample ID: MBLK-57173-57173				Units: mg/L		Analysis Date: 04/03/14 04:32 PM		
Client ID:		Run ID: HG1_140403A				SeqNo: 2699509		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS		Sample ID: LCS-57173-57173				Units: mg/L		Analysis Date: 04/03/14 04:34 PM		
Client ID:		Run ID: HG1_140403A				SeqNo: 2699510		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001853 0.00020 0.002 0 92.6 80-120 0

MS		Sample ID: 14031379-12DMS				Units: mg/L		Analysis Date: 04/04/14 01:45 PM		
Client ID: W-R2330012-032814-ACN-012		Run ID: HG1_140404A				SeqNo: 2699626		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002171 0.00020 0.002 -0.000035 110 75-125 0

MSD		Sample ID: 14031379-12DMSD				Units: mg/L		Analysis Date: 04/04/14 01:48 PM		
Client ID: W-R2330012-032814-ACN-012		Run ID: HG1_140404A				SeqNo: 2699627		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002178 0.00020 0.002 -0.000035 111 75-125 0.002171 0.322 20

The following samples were analyzed in this batch:

14031379-11C	14031379-11D	14031379-12C
14031379-12D		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57102** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK		Sample ID: MBLK-57102-57102				Units: mg/L		Analysis Date: 04/01/14 04:42 PM		
Client ID:		Run ID: ICPMS2_140401A		SeqNo: 2694846		Prep Date: 04/01/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	U	0.0050								
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

MBLK					Sample ID: MBLK-57102-57102					Units:mg/L			Analysis Date: 04/02/14 05:50 PM		
Client ID:				Run ID: ICPMS2_140402A				SeqNo: 2697093			Prep Date: 04/01/14			DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Beryllium				U		0.0020									

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57102** Instrument ID **ICPMS2** Method: **SW6020A**

LCS		Sample ID: LCS-57102-57102				Units: mg/L		Analysis Date: 04/01/14 04:47 PM		
Client ID:		Run ID: ICPMS2_140401A				SeqNo: 2694847		Prep Date: 04/01/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08612	0.010	0.1	0	86.1	80-120	0			
Antimony	0.09438	0.0050	0.1	0	94.4	80-120	0			
Arsenic	0.09421	0.0050	0.1	0	94.2	80-120	0			
Barium	0.09361	0.0050	0.1	0	93.6	80-120	0			
Cadmium	0.09178	0.0020	0.1	0	91.8	80-120	0			
Chromium	0.0858	0.0050	0.1	0	85.8	80-120	0			
Cobalt	0.09033	0.0050	0.1	0	90.3	80-120	0			
Copper	0.08943	0.0050	0.1	0	89.4	80-120	0			
Iron	9.221	0.080	10	0	92.2	80-120	0			
Lead	0.09301	0.0050	0.1	0	93	80-120	0			
Manganese	0.09091	0.0050	0.1	0	90.9	80-120	0			
Nickel	0.08777	0.0050	0.1	0	87.8	80-120	0			
Selenium	0.09373	0.0050	0.1	0	93.7	80-120	0			
Silver	0.08687	0.0050	0.1	0	86.9	80-120	0			
Thallium	0.08898	0.0050	0.1	0	89	80-120	0			
Vanadium	0.09085	0.0050	0.1	0	90.8	80-120	0			
Zinc	0.09112	0.010	0.1	0	91.1	80-120	0			

LCS		Sample ID: LCS-57102-57102				Units: mg/L		Analysis Date: 04/02/14 05:56 PM		
Client ID:		Run ID: ICPMS2_140402A				SeqNo: 2697094		Prep Date: 04/01/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.08657	0.0020	0.1	0	86.6	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57102** Instrument ID **ICPMS2** Method: **SW6020A**

MS Sample ID: 14031379-12CMS				Units: mg/L		Analysis Date: 04/01/14 05:37 PM				
Client ID: W-R2330012-032814-ACN-012			Run ID: ICPMS2_140401A		SeqNo: 2694856		Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1377	0.010	0.1	0.05125	86.4	75-125	0			
Antimony	0.0951	0.0050	0.1	0.00009449	95	75-125	0			
Arsenic	0.09559	0.0050	0.1	0.0004295	95.2	75-125	0			
Barium	0.1082	0.0050	0.1	0.01359	94.6	75-125	0			
Cadmium	0.09213	0.0020	0.1	-4.069E-07	92.1	75-125	0			
Cobalt	0.08944	0.0050	0.1	0.0001694	89.3	75-125	0			
Copper	0.1511	0.0050	0.1	0.06548	85.6	75-125	0			
Iron	9.332	0.080	10	0.01672	93.2	75-125	0			
Lead	0.0944	0.0050	0.1	0.0001561	94.2	75-125	0			
Manganese	0.09231	0.0050	0.1	0.00172	90.6	75-125	0			
Nickel	0.08785	0.0050	0.1	0.001334	86.5	75-125	0			
Selenium	0.09444	0.0050	0.1	0.0006067	93.8	75-125	0			
Silver	0.08652	0.0050	0.1	-0.00000215	86.5	75-125	0			
Thallium	0.08992	0.0050	0.1	-0.0003577	90.3	75-125	0			
Vanadium	0.09133	0.0050	0.1	-0.00006539	91.4	75-125	0			
Zinc	0.09631	0.010	0.1	0.005322	91	75-125	0			

MS Sample ID: 14031379-12CMS				Units: mg/L		Analysis Date: 04/02/14 01:07 PM				
Client ID: W-R2330012-032814-ACN-012			Run ID: ICPMS2_140402A		SeqNo: 2696644		Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	0.09066	0.0050	0.1	-0.0000555	90.7	75-125	0			

MS Sample ID: 14031379-12CMS				Units: mg/L		Analysis Date: 04/08/14 12:34 PM				
Client ID: W-R2330012-032814-ACN-012			Run ID: ICPMS1_140407A		SeqNo: 2702762		Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.09555	0.0020	0.1	0.0001493	95.4	75-125	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57102** Instrument ID **ICPMS2** Method: **SW6020A**

MSD				Sample ID: 14031379-12CMSD			Units: mg/L		Analysis Date: 04/01/14 05:42 PM		
Client ID: W-R2330012-032814-ACN-012			Run ID: ICPMS2_140401A			SeqNo: 2694857		Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1364	0.010	0.1	0.05125	85.2	75-125	0.1377	0.949	20		
Antimony	0.09368	0.0050	0.1	0.00009449	93.6	75-125	0.0951	1.5	20		
Arsenic	0.09525	0.0050	0.1	0.0004295	94.8	75-125	0.09559	0.356	20		
Barium	0.108	0.0050	0.1	0.01359	94.4	75-125	0.1082	0.185	20		
Cadmium	0.09087	0.0020	0.1	-4.069E-07	90.9	75-125	0.09213	1.38	20		
Cobalt	0.089	0.0050	0.1	0.0001694	88.8	75-125	0.08944	0.493	20		
Copper	0.1509	0.0050	0.1	0.06548	85.4	75-125	0.1511	0.132	20		
Iron	9.159	0.080	10	0.01672	91.4	75-125	9.332	1.87	20		
Lead	0.09416	0.0050	0.1	0.0001561	94	75-125	0.0944	0.255	20		
Manganese	0.09207	0.0050	0.1	0.00172	90.4	75-125	0.09231	0.26	20		
Nickel	0.08722	0.0050	0.1	0.001334	85.9	75-125	0.08785	0.72	20		
Selenium	0.09427	0.0050	0.1	0.0006067	93.7	75-125	0.09444	0.18	20		
Silver	0.08512	0.0050	0.1	-0.00000215	85.1	75-125	0.08652	1.63	20		
Thallium	0.08993	0.0050	0.1	-0.0003577	90.3	75-125	0.08992	0.0111	20		
Vanadium	0.09126	0.0050	0.1	-0.00006539	91.3	75-125	0.09133	0.0767	20		
Zinc	0.09531	0.010	0.1	0.005322	90	75-125	0.09631	1.04	20		

MSD				Sample ID: 14031379-12CMSD				Units: mg/L		Analysis Date: 04/02/14 01:12 PM			
Client ID: W-R2330012-032814-ACN-012				Run ID: ICPMS2_140402A				SeqNo: 2696645		Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Chromium	0.08831	0.0050	0.1	-0.0000555	88.4	75-125	0.09066	2.63	20				

MSD				Sample ID: 14031379-12CMSD				Units: mg/L		Analysis Date: 04/08/14 12:40 PM			
Client ID: W-R2330012-032814-ACN-012				Run ID: ICPMS1_140407A				SeqNo: 2702764		Prep Date: 04/01/14		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Beryllium		0.0948	0.0020	0.1	0.0001493	94.7	75-125	0.09555	0.788	20			

The following samples were analyzed in this batch:

14031379-11C	14031379-11D	14031379-12C
14031379-12D		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57103** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK				Sample ID: MBLK-57103-57103				Units: mg/L			Analysis Date: 04/01/14 08:39 PM		
Client ID:			Run ID: ICPMS2_140401A				SeqNo: 2694888		Prep Date: 04/01/14		DF: 1		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Antimony		U	0.0050										
Arsenic		U	0.0050										
Barium		U	0.0050										
Cadmium		U	0.0020										
Chromium		U	0.0050										
Cobalt		U	0.0050										
Copper		U	0.0050										
Iron		U	0.080										
Nickel		U	0.0050										
Selenium		U	0.0050										
Silver		U	0.0050										
Vanadium		U	0.0050										
Zinc		U	0.010										

MBLK		Sample ID: MBLK-57103-57103					Units: mg/L		Analysis Date: 04/02/14 06:50 PM		
Client ID:		Run ID: ICPMS2_140402A			SeqNo: 2697104		Prep Date: 04/01/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Manganese	0.008483	0.010								J	

LCS				Sample ID: LCS-57103-57103				Units: mg/L			Analysis Date: 04/01/14 08:45 PM			
Client ID:				Run ID: ICPMS2_140401A				SeqNo: 2694889			Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Antimony	0.09342	0.0050	0.1	0	93.4	80-120	0							
Arsenic	0.09415	0.0050	0.1	0	94.2	80-120	0							
Barium	0.09317	0.0050	0.1	0	93.2	80-120	0							
Cadmium	0.09415	0.0020	0.1	0	94.2	80-120	0							
Chromium	0.09092	0.0050	0.1	0	90.9	80-120	0							
Cobalt	0.09713	0.0050	0.1	0	97.1	80-120	0							
Copper	0.09634	0.0050	0.1	0	96.3	80-120	0							
Iron	9.52	0.080	10	0	95.2	80-120	0							
Nickel	0.09521	0.0050	0.1	0	95.2	80-120	0							
Selenium	0.09351	0.0050	0.1	0	93.5	80-120	0							
Silver	0.08903	0.0050	0.1	0	89	80-120	0							
Vanadium	0.09686	0.0050	0.1	0	96.9	80-120	0							
Zinc	0.09494	0.010	0.1	0	94.9	80-120	0							

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57103** Instrument ID **ICPMS2** Method: **SW6020A**

LCS		Sample ID: LCS-57103-57103				Units: mg/L		Analysis Date: 04/02/14 06:55 PM		
Client ID:		Run ID: ICPMS2_140402A				SeqNo: 2697105		Prep Date: 04/01/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Manganese 0.09276 0.010 0.1 0 92.8 80-120 0

MS		Sample ID: 14031379-09DMS				Units: mg/L		Analysis Date: 04/02/14 02:23 PM		
Client ID: W-R2330012-032814-ACN-009		Run ID: ICPMS2_140402A				SeqNo: 2696658		Prep Date: 04/01/14		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Barium 1.608 0.050 0.1 1.557 51 75-125 0 SO

MS		Sample ID: 14031379-09DMS				Units: mg/L		Analysis Date: 04/02/14 11:44 PM		
Client ID: W-R2330012-032814-ACN-009		Run ID: ICPMS2_140402A				SeqNo: 2697155		Prep Date: 04/01/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony 0.09422 0.0050 0.1 0.0001917 94 75-125 0

Arsenic 0.1105 0.0050 0.1 0.01614 94.4 75-125 0

Copper 0.08967 0.0050 0.1 0.002043 87.6 75-125 0

Iron 27.18 0.080 10 18.36 88.2 75-125 0

Lead 0.09504 0.0050 0.1 0.000009003 95 75-125 0

Manganese 0.157 0.010 0.1 0.0647 92.3 75-125 0

Nickel 0.09521 0.0050 0.1 0.007474 87.7 75-125 0

Selenium 0.09607 0.0050 0.1 0.000626 95.4 75-125 0

Silver 0.08329 0.0050 0.1 -6.57E-07 83.3 75-125 0

Thallium 0.0922 0.0050 0.1 -0.0000545 92.3 75-125 0

Vanadium 0.09432 0.0050 0.1 0.00156 92.8 75-125 0

Zinc 0.09119 0.010 0.1 0.001366 89.8 75-125 0

MS		Sample ID: 14031379-09DMS				Units: mg/L		Analysis Date: 04/08/14 01:11 PM		
Client ID: W-R2330012-032814-ACN-009		Run ID: ICPMS1_140407A				SeqNo: 2702774		Prep Date: 04/01/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Beryllium 0.09094 0.0020 0.1 0.0001936 90.7 75-125 0

Cadmium 0.09335 0.0020 0.1 0.0001789 93.2 75-125 0

MS		Sample ID: 14031379-09DMS				Units: mg/L		Analysis Date: 04/08/14 11:07 PM		
Client ID: W-R2330012-032814-ACN-009		Run ID: ICPMS1_140408A				SeqNo: 2703468		Prep Date: 04/01/14		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Aluminum 0.1067 0.020 0.1 0.002846 104 75-125 0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57103** Instrument ID **ICPMS2** Method: **SW6020A**

MSD				Sample ID: 14031379-09DMSD				Units:mg/L		Analysis Date: 04/02/14 02:29 PM		
Client ID: W-R2330012-032814-ACN-009				Run ID: ICPMS2_140402A				SeqNo:2696659		Prep Date: 04/01/14		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

Barium	1.672	0.050	0.1	1.557	115	75-125	1.608	3.9	20	O

MSD				Sample ID: 14031379-09DMSD				Units: mg/L			Analysis Date: 04/02/14 11:50 PM			
Client ID: W-R2330012-032814-ACN-009				Run ID: ICPMS2_140402A				SeqNo: 2697156			Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Antimony	0.09591	0.0050	0.1	0.0001917	95.7	75-125	0.09422	1.78	20
Arsenic	0.1133	0.0050	0.1	0.01614	97.2	75-125	0.1105	2.5	20
Copper	0.09109	0.0050	0.1	0.002043	89	75-125	0.08967	1.57	20
Iron	27.9	0.080	10	18.36	95.4	75-125	27.18	2.61	20
Lead	0.09713	0.0050	0.1	0.000009003	97.1	75-125	0.09504	2.18	20
Manganese	0.1605	0.010	0.1	0.0647	95.8	75-125	0.157	2.2	20
Nickel	0.09632	0.0050	0.1	0.007474	88.8	75-125	0.09521	1.16	20
Selenium	0.09686	0.0050	0.1	0.000626	96.2	75-125	0.09607	0.819	20
Silver	0.08486	0.0050	0.1	-6.57E-07	84.9	75-125	0.08329	1.87	20
Thallium	0.09501	0.0050	0.1	-0.0000545	95.1	75-125	0.0922	3	20
Vanadium	0.0965	0.0050	0.1	0.00156	94.9	75-125	0.09432	2.28	20
Zinc	0.09281	0.010	0.1	0.001366	91.4	75-125	0.09119	1.76	20

MSD				Sample ID: 14031379-09DMSD				Units: mg/L			Analysis Date: 04/08/14 01:17 PM			
Client ID: W-R2330012-032814-ACN-009				Run ID: ICPMS1_140407A				SeqNo: 2702776			Prep Date: 04/01/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Beryllium	0.09624	0.0020	0.1	0.0001936	96	75-125	0.09094	5.66	20
Cadmium	0.1002	0.0020	0.1	0.0001789	100	75-125	0.09335	7.08	20

MSD				Sample ID: 14031379-09DMSD				Units: mg/L			Analysis Date: 04/08/14 11:13 PM			
Client ID: W-R2330012-032814-ACN-009				Run ID: ICPMS1_140408A				SeqNo: 2703469			Prep Date: 04/01/14		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Aluminum	0.1109	0.020	0.1	0.002846	108	75-125	0.1067	3.86	20

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57103** Instrument ID **ICPMS2** Method: **SW6020A**

The following samples were analyzed in this batch:

14031379-01C	14031379-01D	14031379-02C
14031379-02D	14031379-03C	14031379-03D
14031379-04C	14031379-04D	14031379-05C
14031379-05D	14031379-06C	14031379-06D
14031379-07C	14031379-07D	14031379-08C
14031379-08D	14031379-09C	14031379-09D
14031379-10C	14031379-10D	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57082** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKW1-57082-57082				Units: µg/L		Analysis Date: 04/01/14 04:43 PM		
Client ID:		Run ID: SVMS8_140401A				SeqNo: 2695987		Prep Date: 04/01/14		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	1.0								
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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57082		Instrument ID SVMS8		Method: SW8270				
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>	31.46	0	50	0	62.9	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	34.02	0	50	0	68	32-100	0	
<i>Surr: 2-Fluorophenol</i>	20.99	0	50	0	42	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	48.33	0	50	0	96.7	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	37.82	0	50	0	75.6	31-93	0	
<i>Surr: Phenol-d6</i>	10.95	0	50	0	21.9	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57082** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-57082-57082				Units: µg/L		Analysis Date: 04/01/14 05:03 PM		
Client ID:		Run ID: SVMS8_140401A				SeqNo: 2696009		Prep Date: 04/01/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	13.37	5.0	20	0	66.8	50-110	0			
2,4,6-Trichlorophenol	13.47	5.0	20	0	67.4	50-115	0			
2,4-Dichlorophenol	12.12	10	20	0	60.6	50-105	0			
2,4-Dimethylphenol	10.47	5.0	20	0	52.4	30-110	0			
2,4-Dinitrophenol	11.07	5.0	20	0	55.4	15-140	0			
2,4-Dinitrotoluene	14.48	5.0	20	0	72.4	50-120	0			
2,6-Dinitrotoluene	14.98	5.0	20	0	74.9	50-115	0			
2-Chloronaphthalene	13.95	5.0	20	0	69.8	50-105	0			
2-Chlorophenol	10.08	5.0	20	0	50.4	35-105	0			
2-Methylnaphthalene	13.44	5.0	20	0	67.2	45-105	0			
2-Methylphenol	8.26	5.0	20	0	41.3	40-110	0			
2-Nitroaniline	15.92	20	20	0	79.6	50-115	0			J
2-Nitrophenol	14.22	5.0	20	0	71.1	40-115	0			
3-Nitroaniline	13.56	20	20	0	67.8	20-125	0			J
4,6-Dinitro-2-methylphenol	14.75	20	20	0	73.8	40-130	0			J
4-Bromophenyl phenyl ether	15.35	5.0	20	0	76.8	50-115	0			
4-Chloro-3-methylphenol	11.74	5.0	20	0	58.7	45-110	0			
4-Chloroaniline	11.14	20	20	0	55.7	15-110	0			J
4-Chlorophenyl phenyl ether	14.24	5.0	20	0	71.2	50-110	0			
4-Methylphenol	6.94	5.0	20	0	34.7	30-110	0			
4-Nitroaniline	12.08	20	20	0	60.4	35-150	0			J
4-Nitrophenol	7.27	20	20	0	36.4	1-58	0			J
Acenaphthene	14.12	5.0	20	0	70.6	45-110	0			
Acenaphthylene	14.73	5.0	20	0	73.6	50-105	0			
Anthracene	16.36	5.0	20	0	81.8	55-110	0			
Benzo(a)anthracene	15.79	5.0	20	0	79	55-110	0			
Benzo(a)pyrene	16.66	5.0	20	0	83.3	55-110	0			
Benzo(b)fluoranthene	15.35	5.0	20	0	76.8	45-120	0			
Benzo(g,h,i)perylene	18.14	5.0	20	0	90.7	40-125	0			
Benzo(k)fluoranthene	15.82	5.0	20	0	79.1	45-125	0			
Bis(2-chloroethoxy)methane	13.65	5.0	20	0	68.2	45-105	0			
Bis(2-chloroethyl)ether	12.9	5.0	20	0	64.5	35-110	0			
Bis(2-chloroisopropyl)ether	14.54	5.0	20	0	72.7	25-130	0			
Bis(2-ethylhexyl)phthalate	15.26	5.0	20	0	76.3	40-125	0			
Butyl benzyl phthalate	14.94	5.0	20	0	74.7	45-115	0			
Carbazole	15.74	10	20	0	78.7	50-150	0			
Chrysene	16.23	5.0	20	0	81.2	55-110	0			
Dibenzo(a,h)anthracene	18.68	5.0	20	0	93.4	40-125	0			
Dibenzofuran	14.08	5.0	20	0	70.4	55-105	0			
Diethyl phthalate	15.56	20	20	0	77.8	40-120	0			J
Dimethyl phthalate	15.36	20	20	0	76.8	25-125	0			J
Di-n-butyl phthalate	15.72	5.0	20	0	78.6	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57082		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	14.99	5.0	20	0	75	35-135	0	
Fluoranthene	15.71	5.0	20	0	78.6	55-115	0	
Fluorene	14.35	5.0	20	0	71.8	50-110	0	
Hexachlorobenzene	16.25	5.0	20	0	81.2	50-110	0	
Hexachlorobutadiene	14.34	5.0	20	0	71.7	25-105	0	
Hexachlorocyclopentadiene	7.18	20	20	0	35.9	25-105	0	J
Hexachloroethane	12.69	5.0	20	0	63.4	30-95	0	
Indeno(1,2,3-cd)pyrene	15.69	5.0	20	0	78.4	45-125	0	
Isophorone	14.46	5.0	20	0	72.3	50-110	0	
Naphthalene	12.57	5.0	20	0	62.8	40-100	0	
Nitrobenzene	14.02	5.0	20	0	70.1	45-110	0	
N-Nitrosodi-n-propylamine	15.05	5.0	20	0	75.2	35-130	0	
N-Nitrosodiphenylamine	15.56	5.0	20	0	77.8	50-110	0	
Pentachlorophenol	11.18	20	20	0	55.9	40-115	0	J
Phenanthrene	14.8	5.0	20	0	74	50-115	0	
Phenol	3.79	5.0	20	0	19	12-43	0	J
Pyrene	15.89	5.0	20	0	79.4	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>39.82</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>79.6</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>34.17</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>68.3</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>15.1</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>30.2</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>41.9</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>83.8</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>40.98</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>82</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>9.55</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>19.1</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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57082** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 14031379-01B MS			Units: µg/L		Analysis Date: 04/01/14 07:46 PM	
Client ID: W-R2330012-032614-ACN-001				Run ID: SVMS8_140401A			SeqNo: 2696015		Prep Date: 04/01/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	150.4	50	200	0	75.2	50-110	0			
2,4,6-Trichlorophenol	139.5	50	200	0	69.8	50-115	0			
2,4-Dichlorophenol	137.2	100	200	0	68.6	50-105	0			
2,4-Dimethylphenol	127.6	50	200	0	63.8	30-110	0			
2,4-Dinitrophenol	127.4	50	200	0	63.7	15-140	0			
2,4-Dinitrotoluene	147.4	50	200	0	73.7	50-120	0			
2,6-Dinitrotoluene	154.6	50	200	0	77.3	50-115	0			
2-Chloronaphthalene	144.5	50	200	0	72.2	50-105	0			
2-Chlorophenol	124.2	50	200	0	62.1	35-105	0			
2-Methylnaphthalene	134.1	50	200	0	67	45-105	0			
2-Methylphenol	100.9	50	200	0	50.4	40-110	0			
2-Nitroaniline	181.5	200	200	0	90.8	50-115	0			J
2-Nitrophenol	163.1	50	200	0	81.6	40-115	0			
3-Nitroaniline	165.8	200	200	0	82.9	20-125	0			J
4,6-Dinitro-2-methylphenol	143.4	200	200	0	71.7	40-130	0			J
4-Bromophenyl phenyl ether	156.2	50	200	0	78.1	50-115	0			
4-Chloro-3-methylphenol	138.7	50	200	0	69.4	45-110	0			
4-Chloroaniline	126.1	200	200	0	63	15-110	0			J
4-Chlorophenyl phenyl ether	137.1	50	200	0	68.6	50-110	0			
4-Methylphenol	93.5	50	200	0	46.8	30-110	0			
4-Nitroaniline	134	200	200	0	67	35-150	0			J
4-Nitrophenol	71.6	200	200	0	35.8	1-58	0			J
Acenaphthene	143	50	200	0	71.5	45-110	0			
Acenaphthylene	149.6	50	200	0	74.8	50-105	0			
Anthracene	163.6	50	200	0	81.8	55-110	0			
Benzo(a)anthracene	165.1	50	200	0	82.6	55-110	0			
Benzo(a)pyrene	171.8	50	200	0	85.9	55-110	0			
Benzo(b)fluoranthene	153.1	50	200	0	76.6	45-120	0			
Benzo(g,h,i)perylene	185.7	50	200	0	92.8	40-125	0			
Benzo(k)fluoranthene	159.1	50	200	0	79.6	45-125	0			
Bis(2-chloroethoxy)methane	138.5	50	200	0	69.2	45-105	0			
Bis(2-chloroethyl)ether	131.9	50	200	0	66	35-110	0			
Bis(2-chloroisopropyl)ether	151	50	200	0	75.5	25-130	0			
Bis(2-ethylhexyl)phthalate	183.6	50	200	0	91.8	40-125	0			
Butyl benzyl phthalate	177.1	50	200	0	88.6	45-115	0			
Carbazole	155.8	100	200	0	77.9	50-150	0			
Chrysene	153.5	50	200	0	76.8	55-110	0			
Dibenzo(a,h)anthracene	187.5	50	200	0	93.8	40-125	0			
Dibenzofuran	142	50	200	0	71	55-105	0			
Diethyl phthalate	156.6	200	200	0	78.3	40-120	0			J
Dimethyl phthalate	156.6	200	200	0	78.3	25-125	0			J
Di-n-butyl phthalate	163.4	50	200	0	81.7	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57082		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	198.8	50	200	0	99.4	35-135	0	
Fluoranthene	154.5	50	200	0	77.2	55-115	0	
Fluorene	143.9	50	200	0	72	50-110	0	
Hexachlorobenzene	157	50	200	0	78.5	50-110	0	
Hexachlorobutadiene	140.9	50	200	0	70.4	25-105	0	
Hexachlorocyclopentadiene	79.7	200	200	0	39.8	25-105	0	J
Hexachloroethane	137	50	200	0	68.5	30-95	0	
Indeno(1,2,3-cd)pyrene	181.4	50	200	0	90.7	45-125	0	
Isophorone	147.2	50	200	0	73.6	50-110	0	
Naphthalene	125.6	50	200	0	62.8	40-100	0	
Nitrobenzene	142.6	50	200	0	71.3	45-110	0	
N-Nitrosodi-n-propylamine	160.6	50	200	0	80.3	35-130	0	
N-Nitrosodiphenylamine	155.7	50	200	0	77.8	50-110	0	
Pentachlorophenol	130.1	200	200	0	65	40-115	0	J
Phenanthrene	147.5	50	200	0	73.8	50-115	0	
Phenol	41.8	50	200	0	20.9	12-43	0	J
Pyrene	156.3	50	200	0	78.2	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>400.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>80.1</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>357.7</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>71.5</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>190.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>38.1</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>431.3</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>86.3</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>412.2</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>82.4</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>104.9</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>21</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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57082** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 14031379-01B MSD			Units: µg/L		Analysis Date: 04/01/14 08:06 PM	
Client ID: W-R2330012-032614-ACN-001				Run ID: SVMS8_140401A			SeqNo: 2696016		Prep Date: 04/01/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	147	50	200	0	73.5	50-110	150.4	2.29	30	
2,4,6-Trichlorophenol	141.4	50	200	0	70.7	50-115	139.5	1.35	30	
2,4-Dichlorophenol	137	100	200	0	68.5	50-105	137.2	0.146	30	
2,4-Dimethylphenol	130.8	50	200	0	65.4	30-110	127.6	2.48	30	
2,4-Dinitrophenol	140.8	50	200	0	70.4	15-140	127.4	9.99	30	
2,4-Dinitrotoluene	150.6	50	200	0	75.3	50-120	147.4	2.15	30	
2,6-Dinitrotoluene	155.7	50	200	0	77.8	50-115	154.6	0.709	30	
2-Chloronaphthalene	143.4	50	200	0	71.7	50-105	144.5	0.764	30	
2-Chlorophenol	125.8	50	200	0	62.9	35-105	124.2	1.28	30	
2-Methylnaphthalene	136.5	50	200	0	68.2	45-105	134.1	1.77	30	
2-Methylphenol	110.3	50	200	0	55.2	40-110	100.9	8.9	30	
2-Nitroaniline	185.7	200	200	0	92.8	50-115	181.5	0	30	J
2-Nitrophenol	155.2	50	200	0	77.6	40-115	163.1	4.96	30	
3-Nitroaniline	166.8	200	200	0	83.4	20-125	165.8	0	30	J
4,6-Dinitro-2-methylphenol	150.6	200	200	0	75.3	40-130	143.4	0	30	J
4-Bromophenyl phenyl ether	160.7	50	200	0	80.4	50-115	156.2	2.84	30	
4-Chloro-3-methylphenol	141	50	200	0	70.5	45-110	138.7	1.64	30	
4-Chloroaniline	126.2	200	200	0	63.1	15-110	126.1	0	30	J
4-Chlorophenyl phenyl ether	146.1	50	200	0	73	50-110	137.1	6.36	30	
4-Methylphenol	103.8	50	200	0	51.9	30-110	93.5	10.4	30	
4-Nitroaniline	141.4	200	200	0	70.7	35-150	134	0	30	J
4-Nitrophenol	78.5	200	200	0	39.2	1-58	71.6	0	0	J
Acenaphthene	148.2	50	200	0	74.1	45-110	143	3.57	30	
Acenaphthylene	153.9	50	200	0	77	50-105	149.6	2.83	30	
Anthracene	167.1	50	200	0	83.6	55-110	163.6	2.12	30	
Benzo(a)anthracene	167.9	50	200	0	84	55-110	165.1	1.68	30	
Benzo(a)pyrene	175.4	50	200	0	87.7	55-110	171.8	2.07	30	
Benzo(b)fluoranthene	158.7	50	200	0	79.4	45-120	153.1	3.59	30	
Benzo(g,h,i)perylene	191.3	50	200	0	95.6	40-125	185.7	2.97	30	
Benzo(k)fluoranthene	161.6	50	200	0	80.8	45-125	159.1	1.56	30	
Bis(2-chloroethoxy)methane	138.7	50	200	0	69.4	45-105	138.5	0.144	30	
Bis(2-chloroethyl)ether	133.4	50	200	0	66.7	35-110	131.9	1.13	30	
Bis(2-chloroisopropyl)ether	155.4	50	200	0	77.7	25-130	151	2.87	30	
Bis(2-ethylhexyl)phthalate	187.6	50	200	0	93.8	40-125	183.6	2.16	30	
Butyl benzyl phthalate	180.4	50	200	0	90.2	45-115	177.1	1.85	30	
Carbazole	162.7	100	200	0	81.4	50-150	155.8	4.33	30	
Chrysene	162	50	200	0	81	55-110	153.5	5.39	30	
Dibenzo(a,h)anthracene	194.3	50	200	0	97.2	40-125	187.5	3.56	30	
Dibenzofuran	143.5	50	200	0	71.8	55-105	142	1.05	30	
Diethyl phthalate	160	200	200	0	80	40-120	156.6	0	30	J
Dimethyl phthalate	157.9	200	200	0	79	25-125	156.6	0	30	J
Di-n-butyl phthalate	172.5	50	200	0	86.2	55-115	163.4	5.42	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57082		Instrument ID SVMS8		Method: SW8270						
Di-n-octyl phthalate	202.3	50	200	0	101	35-135	198.8	1.75	30	
Fluoranthene	161.6	50	200	0	80.8	55-115	154.5	4.49	30	
Fluorene	145.8	50	200	0	72.9	50-110	143.9	1.31	30	
Hexachlorobenzene	163	50	200	0	81.5	50-110	157	3.75	30	
Hexachlorobutadiene	146.1	50	200	0	73	25-105	140.9	3.62	30	
Hexachlorocyclopentadiene	81.3	200	200	0	40.6	25-105	79.7	0	30	J
Hexachloroethane	136.5	50	200	0	68.2	30-95	137	0.366	30	
Indeno(1,2,3-cd)pyrene	242.3	50	200	0	121	45-125	181.4	28.7	30	
Isophorone	153.9	50	200	0	77	50-110	147.2	4.45	30	
Naphthalene	126.9	50	200	0	63.4	40-100	125.6	1.03	30	
Nitrobenzene	143.4	50	200	0	71.7	45-110	142.6	0.559	30	
N-Nitrosodi-n-propylamine	164	50	200	0	82	35-130	160.6	2.09	30	
N-Nitrosodiphenylamine	158.6	50	200	0	79.3	50-110	155.7	1.85	30	
Pentachlorophenol	141.7	200	200	0	70.8	40-115	130.1	0	30	J
Phenanthrene	152.4	50	200	0	76.2	50-115	147.5	3.27	30	
Phenol	47.9	50	200	0	24	12-43	41.8	0	30	J
Pyrene	161.9	50	200	0	81	50-130	156.3	3.52	30	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>410.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>82.1</i>	<i>38-115</i>	<i>400.6</i>	<i>2.47</i>	<i>40</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>350.2</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>70</i>	<i>32-100</i>	<i>357.7</i>	<i>2.12</i>	<i>40</i>	
<i>Surr: 2-Fluorophenol</i>	<i>193.2</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>38.6</i>	<i>22-59</i>	<i>190.6</i>	<i>1.35</i>	<i>40</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>406.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>81.3</i>	<i>23-112</i>	<i>431.3</i>	<i>5.94</i>	<i>40</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>413.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>82.7</i>	<i>31-93</i>	<i>412.2</i>	<i>0.339</i>	<i>40</i>	
<i>Surr: Phenol-d6</i>	<i>117.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>23.5</i>	<i>13-36</i>	<i>104.9</i>	<i>11.2</i>	<i>40</i>	

The following samples were analyzed in this batch:

14031379-01B	14031379-02B	14031379-03B
14031379-04B	14031379-05B	14031379-06B
14031379-07B	14031379-08B	14031379-09B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57129** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKW1-57129-57129				Units: µg/L		Analysis Date: 04/02/14 05:37 PM		
Client ID:		Run ID: SVMS8_140402A				SeqNo: 2698065		Prep Date: 04/02/14		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	1.0								
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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57129		Instrument ID SVMS8		Method: SW8270				
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>	38.23	0	50	0	76.5	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	36.95	0	50	0	73.9	32-100	0	
<i>Surr: 2-Fluorophenol</i>	21.7	0	50	0	43.4	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	46	0	50	0	92	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	42.7	0	50	0	85.4	31-93	0	
<i>Surr: Phenol-d6</i>	12.55	0	50	0	25.1	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57129** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-57129-57129				Units: µg/L		Analysis Date: 04/02/14 05:58 PM		
Client ID:		Run ID: SVMS8_140402A				SeqNo: 2698067		Prep Date: 04/02/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	16.39	5.0	20	0	82	50-110	0			
2,4,6-Trichlorophenol	14.94	5.0	20	0	74.7	50-115	0			
2,4-Dichlorophenol	14.81	10	20	0	74	50-105	0			
2,4-Dimethylphenol	13.56	5.0	20	0	67.8	30-110	0			
2,4-Dinitrophenol	15.28	5.0	20	0	76.4	15-140	0			
2,4-Dinitrotoluene	15.68	5.0	20	0	78.4	50-120	0			
2,6-Dinitrotoluene	15.25	5.0	20	0	76.2	50-115	0			
2-Chloronaphthalene	14.35	5.0	20	0	71.8	50-105	0			
2-Chlorophenol	13.03	5.0	20	0	65.2	35-105	0			
2-Methylnaphthalene	14.13	5.0	20	0	70.6	45-105	0			
2-Methylphenol	11.14	5.0	20	0	55.7	40-110	0			
2-Nitroaniline	18.38	20	20	0	91.9	50-115	0			J
2-Nitrophenol	15.68	5.0	20	0	78.4	40-115	0			
3-Nitroaniline	15.97	20	20	0	79.8	20-125	0			J
4,6-Dinitro-2-methylphenol	17.45	20	20	0	87.2	40-130	0			J
4-Bromophenyl phenyl ether	16.58	5.0	20	0	82.9	50-115	0			
4-Chloro-3-methylphenol	14.89	5.0	20	0	74.4	45-110	0			
4-Chloroaniline	14.02	20	20	0	70.1	15-110	0			J
4-Chlorophenyl phenyl ether	15	5.0	20	0	75	50-110	0			
4-Methylphenol	10.27	5.0	20	0	51.4	30-110	0			
4-Nitroaniline	14.48	20	20	0	72.4	35-150	0			J
4-Nitrophenol	7.37	20	20	0	36.8	1-58	0			J
Acenaphthene	14.73	5.0	20	0	73.6	45-110	0			
Acenaphthylene	14.98	5.0	20	0	74.9	50-105	0			
Anthracene	17.08	5.0	20	0	85.4	55-110	0			
Benzo(a)anthracene	17.25	5.0	20	0	86.2	55-110	0			
Benzo(a)pyrene	17.36	5.0	20	0	86.8	55-110	0			
Benzo(b)fluoranthene	16.39	5.0	20	0	82	45-120	0			
Benzo(g,h,i)perylene	19.93	5.0	20	0	99.6	40-125	0			
Benzo(k)fluoranthene	16.47	5.0	20	0	82.4	45-125	0			
Bis(2-chloroethoxy)methane	14.88	5.0	20	0	74.4	45-105	0			
Bis(2-chloroethyl)ether	13.96	5.0	20	0	69.8	35-110	0			
Bis(2-chloroisopropyl)ether	17.54	5.0	20	0	87.7	25-130	0			
Bis(2-ethylhexyl)phthalate	18.44	5.0	20	0	92.2	40-125	0			
Butyl benzyl phthalate	17.71	5.0	20	0	88.6	45-115	0			
Carbazole	17.07	10	20	0	85.4	50-150	0			
Chrysene	17.21	5.0	20	0	86	55-110	0			
Dibenzo(a,h)anthracene	18.09	5.0	20	0	90.4	40-125	0			
Dibenzofuran	14.66	5.0	20	0	73.3	55-105	0			
Diethyl phthalate	16.49	20	20	0	82.4	40-120	0			J
Dimethyl phthalate	15.88	20	20	0	79.4	25-125	0			J
Di-n-butyl phthalate	17.25	5.0	20	0	86.2	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57129		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	18.58	5.0	20	0	92.9	35-135	0	
Fluoranthene	16.38	5.0	20	0	81.9	55-115	0	
Fluorene	14.89	5.0	20	0	74.4	50-110	0	
Hexachlorobenzene	16.51	5.0	20	0	82.6	50-110	0	
Hexachlorobutadiene	14.61	5.0	20	0	73	25-105	0	
Hexachlorocyclopentadiene	9.15	20	20	0	45.8	25-105	0	J
Hexachloroethane	14.79	5.0	20	0	74	30-95	0	
Indeno(1,2,3-cd)pyrene	19.93	5.0	20	0	99.6	45-125	0	
Isophorone	16.29	5.0	20	0	81.4	50-110	0	
Naphthalene	13.37	5.0	20	0	66.8	40-100	0	
Nitrobenzene	14.42	5.0	20	0	72.1	45-110	0	
N-Nitrosodi-n-propylamine	17.09	5.0	20	0	85.4	35-130	0	
N-Nitrosodiphenylamine	16.17	5.0	20	0	80.8	50-110	0	
Pentachlorophenol	14.17	20	20	0	70.8	40-115	0	J
Phenanthrene	15.91	5.0	20	0	79.6	50-115	0	
Phenol	5.19	5.0	20	0	26	12-43	0	
Pyrene	16.31	5.0	20	0	81.6	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>42.32</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>84.6</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>34.72</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>69.4</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>20.01</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>40</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>44.77</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>89.5</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>43.37</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>86.7</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>12.84</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>25.7</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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57129** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 14031375-01A MS			Units: µg/L		Analysis Date: 04/02/14 07:40 PM	
Client ID:				Run ID: SVMS8_140402A			SeqNo: 2698073		Prep Date: 04/02/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	345.6	100	400	0	86.4	50-110	0			
2,4,6-Trichlorophenol	331.2	100	400	0	82.8	50-115	0			
2,4-Dichlorophenol	323.6	200	400	0	80.9	50-105	0			
2,4-Dimethylphenol	303.2	100	400	0	75.8	30-110	0			
2,4-Dinitrophenol	332.2	100	400	0	83	15-140	0			
2,4-Dinitrotoluene	324	100	400	0	81	50-120	0			
2,6-Dinitrotoluene	333.2	100	400	0	83.3	50-115	0			
2-Chloronaphthalene	322.4	100	400	0	80.6	50-105	0			
2-Chlorophenol	297.6	100	400	0	74.4	35-105	0			
2-Methylnaphthalene	310	100	400	0	77.5	45-105	0			
2-Methylphenol	263.2	100	400	0	65.8	40-110	0			
2-Nitroaniline	403.4	400	400	0	101	50-115	0			
2-Nitrophenol	359	100	400	0	89.8	40-115	0			
3-Nitroaniline	343	400	400	0	85.8	20-125	0			J
4,6-Dinitro-2-methylphenol	364	400	400	0	91	40-130	0			J
4-Bromophenyl phenyl ether	354.8	100	400	0	88.7	50-115	0			
4-Chloro-3-methylphenol	336.2	100	400	0	84	45-110	0			
4-Chloroaniline	308.4	400	400	0	77.1	15-110	0			J
4-Chlorophenyl phenyl ether	324.8	100	400	0	81.2	50-110	0			
4-Methylphenol	239.4	100	400	0	59.8	30-110	0			
4-Nitroaniline	284.6	400	400	0	71.2	35-150	0			J
4-Nitrophenol	145.8	400	400	0	36.4	1-58	0			J
Acenaphthene	329	100	400	0	82.2	45-110	0			
Acenaphthylene	334.8	100	400	0	83.7	50-105	0			
Anthracene	361.8	100	400	0	90.4	55-110	0			
Benzo(a)anthracene	355.8	100	400	0	89	55-110	0			
Benzo(a)pyrene	359.8	100	400	0	90	55-110	0			
Benzo(b)fluoranthene	340.4	100	400	0	85.1	45-120	0			
Benzo(g,h,i)perylene	403.8	100	400	0	101	40-125	0			
Benzo(k)fluoranthene	335	100	400	0	83.8	45-125	0			
Bis(2-chloroethoxy)methane	329.8	100	400	0	82.4	45-105	0			
Bis(2-chloroethyl)ether	307.6	100	400	0	76.9	35-110	0			
Bis(2-chloroisopropyl)ether	393.6	100	400	0	98.4	25-130	0			
Bis(2-ethylhexyl)phthalate	376.6	100	400	0	94.2	40-125	0			
Butyl benzyl phthalate	369	100	400	0	92.2	45-115	0			
Carbazole	346.8	200	400	0	86.7	50-150	0			
Chrysene	345.8	100	400	0	86.4	55-110	0			
Dibenzo(a,h)anthracene	365.4	100	400	0	91.4	40-125	0			
Dibenzofuran	319.2	100	400	0	79.8	55-105	0			
Diethyl phthalate	352.4	400	400	0	88.1	40-120	0			J
Dimethyl phthalate	338.4	400	400	0	84.6	25-125	0			J
Di-n-butyl phthalate	361.2	100	400	0	90.3	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57129		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	385.8	100	400	0	96.4	35-135	0	
Fluoranthene	339.2	100	400	0	84.8	55-115	0	
Fluorene	320.2	100	400	0	80	50-110	0	
Hexachlorobenzene	334.8	100	400	0	83.7	50-110	0	
Hexachlorobutadiene	326.4	100	400	0	81.6	25-105	0	
Hexachlorocyclopentadiene	227.4	400	400	0	56.8	25-105	0	J
Hexachloroethane	322.8	100	400	0	80.7	30-95	0	
Indeno(1,2,3-cd)pyrene	406.4	100	400	0	102	45-125	0	
Isophorone	372.6	100	400	0	93.2	50-110	0	
Naphthalene	292.6	100	400	0	73.2	40-100	0	
Nitrobenzene	337	100	400	0	84.2	45-110	0	
N-Nitrosodi-n-propylamine	396	100	400	0	99	35-130	0	
N-Nitrosodiphenylamine	342.2	100	400	0	85.6	50-110	0	
Pentachlorophenol	287	400	400	0	71.8	40-115	0	J
Phenanthrene	328.6	100	400	0	82.2	50-115	0	
Phenol	115.8	100	400	0	29	12-43	0	
Pyrene	334.4	100	400	0	83.6	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>895.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>89.5</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>787.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>78.7</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>457.8</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>45.8</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>920.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>92</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>979.6</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98</i>	<i>31-93</i>	<i>0</i>	S
<i>Surr: Phenol-d6</i>	<i>280.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>28</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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57129** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 14031375-01A MSD				Units: µg/L		Analysis Date: 04/02/14 08:00 PM	
Client ID:		Run ID: SVMS8_140402A			SeqNo: 2698075		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	327.8	100	400	0	82	50-110	345.6	5.29	30		
2,4,6-Trichlorophenol	320	100	400	0	80	50-115	331.2	3.44	30		
2,4-Dichlorophenol	299.2	200	400	0	74.8	50-105	323.6	7.84	30		
2,4-Dimethylphenol	281	100	400	0	70.2	30-110	303.2	7.6	30		
2,4-Dinitrophenol	326.6	100	400	0	81.6	15-140	332.2	1.7	30		
2,4-Dinitrotoluene	316	100	400	0	79	50-120	324	2.5	30		
2,6-Dinitrotoluene	316.8	100	400	0	79.2	50-115	333.2	5.05	30		
2-Chloronaphthalene	299.4	100	400	0	74.8	50-105	322.4	7.4	30		
2-Chlorophenol	275.8	100	400	0	69	35-105	297.6	7.6	30		
2-Methylnaphthalene	283.4	100	400	0	70.8	45-105	310	8.97	30		
2-Methylphenol	235.8	100	400	0	59	40-110	263.2	11	30		
2-Nitroaniline	388.4	400	400	0	97.1	50-115	403.4	0	30	J	
2-Nitrophenol	323.6	100	400	0	80.9	40-115	359	10.4	30		
3-Nitroaniline	330.4	400	400	0	82.6	20-125	343	0	30	J	
4,6-Dinitro-2-methylphenol	353.2	400	400	0	88.3	40-130	364	0	30	J	
4-Bromophenyl phenyl ether	342.8	100	400	0	85.7	50-115	354.8	3.44	30		
4-Chloro-3-methylphenol	310.6	100	400	0	77.6	45-110	336.2	7.92	30		
4-Chloroaniline	270.4	400	400	0	67.6	15-110	308.4	0	30	J	
4-Chlorophenyl phenyl ether	315.4	100	400	0	78.8	50-110	324.8	2.94	30		
4-Methylphenol	218.4	100	400	0	54.6	30-110	239.4	9.17	30		
4-Nitroaniline	300	400	400	0	75	35-150	284.6	0	30	J	
4-Nitrophenol	138.2	400	400	0	34.6	1-58	145.8	0	0	J	
Acenaphthene	314	100	400	0	78.5	45-110	329	4.67	30		
Acenaphthylene	314.2	100	400	0	78.6	50-105	334.8	6.35	30		
Anthracene	350.2	100	400	0	87.6	55-110	361.8	3.26	30		
Benzo(a)anthracene	350	100	400	0	87.5	55-110	355.8	1.64	30		
Benzo(a)pyrene	351	100	400	0	87.8	55-110	359.8	2.48	30		
Benzo(b)fluoranthene	323	100	400	0	80.8	45-120	340.4	5.25	30		
Benzo(g,h,i)perylene	393.2	100	400	0	98.3	40-125	403.8	2.66	30		
Benzo(k)fluoranthene	330	100	400	0	82.5	45-125	335	1.5	30		
Bis(2-chloroethoxy)methane	297.4	100	400	0	74.4	45-105	329.8	10.3	30		
Bis(2-chloroethyl)ether	284.2	100	400	0	71	35-110	307.6	7.91	30		
Bis(2-chloroisopropyl)ether	360.8	100	400	0	90.2	25-130	393.6	8.7	30		
Bis(2-ethylhexyl)phthalate	364	100	400	0	91	40-125	376.6	3.4	30		
Butyl benzyl phthalate	367.6	100	400	0	91.9	45-115	369	0.38	30		
Carbazole	346.6	200	400	0	86.6	50-150	346.8	0.0577	30		
Chrysene	343	100	400	0	85.8	55-110	345.8	0.813	30		
Dibenzo(a,h)anthracene	358	100	400	0	89.5	40-125	365.4	2.05	30		
Dibenzofuran	307.4	100	400	0	76.8	55-105	319.2	3.77	30		
Diethyl phthalate	344.2	400	400	0	86	40-120	352.4	0	30	J	
Dimethyl phthalate	340.6	400	400	0	85.2	25-125	338.4	0	30	J	
Di-n-butyl phthalate	352.6	100	400	0	88.2	55-115	361.2	2.41	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57129		Instrument ID SVMS8		Method: SW8270						
Di-n-octyl phthalate	371.6	100	400	0	92.9	35-135	385.8	3.75	30	
Fluoranthene	328.6	100	400	0	82.2	55-115	339.2	3.17	30	
Fluorene	309.6	100	400	0	77.4	50-110	320.2	3.37	30	
Hexachlorobenzene	347.8	100	400	0	87	50-110	334.8	3.81	30	
Hexachlorobutadiene	297	100	400	0	74.2	25-105	326.4	9.43	30	
Hexachlorocyclopentadiene	215	400	400	0	53.8	25-105	227.4	0	30	J
Hexachloroethane	293.4	100	400	0	73.4	30-95	322.8	9.54	30	
Indeno(1,2,3-cd)pyrene	408.6	100	400	0	102	45-125	406.4	0.54	30	
Isophorone	339.8	100	400	0	85	50-110	372.6	9.21	30	
Naphthalene	263.6	100	400	0	65.9	40-100	292.6	10.4	30	
Nitrobenzene	298	100	400	0	74.5	45-110	337	12.3	30	
N-Nitrosodi-n-propylamine	359.6	100	400	0	89.9	35-130	396	9.63	30	
N-Nitrosodiphenylamine	338.6	100	400	0	84.6	50-110	342.2	1.06	30	
Pentachlorophenol	284.2	400	400	0	71	40-115	287	0	30	J
Phenanthrene	328.2	100	400	0	82	50-115	328.6	0.122	30	
Phenol	106.2	100	400	0	26.6	12-43	115.8	8.65	30	
Pyrene	327.2	100	400	0	81.8	50-130	334.4	2.18	30	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>859</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>85.9</i>	<i>38-115</i>	<i>895.2</i>	<i>4.13</i>	<i>40</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>727.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>72.7</i>	<i>32-100</i>	<i>787.2</i>	<i>7.92</i>	<i>40</i>	
<i>Surr: 2-Fluorophenol</i>	<i>414.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>41.4</i>	<i>22-59</i>	<i>457.8</i>	<i>10</i>	<i>40</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>900.4</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>90</i>	<i>23-112</i>	<i>920.2</i>	<i>2.18</i>	<i>40</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>874.2</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>87.4</i>	<i>31-93</i>	<i>979.6</i>	<i>11.4</i>	<i>40</i>	
<i>Surr: Phenol-d6</i>	<i>262.6</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>26.3</i>	<i>13-36</i>	<i>280.2</i>	<i>6.48</i>	<i>40</i>	

The following samples were analyzed in this batch:

14031379-10B	14031379-11B	14031379-12B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138110** Instrument ID **VMS7** Method: **SW8260**

MBLK		Sample ID: VBK2-140331-R138110				Units: µg/L		Analysis Date: 03/31/14 07:48 PM		
Client ID:		Run ID: VMS7_140331B				SeqNo: 2693857		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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138110	Instrument ID VMS7	Method: SW8260						
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>16.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>80.7</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.58</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.9</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>18.83</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.2</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>18.54</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>92.7</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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138110** Instrument ID **VMS7** Method: **SW8260**

LCS		Sample ID: VLCSW2-140331-R138110				Units: µg/L		Analysis Date: 03/31/14 06:33 PM		
Client ID:		Run ID: VMS7_140331B				SeqNo: 2693856		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	19.94	1.0	20	0	99.7	65-130	0			
1,1,2,2-Tetrachloroethane	20.97	1.0	20	0	105	65-130	0			
1,1,2-Trichloroethane	19.25	1.0	20	0	96.2	75-125	0			
1,1-Dichloroethane	21.47	1.0	20	0	107	70-135	0			
1,1-Dichloroethene	20.32	1.0	20	0	102	70-130	0			
1,2,4-Trichlorobenzene	20.97	1.0	20	0	105	65-135	0			
1,2-Dibromo-3-chloropropane	20.31	1.0	20	0	102	50-130	0			
1,2-Dibromoethane	19.7	1.0	20	0	98.5	87-179	0			
1,2-Dichlorobenzene	19.86	1.0	20	0	99.3	70-120	0			
1,2-Dichloroethane	18.25	1.0	20	0	91.2	87-179	0			
1,2-Dichloropropane	21.68	2.0	20	0	108	75-125	0			
1,3-Dichlorobenzene	20.26	2.0	20	0	101	75-125	0			
1,4-Dichlorobenzene	21.03	2.0	20	0	105	75-125	0			
2-Butanone	24.76	5.0	20	0	124	30-150	0			
2-Hexanone	20.28	5.0	20	0	101	55-130	0			
4-Methyl-2-pentanone	29.2	5.0	20	0	146	77-178	0			
Acetone	20.08	20	20	0	100	40-140	0			
Benzene	22.45	1.0	20	0	112	80-120	0			
Bromodichloromethane	20.43	1.0	20	0	102	75-120	0			
Bromoform	19.03	1.0	20	0	95.2	70-130	0			
Bromomethane	22.07	1.0	20	0	110	30-145	0			
Carbon disulfide	21.71	2.5	20	0	109	35-165	0			
Carbon tetrachloride	19.75	1.0	20	0	98.8	65-140	0			
Chlorobenzene	20.58	1.0	20	0	103	80-120	0			
Chloroethane	16.35	1.0	20	0	81.8	60-135	0			
Chloroform	21.29	1.0	20	0	106	65-135	0			
Chloromethane	19.83	1.0	20	0	99.2	70-125	0			
cis-1,2-Dichloroethene	22.4	1.0	20	0	112	70-125	0			
cis-1,3-Dichloropropene	22.14	1.0	20	0	111	70-130	0			
Dibromochloromethane	18.51	1.0	20	0	92.6	60-135	0			
Dichlorodifluoromethane	14.2	1.0	20	0	71	30-155	0			
Ethylbenzene	19.96	1.0	20	0	99.8	75-125	0			
Isopropylbenzene	21.85	1.0	20	0	109	75-125	0			
Methyl tert-butyl ether	21.72	5.0	20	0	109	65-125	0			
Methylene chloride	20.17	5.0	20	0	101	55-140	0			
Styrene	21.23	1.0	20	0	106	65-135	0			
Tetrachloroethene	20.07	2.0	20	0	100	45-150	0			
Toluene	19.31	1.0	20	0	96.6	75-120	0			
trans-1,2-Dichloroethene	20.88	1.0	20	0	104	60-140	0			
trans-1,3-Dichloropropene	19.3	1.0	20	0	96.5	55-140	0			
Trichloroethene	22.33	1.0	20	0	112	70-125	0			
Trichlorofluoromethane	19.98	1.0	20	0	99.9	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138110	Instrument ID VMS7		Method: SW8260				
Vinyl chloride	21.37	1.0	20	0	107	50-145	0
Xylenes, Total	56.88	3.0	60	0	94.8	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.22</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>81.1</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.89</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>18.55</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>92.8</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>17.56</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>87.8</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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138110** Instrument ID **VMS7** Method: **SW8260**

MS				Sample ID: 1403988-13A MS			Units: µg/L		Analysis Date: 04/01/14 04:39 AM	
Client ID:				Run ID: VMS7_140331B			SeqNo: 2693935		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	20.63	1.0	20	0	103	65-130	0			
1,1,2,2-Tetrachloroethane	18.17	1.0	20	0	90.8	65-130	0			
1,1,2-Trichloroethane	18.25	1.0	20	0	91.2	75-125	0			
1,1-Dichloroethane	22.53	1.0	20	0.89	108	70-135	0			
1,1-Dichloroethene	21.66	1.0	20	0	108	70-130	0			
1,2,4-Trichlorobenzene	17.58	1.0	20	0	87.9	65-135	0			
1,2-Dibromo-3-chloropropane	16.08	1.0	20	0	80.4	50-130	0			
1,2-Dibromoethane	18.17	1.0	20	0	90.8	81-158	0			
1,2-Dichlorobenzene	17.51	1.0	20	0	87.6	70-120	0			
1,2-Dichloroethane	17.08	1.0	20	0	85.4	70-130	0			
1,2-Dichloropropane	20.65	2.0	20	0	103	75-125	0			
1,3-Dichlorobenzene	18.38	2.0	20	0	91.9	75-125	0			
1,4-Dichlorobenzene	18.69	2.0	20	0	93.4	75-125	0			
2-Butanone	18.81	5.0	20	0	94	30-150	0			
2-Hexanone	16.86	5.0	20	0	84.3	55-130	0			
4-Methyl-2-pentanone	24.17	5.0	20	0	121	73-162	0			
Acetone	17.03	20	20	0	85.2	40-140	0			J
Benzene	21.94	1.0	20	0	110	80-120	0			
Bromodichloromethane	18.89	1.0	20	0	94.4	75-120	0			
Bromoform	16.28	1.0	20	0	81.4	70-130	0			
Bromomethane	19.03	1.0	20	0	95.2	30-145	0			
Carbon disulfide	22.01	2.5	20	0	110	35-165	0			
Carbon tetrachloride	19.27	1.0	20	0	96.4	65-140	0			
Chlorobenzene	19.54	1.0	20	0	97.7	80-120	0			
Chloroethane	21.81	1.0	20	0	109	60-135	0			
Chloroform	20.72	1.0	20	0	104	65-135	0			
Chloromethane	19.99	1.0	20	0	100	70-125	0			
cis-1,2-Dichloroethene	21.35	1.0	20	0	107	70-125	0			
cis-1,3-Dichloropropene	19.75	1.0	20	0	98.8	70-130	0			
Dibromochloromethane	17.32	1.0	20	0	86.6	60-135	0			
Dichlorodifluoromethane	15.13	1.0	20	0	75.6	30-155	0			
Ethylbenzene	18.96	1.0	20	0	94.8	75-125	0			
Isopropylbenzene	20.17	1.0	20	0	101	75-125	0			
Methyl tert-butyl ether	20.06	5.0	20	0	100	65-125	0			
Methylene chloride	19.77	5.0	20	0	98.8	55-140	0			
Styrene	19.38	1.0	20	0	96.9	65-135	0			
Tetrachloroethene	20.76	2.0	20	0	104	45-150	0			
Toluene	19.5	1.0	20	0	97.5	75-120	0			
trans-1,2-Dichloroethene	20.92	1.0	20	0	105	60-140	0			
trans-1,3-Dichloropropene	17.21	1.0	20	0	86	55-140	0			
Trichloroethene	22.1	1.0	20	0	110	70-125	0			
Trichlorofluoromethane	21.44	1.0	20	0	107	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138110	Instrument ID VMS7		Method: SW8260				
Vinyl chloride	22.19	1.0	20	0	111	50-145	0
Xylenes, Total	56.24	3.0	60	0	93.7	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>15.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>79.2</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.3</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.5</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>18.91</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.6</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>17.96</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>89.8</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: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138110** Instrument ID **VMS7** Method: **SW8260**

MSD				Sample ID: 1403988-13A MSD				Units: µg/L		Analysis Date: 04/01/14 05:04 AM	
Client ID:			Run ID: VMS7_140331B			SeqNo: 2693937		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	20.49	1.0	20	0	102	65-130	20.63	0.681	30		
1,1,2,2-Tetrachloroethane	18.78	1.0	20	0	93.9	65-130	18.17	3.3	30		
1,1,2-Trichloroethane	18.76	1.0	20	0	93.8	75-125	18.25	2.76	30		
1,1-Dichloroethane	22.84	1.0	20	0.89	110	70-135	22.53	1.37	30		
1,1-Dichloroethene	21.66	1.0	20	0	108	70-130	21.66	0	30		
1,2,4-Trichlorobenzene	18.62	1.0	20	0	93.1	65-135	17.58	5.75	30		
1,2-Dibromo-3-chloropropane	17.01	1.0	20	0	85	50-130	16.08	5.62	30		
1,2-Dibromoethane	18.74	1.0	20	0	93.7	81-158	18.17	3.09	30		
1,2-Dichlorobenzene	18.25	1.0	20	0	91.2	70-120	17.51	4.14	30		
1,2-Dichloroethane	17.62	1.0	20	0	88.1	70-130	17.08	3.11	30		
1,2-Dichloropropane	21.28	2.0	20	0	106	75-125	20.65	3.01	30		
1,3-Dichlorobenzene	18.56	2.0	20	0	92.8	75-125	18.38	0.975	30		
1,4-Dichlorobenzene	19.25	2.0	20	0	96.2	75-125	18.69	2.95	30		
2-Butanone	19.65	5.0	20	0	98.2	30-150	18.81	4.37	30		
2-Hexanone	17.77	5.0	20	0	88.8	55-130	16.86	5.26	30		
4-Methyl-2-pentanone	24.67	5.0	20	0	123	73-162	24.17	2.05	30		
Acetone	18.03	20	20	0	90.2	40-140	17.03	0	30	J	
Benzene	22.47	1.0	20	0	112	80-120	21.94	2.39	30		
Bromodichloromethane	19.52	1.0	20	0	97.6	75-120	18.89	3.28	30		
Bromoform	16.91	1.0	20	0	84.6	70-130	16.28	3.8	30		
Bromomethane	19.92	1.0	20	0	99.6	30-145	19.03	4.57	30		
Carbon disulfide	22.18	2.5	20	0	111	35-165	22.01	0.769	30		
Carbon tetrachloride	19.45	1.0	20	0	97.2	65-140	19.27	0.93	30		
Chlorobenzene	19.85	1.0	20	0	99.2	80-120	19.54	1.57	30		
Chloroethane	21.83	1.0	20	0	109	60-135	21.81	0.0917	30		
Chloroform	20.99	1.0	20	0	105	65-135	20.72	1.29	30		
Chloromethane	19.49	1.0	20	0	97.4	70-125	19.99	2.53	30		
cis-1,2-Dichloroethene	21.74	1.0	20	0	109	70-125	21.35	1.81	30		
cis-1,3-Dichloropropene	19.91	1.0	20	0	99.6	70-130	19.75	0.807	30		
Dibromochloromethane	17.92	1.0	20	0	89.6	60-135	17.32	3.41	30		
Dichlorodifluoromethane	15.18	1.0	20	0	75.9	30-155	15.13	0.33	30		
Ethylbenzene	19.56	1.0	20	0	97.8	75-125	18.96	3.12	30		
Isopropylbenzene	21.24	1.0	20	0	106	75-125	20.17	5.17	30		
Methyl tert-butyl ether	20.38	5.0	20	0	102	65-125	20.06	1.58	30		
Methylene chloride	20.22	5.0	20	0	101	55-140	19.77	2.25	30		
Styrene	21.57	1.0	20	0	108	65-135	19.38	10.7	30		
Tetrachloroethene	21.78	2.0	20	0	109	45-150	20.76	4.8	30		
Toluene	19.97	1.0	20	0	99.8	75-120	19.5	2.38	30		
trans-1,2-Dichloroethene	21.31	1.0	20	0	107	60-140	20.92	1.85	30		
trans-1,3-Dichloropropene	17.86	1.0	20	0	89.3	55-140	17.21	3.71	30		
Trichloroethene	22.29	1.0	20	0	111	70-125	22.1	0.856	30		
Trichlorofluoromethane	21.26	1.0	20	0	106	60-145	21.44	0.843	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138110	Instrument ID VMS7			Method: SW8260					
Vinyl chloride	22.69	1.0	20	0	113	50-145	22.19	2.23	30
Xylenes, Total	58.35	3.0	60	0	97.2	75-130	56.24	3.68	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.27</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>81.4</i>	<i>70-120</i>	<i>15.85</i>	<i>2.62</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.71</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>75-120</i>	<i>19.3</i>	<i>7.05</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.08</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95.4</i>	<i>85-115</i>	<i>18.91</i>	<i>0.895</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>18.58</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>92.9</i>	<i>85-120</i>	<i>17.96</i>	<i>3.39</i>	<i>30</i>

The following samples were analyzed in this batch:	14031379-01A	14031379-02A	14031379-03A
	14031379-04A	14031379-05A	14031379-06A
	14031379-07A	14031379-08A	14031379-09A
	14031379-10A	14031379-11A	14031379-12A
	14031379-13A		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57141** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57141-57141				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID:		Run ID: LACHAT_140403B		SeqNo: 2698515		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable U 0.0050

LCS		Sample ID: LCS-57141-57141				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID:		Run ID: LACHAT_140403B		SeqNo: 2698516		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2481 0.0050 0.25 0 99.2 83-120 0

MS		Sample ID: 14031379-01E MS				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID: W-R2330012-032614-ACN-001		Run ID: LACHAT_140403B		SeqNo: 2698518		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2408 0.0050 0.25 0.0006 96.1 70-130 0

MSD		Sample ID: 14031379-01E MSD				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID: W-R2330012-032614-ACN-001		Run ID: LACHAT_140403B		SeqNo: 2698519		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2503 0.0050 0.25 0.0006 99.9 70-130 0.2408 3.87 30

The following samples were analyzed in this batch:

14031379-01E	14031379-02E	14031379-03E
14031379-04E	14031379-05E	14031379-06E
14031379-07E	14031379-08E	14031379-09E
14031379-10E		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14031379
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57158** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57158-57158				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID:		Run ID: LACHAT_140403C				SeqNo: 2698548		Prep Date: 04/02/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable U 0.0050

LCS		Sample ID: LCS-57158-57158				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID:		Run ID: LACHAT_140403C				SeqNo: 2698549		Prep Date: 04/02/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.25 0.0050 0.25 0 100 83-120 0

MS		Sample ID: 14031379-12E MS				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID: W-R2330012-032814-ACN-012		Run ID: LACHAT_140403C				SeqNo: 2698552		Prep Date: 04/02/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2144 0.0050 0.25 0.001405 85.2 70-130 0

MSD		Sample ID: 14031379-12E MSD				Units: mg/L		Analysis Date: 04/03/14 02:05 PM		
Client ID: W-R2330012-032814-ACN-012		Run ID: LACHAT_140403C				SeqNo: 2698553		Prep Date: 04/02/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2285 0.0050 0.25 0.001405 90.8 70-130 0.2144 6.37 30

The following samples were analyzed in this batch:

14031379-11E	14031379-12E

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



Environmental

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

Chain of Custody Form

Page 1 of 2

COC ID: 105585

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: *TJB*

ALS Work Order #: 14031379

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number	R2330012	B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs											
Send Report To	Mike Frieboff, Frank Biehl	Invoice Attn	Accounts Payable	D	Cyanide - total											
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable											
				F	Metals (Including Hg) - total											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	G	Moisture											
Phone	(734) 397-3100	Phone		H	Metals (Including Hg) - dissolved <i>Field Filtered</i>											
Fax	(734) 397-3131	Fax		I												
e-Mail Address		e-Mail Address		J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
<i>1</i>	W-R2330012-032614-ACN-001	3/26/14	1105	GLW	1,2,4	8	X	X			X	X		X			
<i>2</i>	W-R2330012-032614-ACN-002	3/26/14	1410	GLW	1,2,4	8	X	X			X	X		X			
<i>3</i>	W-R2330012-032614-ACN-003	3/26/14	1530	GLW	1,2,4	8	X	X			X	X		X			
<i>4</i>	W-R2330012-032714-ACN-004	3/27/14	1035	GLW	1,2,4	8	X	X			X	X		X			
<i>5</i>	W-R2330012-032714-ACN-005	3/27/14	1135	GLW	1,2,4	8	X	X			X	X		X			
<i>6</i>	W-R2330012-032714-ACN-006	3/27/14	1240	GLW	1,2,4	8	X	X			X	X		X			
<i>7</i>	W-R2330012-032714-ACN-007	3/27/14	1352	GLW	1,2,4	8	X	X			X	X		X			
<i>8</i>	W-R2330012-032814-ACN-008	3/28/14	0950	GLW	1,2,4	8	X	X			X	X		X			
<i>9</i>	W-R2330012-032814-ACN-009	3/28/14	1100	GLW	1,2,4	8	X	X			X	X		X			
<i>10</i>	W-R2330012-032814-ACN-010	3/28/14	1200	GLW	1,2,4	8	X	X			X	X		X			

Sampler(s) Please Print & Sign <i>Adam Near</i>		Shipment Method <i>Courier</i>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour Other: _____				Results Due Date: <i>3/29/14 1000</i>	
Relinquished by: <i>[Signature]</i>	Date: <i>3-28-14</i>	Time: <i>1500</i>	Received by: <i>MSB Fringe</i>	Notes: <i>Rec'd 3/29/14 1000 & 2-7</i>					
Relinquished by: <i>[Signature]</i>	Date: <i>3/28/14</i>	Time: <i>1600</i>	Received by (Laboratory): <i>[Signature]</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)			
Logged by (Laboratory): <i>[Signature]</i>	Date: <i>3/29/14</i>	Time: <i>1400</i>	Checked by (Laboratory): <i>TJB</i>		<i>3.2°C</i>	☒ Level II Std QC ☐ TRRP Checklist ☐ Level III Std QC/Raw Data ☐ TRRP Level IV ☐ Level IV SWB46/CLP ☐ Other: _____			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035									

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.

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Environmental

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

Chain of Custody Form

Page 2 of 2

COC ID: **105584**

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Customer Information		Project Information		ALS Project Manager: <u>TBB</u> ALS Work Order #: <u>14031379</u>																
				Parameter/Method Request for Analysis																
Purchase Order		Project Name	Van Buren Landfill	A	VOCs															
Work Order		Project Number	<u>R2330012</u>	B	SVOCs															
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs															
Send Report To	<u>Mike Friedoff, Frank Biehl</u>	Invoice Attn	Accounts Payable	D	Cyanide - total															
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable															
				F	Metals (Including Hg) - total															
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	G	Moisture															
Phone	(734) 397-3100	Phone		H	Metals (Including Hg) - dissolved <u>Field Filtered</u>															
Fax	(734) 397-3131	Fax		I																
e-Mail Address		e-Mail Address		J																

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>W-R2330012-032814-ACN-011</u>	<u>3/28/14</u>	<u>1215</u>	<u>GW</u>	<u>1,2,4</u>	<u>8</u>	<u>X</u>	<u>X</u>			<u>X</u>	<u>X</u>		<u>X</u>			
2	<u>W-R2330012-032814-ACN-012</u>	<u>3/28/14</u>	<u>1330</u>	<u>GW</u>	<u>1,2,4</u>	<u>8</u>	<u>X</u>	<u>X</u>			<u>X</u>	<u>X</u>		<u>X</u>			
3	<u>Trip Blanks</u>	<u>—</u>	<u>0000</u>	<u>GW</u>	<u>1</u>	<u>4</u>	<u>X</u>										
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Adam New</u>		Shipment Method <u>Carrier</u>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other				Results Due Date: <u>3/29/14 1000</u>	
Relinquished by: <u>[Signature]</u>	Date: <u>3/28/14</u>	Time: <u>1500</u>	Received by: <u>MSG Friede</u>	Notes: <u>Rock</u>				Cooler ID	Cooler Temp.
Relinquished by: <u>[Signature]</u>	Date: <u>3/28/14</u>	Time: <u>1600</u>	Received by (Laboratory): <u>[Signature]</u>						
Logged by (Laboratory): <u>DES</u>	Date: <u>3/29/14</u>	Time: <u>1400</u>	Checked by (Laboratory): <u>TBB</u>						

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

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.

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 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>2-28-17</u> Time: <u>1:15</u> Name: <u>C. J. Smith</u> Company: <u>ALS</u>	Date: _____ Name: _____ Company: _____	

 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>2-28-17</u> Time: <u>1:15</u> Name: <u>C. J. Smith</u> Company: <u>ALS</u>	Date: _____ Name: _____ Company: _____	

 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>2-28-17</u> Time: <u>1:15</u> Name: <u>C. J. Smith</u> Company: <u>ALS</u>	Date: _____ Name: _____ Company: _____	

 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>2-28-17</u> Time: <u>1:15</u> Name: <u>C. J. Smith</u> Company: <u>ALS</u>	Date: _____ Name: _____ Company: _____	

 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>2-28-17</u> Time: <u>1:15</u> Name: <u>C. J. Smith</u> Company: <u>ALS</u>	Date: _____ Name: _____ Company: _____	

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **29-Mar-14 10:00**

Work Order: **14031379**

Received by: **DS**

Checklist completed by <u><i>Diane Shaw</i></u>	29-Mar-14	Reviewed by: <u><i>Tom Bramish</i></u>	31-Mar-14
eSignature	Date	eSignature	Date

Matrices: Groundwater

Carrier name: City Transfer

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.2 c, 3.0 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>3/29/2014 2:20:58 PM</u>		
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:

Work Order: 1404104

Project Name:
RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl
2365 Haggerty Road South
Suite 100
Canton, MI 48188
(734) 397-3100

07-Apr-2014



Certificate No: MN 532786



07-Apr-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **1404104**

Dear Frank,

ALS Environmental received 7 samples on 02-Apr-2014 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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: Tom Beamish

Tom Beamish
Senior Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404104

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>
1404104-01	S-R2330012-033114-ACN-001	Soil		03/31/14 09:45	04/02/14 09:00	☐
1404104-02	W-R2330012-033114-ACN-001	Aqueous		03/31/14 10:20	04/02/14 09:00	☐
1404104-03	S-R2330012-033114-ACN-002	Soil		03/31/14 11:20	04/02/14 09:00	☐
1404104-04	W-R2330012-033114-ACN-002	Aqueous		03/31/14 11:45	04/02/14 09:00	☐
1404104-05	S-R2330012-033114-ACN-003	Soil		03/31/14 13:15	04/02/14 09:00	☐
1404104-06	W-R2330012-033114-ACN-003	Aqueous		03/31/14 13:55	04/02/14 09:00	☐
1404104-07	Trip Blank	Water		03/31/14	04/02/14 09:00	☐

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
WorkOrder: 1404104

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404104

Case Narrative**QC Comments:**

Batch 57139, Method VOC_8260_S, Sample LCS-57139: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for Bromomethane.

Batch R138227, Method VOC_8260_W, Sample VLCSW1-140402: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for Bromomethane.

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-001
Collection Date: 03/31/14 09:45 AM

Work Order: 1404104
Lab ID: 1404104-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3541 / 4/2/14		Analyst: RM
<u>BatchID: 57134</u>							
1,1'-Biphenyl	U		6.0	400	µg/Kg-dry	1	04/03/14 02:06
2,4,5-Trichlorophenol	U		10	190	µg/Kg-dry	1	04/03/14 02:06
2,4,6-Trichlorophenol	U		6.8	190	µg/Kg-dry	1	04/03/14 02:06
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	04/03/14 02:06
2,4-Dimethylphenol	U		65	400	µg/Kg-dry	1	04/03/14 02:06
2,4-Dinitrophenol	U		36	800	µg/Kg-dry	1	04/03/14 02:06
2,4-Dinitrotoluene	U		13	190	µg/Kg-dry	1	04/03/14 02:06
2,6-Dinitrotoluene	U		21	190	µg/Kg-dry	1	04/03/14 02:06
2-Chloronaphthalene	U		1.9	97	µg/Kg-dry	1	04/03/14 02:06
2-Chlorophenol	U		12	190	µg/Kg-dry	1	04/03/14 02:06
2-Methylnaphthalene	U		3.3	97	µg/Kg-dry	1	04/03/14 02:06
2-Methylphenol	U		16	190	µg/Kg-dry	1	04/03/14 02:06
2-Nitroaniline	U		16	800	µg/Kg-dry	1	04/03/14 02:06
2-Nitrophenol	U		14	190	µg/Kg-dry	1	04/03/14 02:06
3,3'-Dichlorobenzidine	U		500	800	µg/Kg-dry	1	04/03/14 02:06
3-Nitroaniline	U		14	800	µg/Kg-dry	1	04/03/14 02:06
4,6-Dinitro-2-methylphenol	U		33	400	µg/Kg-dry	1	04/03/14 02:06
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	04/03/14 02:06
4-Chloro-3-methylphenol	U		9.3	190	µg/Kg-dry	1	04/03/14 02:06
4-Chloroaniline	U		12	400	µg/Kg-dry	1	04/03/14 02:06
4-Chlorophenyl phenyl ether	U		12	190	µg/Kg-dry	1	04/03/14 02:06
4-Methylphenol	U		19	190	µg/Kg-dry	1	04/03/14 02:06
4-Nitroaniline	U		11	800	µg/Kg-dry	1	04/03/14 02:06
4-Nitrophenol	U		8.0	800	µg/Kg-dry	1	04/03/14 02:06
Acenaphthene	U		1.2	36	µg/Kg-dry	1	04/03/14 02:06
Acenaphthylene	U		1.5	36	µg/Kg-dry	1	04/03/14 02:06
Acetophenone	U		6.0	400	µg/Kg-dry	1	04/03/14 02:06
Anthracene	U		1.6	36	µg/Kg-dry	1	04/03/14 02:06
Atrazine	U		12	61	µg/Kg-dry	1	04/03/14 02:06
Benzaldehyde	U		15	400	µg/Kg-dry	1	04/03/14 02:06
Benzo(a)anthracene	U		1.6	36	µg/Kg-dry	1	04/03/14 02:06
Benzo(a)pyrene	U		2.6	36	µg/Kg-dry	1	04/03/14 02:06
Benzo(b)fluoranthene	U		2.4	36	µg/Kg-dry	1	04/03/14 02:06
Benzo(g,h,i)perylene	U		3.2	36	µg/Kg-dry	1	04/03/14 02:06
Benzo(k)fluoranthene	U		1.7	36	µg/Kg-dry	1	04/03/14 02:06
Bis(2-chloroethoxy)methane	U		13	190	µg/Kg-dry	1	04/03/14 02:06
Bis(2-chloroethyl)ether	U		13	190	µg/Kg-dry	1	04/03/14 02:06

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-001
Collection Date: 03/31/14 09:45 AM

Work Order: 1404104
Lab ID: 1404104-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroisopropyl)ether	U		17	190	µg/Kg-dry	1	04/03/14 02:06
Bis(2-ethylhexyl)phthalate	U		13	400	µg/Kg-dry	1	04/03/14 02:06
Butyl benzyl phthalate	U		15	190	µg/Kg-dry	1	04/03/14 02:06
Caprolactam	U		18	400	µg/Kg-dry	1	04/03/14 02:06
Carbazole	U		12	190	µg/Kg-dry	1	04/03/14 02:06
Chrysene	U		1.9	36	µg/Kg-dry	1	04/03/14 02:06
Dibenzo(a,h)anthracene	U		3.0	36	µg/Kg-dry	1	04/03/14 02:06
Dibenzofuran	U		13	190	µg/Kg-dry	1	04/03/14 02:06
Diethyl phthalate	U		13	400	µg/Kg-dry	1	04/03/14 02:06
Dimethyl phthalate	U		14	400	µg/Kg-dry	1	04/03/14 02:06
Di-n-butyl phthalate	U		5.8	400	µg/Kg-dry	1	04/03/14 02:06
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	04/03/14 02:06
Fluoranthene	U		2.8	36	µg/Kg-dry	1	04/03/14 02:06
Fluorene	U		2.7	36	µg/Kg-dry	1	04/03/14 02:06
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	04/03/14 02:06
Hexachlorobutadiene	U		14	61	µg/Kg-dry	1	04/03/14 02:06
Hexachlorocyclopentadiene	U		13	400	µg/Kg-dry	1	04/03/14 02:06
Hexachloroethane	U		19	190	µg/Kg-dry	1	04/03/14 02:06
Indeno(1,2,3-cd)pyrene	U		2.7	36	µg/Kg-dry	1	04/03/14 02:06
Isophorone	U		13	190	µg/Kg-dry	1	04/03/14 02:06
Naphthalene	U		3.0	36	µg/Kg-dry	1	04/03/14 02:06
Nitrobenzene	U		16	190	µg/Kg-dry	1	04/03/14 02:06
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	04/03/14 02:06
N-Nitrosodiphenylamine	U		72	190	µg/Kg-dry	1	04/03/14 02:06
Pentachlorophenol	U		7.8	24	µg/Kg-dry	1	04/03/14 02:06
Phenanthrene	U		1.6	36	µg/Kg-dry	1	04/03/14 02:06
Phenol	U		14	190	µg/Kg-dry	1	04/03/14 02:06
Pyrene	U		2.7	36	µg/Kg-dry	1	04/03/14 02:06
Surr: 2,4,6-Tribromophenol	84.3			34-140	%REC	1	04/03/14 02:06
Surr: 2-Fluorobiphenyl	67.7			12-100	%REC	1	04/03/14 02:06
Surr: 2-Fluorophenol	74.0			33-117	%REC	1	04/03/14 02:06
Surr: 4-Terphenyl-d14	94.9			25-137	%REC	1	04/03/14 02:06
Surr: Nitrobenzene-d5	78.1			37-107	%REC	1	04/03/14 02:06
Surr: Phenol-d6	70.9			40-106	%REC	1	04/03/14 02:06
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/2/14		Analyst: RS
BatchID: 57139							
1,1,1-Trichloroethane	U		14	37	µg/Kg-dry	1	04/02/14 18:08
1,1,2,2-Tetrachloroethane	U		16	37	µg/Kg-dry	1	04/02/14 18:08
1,1,2-Trichloroethane	U		13	37	µg/Kg-dry	1	04/02/14 18:08

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-001
Collection Date: 03/31/14 09:45 AM

Work Order: 1404104
Lab ID: 1404104-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichlorotrifluoroethane	U		14	37	µg/Kg-dry	1	04/02/14 18:08
1,1-Dichloroethane	U		14	37	µg/Kg-dry	1	04/02/14 18:08
1,1-Dichloroethene	U		16	37	µg/Kg-dry	1	04/02/14 18:08
1,2,4-Trichlorobenzene	U		19	37	µg/Kg-dry	1	04/02/14 18:08
1,2-Dibromo-3-chloropropane	U		18	37	µg/Kg-dry	1	04/02/14 18:08
1,2-Dibromoethane	U		15	37	µg/Kg-dry	1	04/02/14 18:08
1,2-Dichlorobenzene	U		15	37	µg/Kg-dry	1	04/02/14 18:08
1,2-Dichloroethane	U		18	37	µg/Kg-dry	1	04/02/14 18:08
1,2-Dichloropropane	U		12	37	µg/Kg-dry	1	04/02/14 18:08
1,3-Dichlorobenzene	U		15	37	µg/Kg-dry	1	04/02/14 18:08
1,4-Dichlorobenzene	U		14	37	µg/Kg-dry	1	04/02/14 18:08
2-Butanone	U		91	250	µg/Kg-dry	1	04/02/14 18:08
2-Hexanone	U		9.1	37	µg/Kg-dry	1	04/02/14 18:08
4-Methyl-2-pentanone	U		12	37	µg/Kg-dry	1	04/02/14 18:08
Acetone	U		78	120	µg/Kg-dry	1	04/02/14 18:08
Benzene	U		15	37	µg/Kg-dry	1	04/02/14 18:08
Bromodichloromethane	U		8.3	37	µg/Kg-dry	1	04/02/14 18:08
Bromoform	U		7.3	37	µg/Kg-dry	1	04/02/14 18:08
Bromomethane	U		14	92	µg/Kg-dry	1	04/02/14 18:08
Carbon disulfide	U		18	37	µg/Kg-dry	1	04/02/14 18:08
Carbon tetrachloride	U		10	37	µg/Kg-dry	1	04/02/14 18:08
Chlorobenzene	U		15	37	µg/Kg-dry	1	04/02/14 18:08
Chloroethane	U		78	120	µg/Kg-dry	1	04/02/14 18:08
Chloroform	U		15	37	µg/Kg-dry	1	04/02/14 18:08
Chloromethane	U		21	120	µg/Kg-dry	1	04/02/14 18:08
cis-1,2-Dichloroethene	U		15	37	µg/Kg-dry	1	04/02/14 18:08
cis-1,3-Dichloropropene	U		13	37	µg/Kg-dry	1	04/02/14 18:08
Cyclohexane	U		17	37	µg/Kg-dry	1	04/02/14 18:08
Dibromochloromethane	U		6.8	37	µg/Kg-dry	1	04/02/14 18:08
Dichlorodifluoromethane	U		17	37	µg/Kg-dry	1	04/02/14 18:08
Ethylbenzene	U		14	37	µg/Kg-dry	1	04/02/14 18:08
Isopropylbenzene	U		16	37	µg/Kg-dry	1	04/02/14 18:08
Methyl acetate	U		50	250	µg/Kg-dry	1	04/02/14 18:08
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	04/02/14 18:08
Methylcyclohexane	U		17	37	µg/Kg-dry	1	04/02/14 18:08
Methylene chloride	U		14	37	µg/Kg-dry	1	04/02/14 18:08
Styrene	U		14	37	µg/Kg-dry	1	04/02/14 18:08
Tetrachloroethene	U		16	37	µg/Kg-dry	1	04/02/14 18:08
Toluene	U		14	37	µg/Kg-dry	1	04/02/14 18:08
trans-1,2-Dichloroethene	U		11	37	µg/Kg-dry	1	04/02/14 18:08

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-001
Collection Date: 03/31/14 09:45 AM

Work Order: 1404104
Lab ID: 1404104-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,3-Dichloropropene	U		12	37	µg/Kg-dry	1	04/02/14 18:08
Trichloroethene	U		17	37	µg/Kg-dry	1	04/02/14 18:08
Trichlorofluoromethane	U		10	37	µg/Kg-dry	1	04/02/14 18:08
Vinyl chloride	U		17	37	µg/Kg-dry	1	04/02/14 18:08
Xylenes, Total	U		44	110	µg/Kg-dry	1	04/02/14 18:08
Surr: 1,2-Dichloroethane-d4	109			70-130	%REC	1	04/02/14 18:08
Surr: 4-Bromofluorobenzene	93.2			70-130	%REC	1	04/02/14 18:08
Surr: Dibromofluoromethane	96.0			70-130	%REC	1	04/02/14 18:08
Surr: Toluene-d8	102			70-130	%REC	1	04/02/14 18:08
CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: <u>57241</u>							
Cyanide, Total	0.15	J	0.029	0.62	mg/Kg-dry	1	04/04/14 15:28
MOISTURE			A2540 G				Analyst: AT
BatchID: <u>R138307</u>							
Moisture	19		0.025	0.050	% of sample	1	04/02/14 13:35

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-001
Collection Date: 03/31/14 10:20 AM

Work Order: 1404104
Lab ID: 1404104-02
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA (DISSOLVED)			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
BatchID: <u>57173</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 13:36
METALS BY ICP-MS (DISSOLVED)			SW6020A			Prep: SW3005A / 4/3/14	Analyst: ML
BatchID: <u>57199</u>							
Aluminum	0.035	J	0.00078	0.050	mg/L	1	04/03/14 19:39
Antimony	0.0012	J	0.000036	0.0020	mg/L	1	04/03/14 19:39
Arsenic	0.044		0.00058	0.0050	mg/L	1	04/03/14 19:39
Barium	0.54		0.000063	0.10	mg/L	1	04/03/14 19:39
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 19:39
Cadmium	0.00012	J	0.000045	0.0010	mg/L	1	04/03/14 19:39
Chromium	0.00097	J	0.00027	0.010	mg/L	1	04/03/14 19:39
Cobalt	0.0041	J	0.000041	0.020	mg/L	1	04/03/14 19:39
Copper	0.00076	J	0.00053	0.0040	mg/L	1	04/03/14 19:39
Iron	11		0.0053	0.20	mg/L	1	04/03/14 19:39
Lead	U		0.000051	0.0030	mg/L	1	04/03/14 19:39
Manganese	0.27		0.000054	0.050	mg/L	1	04/03/14 19:39
Nickel	0.031		0.00025	0.020	mg/L	1	04/03/14 19:39
Selenium	0.00098	J	0.00064	0.0050	mg/L	1	04/03/14 19:39
Silver	U		0.000042	0.00020	mg/L	1	04/03/14 19:39
Thallium	U		0.000062	0.0020	mg/L	1	04/03/14 19:39
Vanadium	0.00086	J	0.00016	0.0040	mg/L	1	04/03/14 19:39
Zinc	0.36		0.00048	0.050	mg/L	1	04/03/14 19:39
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3510 / 4/3/14	Analyst: RM
BatchID: <u>57176</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/04/14 14:50
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/04/14 14:50
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/04/14 14:50
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/04/14 14:50
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/04/14 14:50
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/04/14 14:50
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/04/14 14:50
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/04/14 14:50
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/04/14 14:50
2-Chlorophenol	U		0.32	10	µg/L	1	04/04/14 14:50
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/04/14 14:50
2-Methylphenol	U		0.20	10	µg/L	1	04/04/14 14:50
2-Nitroaniline	U		0.34	25	µg/L	1	04/04/14 14:50

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-001
Collection Date: 03/31/14 10:20 AM

Work Order: 1404104
Lab ID: 1404104-02
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/04/14 14:50
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/04/14 14:50
3-Nitroaniline	U		0.34	25	µg/L	1	04/04/14 14:50
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/04/14 14:50
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/04/14 14:50
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/04/14 14:50
4-Chloroaniline	U		0.32	10	µg/L	1	04/04/14 14:50
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/04/14 14:50
4-Methylphenol	U		0.20	10	µg/L	1	04/04/14 14:50
4-Nitroaniline	U		0.30	25	µg/L	1	04/04/14 14:50
4-Nitrophenol	U		0.51	25	µg/L	1	04/04/14 14:50
Acenaphthene	U		0.11	5.0	µg/L	1	04/04/14 14:50
Acenaphthylene	U		0.12	5.0	µg/L	1	04/04/14 14:50
Acetophenone	U		0.090	5.0	µg/L	1	04/04/14 14:50
Anthracene	U		0.72	5.0	µg/L	1	04/04/14 14:50
Atrazine	U		0.13	5.0	µg/L	1	04/04/14 14:50
Benzaldehyde	U		0.46	10	µg/L	1	04/04/14 14:50
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/04/14 14:50
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/04/14 14:50
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/04/14 14:50
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/04/14 14:50
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/04/14 14:50
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/04/14 14:50
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/04/14 14:50
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/04/14 14:50
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/04/14 14:50
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/04/14 14:50
Caprolactam	U		4.7	10	µg/L	1	04/04/14 14:50
Carbazole	U		0.16	10	µg/L	1	04/04/14 14:50
Chrysene	U		0.71	1.0	µg/L	1	04/04/14 14:50
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/04/14 14:50
Dibenzofuran	U		0.28	4.0	µg/L	1	04/04/14 14:50
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/04/14 14:50
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/04/14 14:50
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/04/14 14:50
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/04/14 14:50
Fluoranthene	U		0.77	1.0	µg/L	1	04/04/14 14:50
Fluorene	U		0.10	5.0	µg/L	1	04/04/14 14:50
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/04/14 14:50
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/04/14 14:50

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-001
Collection Date: 03/31/14 10:20 AM

Work Order: 1404104
Lab ID: 1404104-02
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/04/14 14:50
Hexachloroethane	U		0.47	5.0	µg/L	1	04/04/14 14:50
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/04/14 14:50
Isophorone	U		0.30	5.0	µg/L	1	04/04/14 14:50
Naphthalene	U		0.12	5.0	µg/L	1	04/04/14 14:50
Nitrobenzene	U		0.33	3.0	µg/L	1	04/04/14 14:50
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/04/14 14:50
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/04/14 14:50
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/04/14 14:50
Phenanthrene	U		0.86	2.0	µg/L	1	04/04/14 14:50
Phenol	U		0.32	5.0	µg/L	1	04/04/14 14:50
Pyrene	U		0.65	5.0	µg/L	1	04/04/14 14:50
Surr: 2,4,6-Tribromophenol	87.6			32-115	%REC	1	04/04/14 14:50
Surr: 2-Fluorobiphenyl	72.3			32-100	%REC	1	04/04/14 14:50
Surr: 2-Fluorophenol	45.9			22-59	%REC	1	04/04/14 14:50
Surr: 4-Terphenyl-d14	105			23-112	%REC	1	04/04/14 14:50
Surr: Nitrobenzene-d5	79.8			31-93	%REC	1	04/04/14 14:50
Surr: Phenol-d6	30.5			13-36	%REC	1	04/04/14 14:50

VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: RS

BatchID: R138227

1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/02/14 19:45
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/02/14 19:45
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/02/14 19:45
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/02/14 19:45
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/02/14 19:45
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/02/14 19:45
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/02/14 19:45
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/02/14 19:45
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/02/14 19:45
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/02/14 19:45
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/02/14 19:45
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/02/14 19:45
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/02/14 19:45
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/02/14 19:45
2-Butanone	U		0.64	25	µg/L	1	04/02/14 19:45
2-Hexanone	U		0.19	50	µg/L	1	04/02/14 19:45
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/02/14 19:45
Acetone	14	J	3.0	50	µg/L	1	04/02/14 19:45
Benzene	U		0.14	1.0	µg/L	1	04/02/14 19:45

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-001
Collection Date: 03/31/14 10:20 AM

Work Order: 1404104
Lab ID: 1404104-02
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/02/14 19:45
Bromoform	U		0.18	1.0	µg/L	1	04/02/14 19:45
Bromomethane	U		0.38	5.0	µg/L	1	04/02/14 19:45
Carbon disulfide	U		0.26	5.0	µg/L	1	04/02/14 19:45
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/02/14 19:45
Chlorobenzene	U		0.12	1.0	µg/L	1	04/02/14 19:45
Chloroethane	U		0.25	5.0	µg/L	1	04/02/14 19:45
Chloroform	U		0.15	1.0	µg/L	1	04/02/14 19:45
Chloromethane	U		0.29	5.0	µg/L	1	04/02/14 19:45
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/02/14 19:45
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/02/14 19:45
Cyclohexane	U		0.20	1.0	µg/L	1	04/02/14 19:45
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/02/14 19:45
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/02/14 19:45
Ethylbenzene	U		0.12	1.0	µg/L	1	04/02/14 19:45
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/02/14 19:45
Methyl acetate	U		0.76	10	µg/L	1	04/02/14 19:45
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/02/14 19:45
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/02/14 19:45
Methylene chloride	U		0.75	5.0	µg/L	1	04/02/14 19:45
Styrene	U		0.12	1.0	µg/L	1	04/02/14 19:45
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/02/14 19:45
Toluene	U		0.13	1.0	µg/L	1	04/02/14 19:45
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/02/14 19:45
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/02/14 19:45
Trichloroethene	U		0.16	1.0	µg/L	1	04/02/14 19:45
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/02/14 19:45
Vinyl chloride	U		0.15	1.0	µg/L	1	04/02/14 19:45
Xylenes, Total	U		0.30	3.0	µg/L	1	04/02/14 19:45
Surr: 1,2-Dichloroethane-d4	112			70-120	%REC	1	04/02/14 19:45
Surr: 4-Bromofluorobenzene	86.2			75-120	%REC	1	04/02/14 19:45
Surr: Dibromofluoromethane	101			85-115	%REC	1	04/02/14 19:45
Surr: Toluene-d8	95.0			85-120	%REC	1	04/02/14 19:45
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: 57242							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	04/04/14 15:28

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:20 AM

Work Order: 1404104
Lab ID: 1404104-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3541 / 4/2/14		Analyst: RM
<u>BatchID: 57134</u>							
1,1'-Biphenyl	U		5.6	370	µg/Kg-dry	1	04/03/14 02:26
2,4,5-Trichlorophenol	U		9.4	180	µg/Kg-dry	1	04/03/14 02:26
2,4,6-Trichlorophenol	U		6.4	180	µg/Kg-dry	1	04/03/14 02:26
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	04/03/14 02:26
2,4-Dimethylphenol	U		61	370	µg/Kg-dry	1	04/03/14 02:26
2,4-Dinitrophenol	U		34	750	µg/Kg-dry	1	04/03/14 02:26
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	04/03/14 02:26
2,6-Dinitrotoluene	U		20	180	µg/Kg-dry	1	04/03/14 02:26
2-Chloronaphthalene	U		1.8	91	µg/Kg-dry	1	04/03/14 02:26
2-Chlorophenol	U		11	180	µg/Kg-dry	1	04/03/14 02:26
2-Methylnaphthalene	U		3.1	91	µg/Kg-dry	1	04/03/14 02:26
2-Methylphenol	U		15	180	µg/Kg-dry	1	04/03/14 02:26
2-Nitroaniline	U		15	750	µg/Kg-dry	1	04/03/14 02:26
2-Nitrophenol	U		13	180	µg/Kg-dry	1	04/03/14 02:26
3,3'-Dichlorobenzidine	U		470	750	µg/Kg-dry	1	04/03/14 02:26
3-Nitroaniline	U		13	750	µg/Kg-dry	1	04/03/14 02:26
4,6-Dinitro-2-methylphenol	U		31	370	µg/Kg-dry	1	04/03/14 02:26
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	04/03/14 02:26
4-Chloro-3-methylphenol	U		8.7	180	µg/Kg-dry	1	04/03/14 02:26
4-Chloroaniline	U		11	370	µg/Kg-dry	1	04/03/14 02:26
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	04/03/14 02:26
4-Methylphenol	U		18	180	µg/Kg-dry	1	04/03/14 02:26
4-Nitroaniline	U		10	750	µg/Kg-dry	1	04/03/14 02:26
4-Nitrophenol	U		7.5	750	µg/Kg-dry	1	04/03/14 02:26
Acenaphthene	U		1.1	34	µg/Kg-dry	1	04/03/14 02:26
Acenaphthylene	U		1.4	34	µg/Kg-dry	1	04/03/14 02:26
Acetophenone	U		5.6	370	µg/Kg-dry	1	04/03/14 02:26
Anthracene	U		1.5	34	µg/Kg-dry	1	04/03/14 02:26
Atrazine	U		11	57	µg/Kg-dry	1	04/03/14 02:26
Benzaldehyde	U		14	370	µg/Kg-dry	1	04/03/14 02:26
Benzo(a)anthracene	U		1.5	34	µg/Kg-dry	1	04/03/14 02:26
Benzo(a)pyrene	U		2.5	34	µg/Kg-dry	1	04/03/14 02:26
Benzo(b)fluoranthene	U		2.2	34	µg/Kg-dry	1	04/03/14 02:26
Benzo(g,h,i)perylene	U		3.0	34	µg/Kg-dry	1	04/03/14 02:26
Benzo(k)fluoranthene	U		1.6	34	µg/Kg-dry	1	04/03/14 02:26
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	04/03/14 02:26
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	04/03/14 02:26

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:20 AM

Work Order: 1404104
Lab ID: 1404104-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroisopropyl)ether	U		16	180	µg/Kg-dry	1	04/03/14 02:26
Bis(2-ethylhexyl)phthalate	U		12	370	µg/Kg-dry	1	04/03/14 02:26
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	04/03/14 02:26
Caprolactam	U		16	370	µg/Kg-dry	1	04/03/14 02:26
Carbazole	U		11	180	µg/Kg-dry	1	04/03/14 02:26
Chrysene	U		1.8	34	µg/Kg-dry	1	04/03/14 02:26
Dibenzo(a,h)anthracene	U		2.8	34	µg/Kg-dry	1	04/03/14 02:26
Dibenzofuran	U		12	180	µg/Kg-dry	1	04/03/14 02:26
Diethyl phthalate	U		12	370	µg/Kg-dry	1	04/03/14 02:26
Dimethyl phthalate	U		13	370	µg/Kg-dry	1	04/03/14 02:26
Di-n-butyl phthalate	U		5.5	370	µg/Kg-dry	1	04/03/14 02:26
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	04/03/14 02:26
Fluoranthene	U		2.6	34	µg/Kg-dry	1	04/03/14 02:26
Fluorene	U		2.5	34	µg/Kg-dry	1	04/03/14 02:26
Hexachlorobenzene	U		11	180	µg/Kg-dry	1	04/03/14 02:26
Hexachlorobutadiene	U		13	57	µg/Kg-dry	1	04/03/14 02:26
Hexachlorocyclopentadiene	U		12	370	µg/Kg-dry	1	04/03/14 02:26
Hexachloroethane	U		18	180	µg/Kg-dry	1	04/03/14 02:26
Indeno(1,2,3-cd)pyrene	U		2.5	34	µg/Kg-dry	1	04/03/14 02:26
Isophorone	U		13	180	µg/Kg-dry	1	04/03/14 02:26
Naphthalene	U		2.8	34	µg/Kg-dry	1	04/03/14 02:26
Nitrobenzene	U		15	180	µg/Kg-dry	1	04/03/14 02:26
N-Nitrosodi-n-propylamine	U		14	180	µg/Kg-dry	1	04/03/14 02:26
N-Nitrosodiphenylamine	U		67	180	µg/Kg-dry	1	04/03/14 02:26
Pentachlorophenol	U		7.3	23	µg/Kg-dry	1	04/03/14 02:26
Phenanthrene	U		1.5	34	µg/Kg-dry	1	04/03/14 02:26
Phenol	U		13	180	µg/Kg-dry	1	04/03/14 02:26
Pyrene	U		2.6	34	µg/Kg-dry	1	04/03/14 02:26
Surr: 2,4,6-Tribromophenol	75.7			34-140	%REC	1	04/03/14 02:26
Surr: 2-Fluorobiphenyl	74.7			12-100	%REC	1	04/03/14 02:26
Surr: 2-Fluorophenol	80.2			33-117	%REC	1	04/03/14 02:26
Surr: 4-Terphenyl-d14	90.7			25-137	%REC	1	04/03/14 02:26
Surr: Nitrobenzene-d5	86.8			37-107	%REC	1	04/03/14 02:26
Surr: Phenol-d6	75.8			40-106	%REC	1	04/03/14 02:26
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/2/14		Analyst: RS
BatchID: 57139							
1,1,1-Trichloroethane	U		13	34	µg/Kg-dry	1	04/02/14 18:32
1,1,2,2-Tetrachloroethane	U		15	34	µg/Kg-dry	1	04/02/14 18:32
1,1,2-Trichloroethane	U		12	34	µg/Kg-dry	1	04/02/14 18:32

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:20 AM

Work Order: 1404104
Lab ID: 1404104-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichlorotrifluoroethane	U		13	34	µg/Kg-dry	1	04/02/14 18:32
1,1-Dichloroethane	U		13	34	µg/Kg-dry	1	04/02/14 18:32
1,1-Dichloroethene	U		14	34	µg/Kg-dry	1	04/02/14 18:32
1,2,4-Trichlorobenzene	U		18	34	µg/Kg-dry	1	04/02/14 18:32
1,2-Dibromo-3-chloropropane	U		17	34	µg/Kg-dry	1	04/02/14 18:32
1,2-Dibromoethane	U		14	34	µg/Kg-dry	1	04/02/14 18:32
1,2-Dichlorobenzene	U		14	34	µg/Kg-dry	1	04/02/14 18:32
1,2-Dichloroethane	U		16	34	µg/Kg-dry	1	04/02/14 18:32
1,2-Dichloropropane	U		11	34	µg/Kg-dry	1	04/02/14 18:32
1,3-Dichlorobenzene	U		14	34	µg/Kg-dry	1	04/02/14 18:32
1,4-Dichlorobenzene	U		13	34	µg/Kg-dry	1	04/02/14 18:32
2-Butanone	U		85	230	µg/Kg-dry	1	04/02/14 18:32
2-Hexanone	U		8.4	34	µg/Kg-dry	1	04/02/14 18:32
4-Methyl-2-pentanone	U		12	34	µg/Kg-dry	1	04/02/14 18:32
Acetone	U		73	110	µg/Kg-dry	1	04/02/14 18:32
Benzene	U		14	34	µg/Kg-dry	1	04/02/14 18:32
Bromodichloromethane	U		7.7	34	µg/Kg-dry	1	04/02/14 18:32
Bromoform	U		6.7	34	µg/Kg-dry	1	04/02/14 18:32
Bromomethane	U		13	86	µg/Kg-dry	1	04/02/14 18:32
Carbon disulfide	U		17	34	µg/Kg-dry	1	04/02/14 18:32
Carbon tetrachloride	U		9.7	34	µg/Kg-dry	1	04/02/14 18:32
Chlorobenzene	U		14	34	µg/Kg-dry	1	04/02/14 18:32
Chloroethane	U		73	110	µg/Kg-dry	1	04/02/14 18:32
Chloroform	U		14	34	µg/Kg-dry	1	04/02/14 18:32
Chloromethane	U		19	110	µg/Kg-dry	1	04/02/14 18:32
cis-1,2-Dichloroethene	U		14	34	µg/Kg-dry	1	04/02/14 18:32
cis-1,3-Dichloropropene	U		12	34	µg/Kg-dry	1	04/02/14 18:32
Cyclohexane	U		15	34	µg/Kg-dry	1	04/02/14 18:32
Dibromochloromethane	U		6.3	34	µg/Kg-dry	1	04/02/14 18:32
Dichlorodifluoromethane	U		15	34	µg/Kg-dry	1	04/02/14 18:32
Ethylbenzene	U		13	34	µg/Kg-dry	1	04/02/14 18:32
Isopropylbenzene	U		15	34	µg/Kg-dry	1	04/02/14 18:32
Methyl acetate	U		46	230	µg/Kg-dry	1	04/02/14 18:32
Methyl tert-butyl ether	U		15	34	µg/Kg-dry	1	04/02/14 18:32
Methylcyclohexane	U		16	34	µg/Kg-dry	1	04/02/14 18:32
Methylene chloride	U		13	34	µg/Kg-dry	1	04/02/14 18:32
Styrene	U		13	34	µg/Kg-dry	1	04/02/14 18:32
Tetrachloroethene	U		15	34	µg/Kg-dry	1	04/02/14 18:32
Toluene	U		13	34	µg/Kg-dry	1	04/02/14 18:32
trans-1,2-Dichloroethene	U		11	34	µg/Kg-dry	1	04/02/14 18:32

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:20 AM

Work Order: 1404104
Lab ID: 1404104-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,3-Dichloropropene	U		11	34	µg/Kg-dry	1	04/02/14 18:32
Trichloroethene	U		16	34	µg/Kg-dry	1	04/02/14 18:32
Trichlorofluoromethane	U		9.4	34	µg/Kg-dry	1	04/02/14 18:32
Vinyl chloride	U		15	34	µg/Kg-dry	1	04/02/14 18:32
Xylenes, Total	U		40	100	µg/Kg-dry	1	04/02/14 18:32
Surr: 1,2-Dichloroethane-d4	110			70-130	%REC	1	04/02/14 18:32
Surr: 4-Bromofluorobenzene	92.8			70-130	%REC	1	04/02/14 18:32
Surr: Dibromofluoromethane	96.8			70-130	%REC	1	04/02/14 18:32
Surr: Toluene-d8	99.9			70-130	%REC	1	04/02/14 18:32
CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: <u>57241</u>							
Cyanide, Total	0.11	J	0.026	0.57	mg/Kg-dry	1	04/04/14 15:28
MOISTURE			A2540 G				Analyst: AT
BatchID: <u>R138307</u>							
Moisture	12		0.025	0.050	% of sample	1	04/02/14 13:35

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:45 AM

Work Order: 1404104
Lab ID: 1404104-04
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA (DISSOLVED)			SW7470		Prep: SW7470 / 4/3/14		Analyst: LR
<u>BatchID: 57173</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 13:38
METALS BY ICP-MS (DISSOLVED)			SW6020A		Prep: SW3005A / 4/3/14		Analyst: ML
<u>BatchID: 57199</u>							
Aluminum	0.038	J	0.00078	0.050	mg/L	1	04/03/14 19:45
Antimony	0.00016	J	0.000036	0.0020	mg/L	1	04/03/14 19:45
Arsenic	0.0057		0.00058	0.0050	mg/L	1	04/03/14 19:45
Barium	0.37		0.000063	0.10	mg/L	1	04/03/14 19:45
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 19:45
Cadmium	0.000046	J	0.000045	0.0010	mg/L	1	04/03/14 19:45
Chromium	0.00062	J	0.00027	0.010	mg/L	1	04/03/14 19:45
Cobalt	0.0039	J	0.000041	0.020	mg/L	1	04/03/14 19:45
Copper	U		0.00053	0.0040	mg/L	1	04/03/14 19:45
Iron	7.0		0.0053	0.20	mg/L	1	04/03/14 19:45
Lead	U		0.000051	0.0030	mg/L	1	04/03/14 19:45
Manganese	0.39		0.000054	0.050	mg/L	1	04/03/14 19:45
Nickel	0.0075	J	0.00025	0.020	mg/L	1	04/03/14 19:45
Selenium	0.0017	J	0.00064	0.0050	mg/L	1	04/03/14 19:45
Silver	U		0.000042	0.00020	mg/L	1	04/03/14 19:45
Thallium	U		0.000062	0.0020	mg/L	1	04/03/14 19:45
Vanadium	0.00069	J	0.00016	0.0040	mg/L	1	04/03/14 19:45
Zinc	0.019	J	0.00048	0.050	mg/L	1	04/03/14 19:45
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3510 / 4/3/14		Analyst: RM
<u>BatchID: 57176</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/04/14 15:10
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/04/14 15:10
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/04/14 15:10
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/04/14 15:10
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/04/14 15:10
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/04/14 15:10
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/04/14 15:10
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/04/14 15:10
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/04/14 15:10
2-Chlorophenol	U		0.32	10	µg/L	1	04/04/14 15:10
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/04/14 15:10
2-Methylphenol	U		0.20	10	µg/L	1	04/04/14 15:10
2-Nitroaniline	U		0.34	25	µg/L	1	04/04/14 15:10

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:45 AM

Work Order: 1404104
Lab ID: 1404104-04
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/04/14 15:10
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/04/14 15:10
3-Nitroaniline	U		0.34	25	µg/L	1	04/04/14 15:10
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/04/14 15:10
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/04/14 15:10
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/04/14 15:10
4-Chloroaniline	U		0.32	10	µg/L	1	04/04/14 15:10
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/04/14 15:10
4-Methylphenol	U		0.20	10	µg/L	1	04/04/14 15:10
4-Nitroaniline	U		0.30	25	µg/L	1	04/04/14 15:10
4-Nitrophenol	U		0.51	25	µg/L	1	04/04/14 15:10
Acenaphthene	U		0.11	5.0	µg/L	1	04/04/14 15:10
Acenaphthylene	U		0.12	5.0	µg/L	1	04/04/14 15:10
Acetophenone	U		0.090	5.0	µg/L	1	04/04/14 15:10
Anthracene	U		0.72	5.0	µg/L	1	04/04/14 15:10
Atrazine	U		0.13	5.0	µg/L	1	04/04/14 15:10
Benzaldehyde	U		0.46	10	µg/L	1	04/04/14 15:10
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/04/14 15:10
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/04/14 15:10
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/04/14 15:10
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/04/14 15:10
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/04/14 15:10
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/04/14 15:10
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/04/14 15:10
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/04/14 15:10
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/04/14 15:10
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/04/14 15:10
Caprolactam	U		4.7	10	µg/L	1	04/04/14 15:10
Carbazole	U		0.16	10	µg/L	1	04/04/14 15:10
Chrysene	U		0.71	1.0	µg/L	1	04/04/14 15:10
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/04/14 15:10
Dibenzofuran	U		0.28	4.0	µg/L	1	04/04/14 15:10
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/04/14 15:10
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/04/14 15:10
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/04/14 15:10
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/04/14 15:10
Fluoranthene	U		0.77	1.0	µg/L	1	04/04/14 15:10
Fluorene	U		0.10	5.0	µg/L	1	04/04/14 15:10
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/04/14 15:10
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/04/14 15:10

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:45 AM

Work Order: 1404104
Lab ID: 1404104-04
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/04/14 15:10
Hexachloroethane	U		0.47	5.0	µg/L	1	04/04/14 15:10
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/04/14 15:10
Isophorone	U		0.30	5.0	µg/L	1	04/04/14 15:10
Naphthalene	U		0.12	5.0	µg/L	1	04/04/14 15:10
Nitrobenzene	U		0.33	3.0	µg/L	1	04/04/14 15:10
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/04/14 15:10
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/04/14 15:10
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/04/14 15:10
Phenanthrene	U		0.86	2.0	µg/L	1	04/04/14 15:10
Phenol	U		0.32	5.0	µg/L	1	04/04/14 15:10
Pyrene	U		0.65	5.0	µg/L	1	04/04/14 15:10
Surr: 2,4,6-Tribromophenol	80.7			32-115	%REC	1	04/04/14 15:10
Surr: 2-Fluorobiphenyl	71.6			32-100	%REC	1	04/04/14 15:10
Surr: 2-Fluorophenol	46.0			22-59	%REC	1	04/04/14 15:10
Surr: 4-Terphenyl-d14	99.8			23-112	%REC	1	04/04/14 15:10
Surr: Nitrobenzene-d5	81.8			31-93	%REC	1	04/04/14 15:10
Surr: Phenol-d6	30.3			13-36	%REC	1	04/04/14 15:10

VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: RS

BatchID: R138227

1,1,1-Trichloroethane	U	0.11	1.0	µg/L	1	04/02/14 20:10
1,1,2,2-Tetrachloroethane	U	0.21	1.0	µg/L	1	04/02/14 20:10
1,1,2-Trichloroethane	U	0.11	1.0	µg/L	1	04/02/14 20:10
1,1,2-Trichlorotrifluoroethane	U	0.40	1.0	µg/L	1	04/02/14 20:10
1,1-Dichloroethane	U	0.14	1.0	µg/L	1	04/02/14 20:10
1,1-Dichloroethene	U	0.12	1.0	µg/L	1	04/02/14 20:10
1,2,4-Trichlorobenzene	U	0.096	5.0	µg/L	1	04/02/14 20:10
1,2-Dibromo-3-chloropropane	U	0.35	1.0	µg/L	1	04/02/14 20:10
1,2-Dibromoethane	U	0.14	1.0	µg/L	1	04/02/14 20:10
1,2-Dichlorobenzene	U	0.17	1.0	µg/L	1	04/02/14 20:10
1,2-Dichloroethane	U	0.11	1.0	µg/L	1	04/02/14 20:10
1,2-Dichloropropane	U	0.12	1.0	µg/L	1	04/02/14 20:10
1,3-Dichlorobenzene	U	0.15	1.0	µg/L	1	04/02/14 20:10
1,4-Dichlorobenzene	U	0.15	1.0	µg/L	1	04/02/14 20:10
2-Butanone	U	0.64	25	µg/L	1	04/02/14 20:10
2-Hexanone	U	0.19	50	µg/L	1	04/02/14 20:10
4-Methyl-2-pentanone	U	0.20	50	µg/L	1	04/02/14 20:10
Acetone	U	3.0	50	µg/L	1	04/02/14 20:10
Benzene	U	0.14	1.0	µg/L	1	04/02/14 20:10

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-002
Collection Date: 03/31/14 11:45 AM

Work Order: 1404104
Lab ID: 1404104-04
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/02/14 20:10
Bromoform	U		0.18	1.0	µg/L	1	04/02/14 20:10
Bromomethane	U		0.38	5.0	µg/L	1	04/02/14 20:10
Carbon disulfide	U		0.26	5.0	µg/L	1	04/02/14 20:10
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/02/14 20:10
Chlorobenzene	6.2		0.12	1.0	µg/L	1	04/02/14 20:10
Chloroethane	U		0.25	5.0	µg/L	1	04/02/14 20:10
Chloroform	U		0.15	1.0	µg/L	1	04/02/14 20:10
Chloromethane	U		0.29	5.0	µg/L	1	04/02/14 20:10
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/02/14 20:10
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/02/14 20:10
Cyclohexane	U		0.20	1.0	µg/L	1	04/02/14 20:10
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/02/14 20:10
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/02/14 20:10
Ethylbenzene	U		0.12	1.0	µg/L	1	04/02/14 20:10
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/02/14 20:10
Methyl acetate	U		0.76	10	µg/L	1	04/02/14 20:10
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/02/14 20:10
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/02/14 20:10
Methylene chloride	U		0.75	5.0	µg/L	1	04/02/14 20:10
Styrene	U		0.12	1.0	µg/L	1	04/02/14 20:10
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/02/14 20:10
Toluene	U		0.13	1.0	µg/L	1	04/02/14 20:10
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/02/14 20:10
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/02/14 20:10
Trichloroethene	U		0.16	1.0	µg/L	1	04/02/14 20:10
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/02/14 20:10
Vinyl chloride	U		0.15	1.0	µg/L	1	04/02/14 20:10
Xylenes, Total	U		0.30	3.0	µg/L	1	04/02/14 20:10
Surr: 1,2-Dichloroethane-d4	106			70-120	%REC	1	04/02/14 20:10
Surr: 4-Bromofluorobenzene	88.9			75-120	%REC	1	04/02/14 20:10
Surr: Dibromofluoromethane	101			85-115	%REC	1	04/02/14 20:10
Surr: Toluene-d8	102			85-120	%REC	1	04/02/14 20:10
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: 57242							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	04/04/14 15:28

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:15 PM

Work Order: 1404104
Lab ID: 1404104-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3541 / 4/2/14		Analyst: RM
<u>BatchID: 57134</u>							
1,1'-Biphenyl	U		5.7	380	µg/Kg-dry	1	04/03/14 02:46
2,4,5-Trichlorophenol	U		9.5	180	µg/Kg-dry	1	04/03/14 02:46
2,4,6-Trichlorophenol	U		6.4	180	µg/Kg-dry	1	04/03/14 02:46
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	04/03/14 02:46
2,4-Dimethylphenol	U		61	380	µg/Kg-dry	1	04/03/14 02:46
2,4-Dinitrophenol	U		34	750	µg/Kg-dry	1	04/03/14 02:46
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	04/03/14 02:46
2,6-Dinitrotoluene	U		20	180	µg/Kg-dry	1	04/03/14 02:46
2-Chloronaphthalene	U		1.8	91	µg/Kg-dry	1	04/03/14 02:46
2-Chlorophenol	U		11	180	µg/Kg-dry	1	04/03/14 02:46
2-Methylnaphthalene	U		3.2	91	µg/Kg-dry	1	04/03/14 02:46
2-Methylphenol	U		15	180	µg/Kg-dry	1	04/03/14 02:46
2-Nitroaniline	U		15	750	µg/Kg-dry	1	04/03/14 02:46
2-Nitrophenol	U		13	180	µg/Kg-dry	1	04/03/14 02:46
3,3'-Dichlorobenzidine	U		470	750	µg/Kg-dry	1	04/03/14 02:46
3-Nitroaniline	U		13	750	µg/Kg-dry	1	04/03/14 02:46
4,6-Dinitro-2-methylphenol	U		32	380	µg/Kg-dry	1	04/03/14 02:46
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	04/03/14 02:46
4-Chloro-3-methylphenol	U		8.8	180	µg/Kg-dry	1	04/03/14 02:46
4-Chloroaniline	U		11	380	µg/Kg-dry	1	04/03/14 02:46
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	04/03/14 02:46
4-Methylphenol	U		18	180	µg/Kg-dry	1	04/03/14 02:46
4-Nitroaniline	U		11	750	µg/Kg-dry	1	04/03/14 02:46
4-Nitrophenol	U		7.5	750	µg/Kg-dry	1	04/03/14 02:46
Acenaphthene	U		1.1	34	µg/Kg-dry	1	04/03/14 02:46
Acenaphthylene	U		1.4	34	µg/Kg-dry	1	04/03/14 02:46
Acetophenone	U		5.7	380	µg/Kg-dry	1	04/03/14 02:46
Anthracene	U		1.5	34	µg/Kg-dry	1	04/03/14 02:46
Atrazine	U		12	57	µg/Kg-dry	1	04/03/14 02:46
Benzaldehyde	U		14	380	µg/Kg-dry	1	04/03/14 02:46
Benzo(a)anthracene	U		1.5	34	µg/Kg-dry	1	04/03/14 02:46
Benzo(a)pyrene	U		2.5	34	µg/Kg-dry	1	04/03/14 02:46
Benzo(b)fluoranthene	U		2.2	34	µg/Kg-dry	1	04/03/14 02:46
Benzo(g,h,i)perylene	U		3.0	34	µg/Kg-dry	1	04/03/14 02:46
Benzo(k)fluoranthene	U		1.6	34	µg/Kg-dry	1	04/03/14 02:46
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	04/03/14 02:46
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	04/03/14 02:46

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:15 PM

Work Order: 1404104
Lab ID: 1404104-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroisopropyl)ether	U		16	180	µg/Kg-dry	1	04/03/14 02:46
Bis(2-ethylhexyl)phthalate	U		12	380	µg/Kg-dry	1	04/03/14 02:46
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	04/03/14 02:46
Caprolactam	U		17	380	µg/Kg-dry	1	04/03/14 02:46
Carbazole	U		11	180	µg/Kg-dry	1	04/03/14 02:46
Chrysene	U		1.8	34	µg/Kg-dry	1	04/03/14 02:46
Dibenzo(a,h)anthracene	U		2.8	34	µg/Kg-dry	1	04/03/14 02:46
Dibenzofuran	U		12	180	µg/Kg-dry	1	04/03/14 02:46
Diethyl phthalate	U		12	380	µg/Kg-dry	1	04/03/14 02:46
Dimethyl phthalate	U		13	380	µg/Kg-dry	1	04/03/14 02:46
Di-n-butyl phthalate	U		5.5	380	µg/Kg-dry	1	04/03/14 02:46
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	04/03/14 02:46
Fluoranthene	U		2.7	34	µg/Kg-dry	1	04/03/14 02:46
Fluorene	U		2.6	34	µg/Kg-dry	1	04/03/14 02:46
Hexachlorobenzene	U		11	180	µg/Kg-dry	1	04/03/14 02:46
Hexachlorobutadiene	U		13	57	µg/Kg-dry	1	04/03/14 02:46
Hexachlorocyclopentadiene	U		12	380	µg/Kg-dry	1	04/03/14 02:46
Hexachloroethane	U		18	180	µg/Kg-dry	1	04/03/14 02:46
Indeno(1,2,3-cd)pyrene	U		2.5	34	µg/Kg-dry	1	04/03/14 02:46
Isophorone	U		13	180	µg/Kg-dry	1	04/03/14 02:46
Naphthalene	U		2.8	34	µg/Kg-dry	1	04/03/14 02:46
Nitrobenzene	U		15	180	µg/Kg-dry	1	04/03/14 02:46
N-Nitrosodi-n-propylamine	U		15	180	µg/Kg-dry	1	04/03/14 02:46
N-Nitrosodiphenylamine	U		68	180	µg/Kg-dry	1	04/03/14 02:46
Pentachlorophenol	U		7.3	23	µg/Kg-dry	1	04/03/14 02:46
Phenanthrene	U		1.5	34	µg/Kg-dry	1	04/03/14 02:46
Phenol	U		13	180	µg/Kg-dry	1	04/03/14 02:46
Pyrene	U		2.6	34	µg/Kg-dry	1	04/03/14 02:46
Surr: 2,4,6-Tribromophenol	77.6			34-140	%REC	1	04/03/14 02:46
Surr: 2-Fluorobiphenyl	71.5			12-100	%REC	1	04/03/14 02:46
Surr: 2-Fluorophenol	78.8			33-117	%REC	1	04/03/14 02:46
Surr: 4-Terphenyl-d14	93.0			25-137	%REC	1	04/03/14 02:46
Surr: Nitrobenzene-d5	83.3			37-107	%REC	1	04/03/14 02:46
Surr: Phenol-d6	72.7			40-106	%REC	1	04/03/14 02:46
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/2/14		Analyst: RS
BatchID: 57139							
1,1,1-Trichloroethane	U		13	35	µg/Kg-dry	1	04/02/14 18:57
1,1,2,2-Tetrachloroethane	U		15	35	µg/Kg-dry	1	04/02/14 18:57
1,1,2-Trichloroethane	U		12	35	µg/Kg-dry	1	04/02/14 18:57

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:15 PM

Work Order: 1404104
Lab ID: 1404104-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichlorotrifluoroethane	U		13	35	µg/Kg-dry	1	04/02/14 18:57
1,1-Dichloroethane	U		13	35	µg/Kg-dry	1	04/02/14 18:57
1,1-Dichloroethene	U		15	35	µg/Kg-dry	1	04/02/14 18:57
1,2,4-Trichlorobenzene	U		18	35	µg/Kg-dry	1	04/02/14 18:57
1,2-Dibromo-3-chloropropane	U		17	35	µg/Kg-dry	1	04/02/14 18:57
1,2-Dibromoethane	U		14	35	µg/Kg-dry	1	04/02/14 18:57
1,2-Dichlorobenzene	U		14	35	µg/Kg-dry	1	04/02/14 18:57
1,2-Dichloroethane	U		16	35	µg/Kg-dry	1	04/02/14 18:57
1,2-Dichloropropane	U		11	35	µg/Kg-dry	1	04/02/14 18:57
1,3-Dichlorobenzene	U		14	35	µg/Kg-dry	1	04/02/14 18:57
1,4-Dichlorobenzene	U		13	35	µg/Kg-dry	1	04/02/14 18:57
2-Butanone	U		86	230	µg/Kg-dry	1	04/02/14 18:57
2-Hexanone	U		8.5	35	µg/Kg-dry	1	04/02/14 18:57
4-Methyl-2-pentanone	U		12	35	µg/Kg-dry	1	04/02/14 18:57
Acetone	U		73	120	µg/Kg-dry	1	04/02/14 18:57
Benzene	U		14	35	µg/Kg-dry	1	04/02/14 18:57
Bromodichloromethane	U		7.8	35	µg/Kg-dry	1	04/02/14 18:57
Bromoform	U		6.8	35	µg/Kg-dry	1	04/02/14 18:57
Bromomethane	U		13	86	µg/Kg-dry	1	04/02/14 18:57
Carbon disulfide	U		17	35	µg/Kg-dry	1	04/02/14 18:57
Carbon tetrachloride	U		9.8	35	µg/Kg-dry	1	04/02/14 18:57
Chlorobenzene	U		14	35	µg/Kg-dry	1	04/02/14 18:57
Chloroethane	U		73	120	µg/Kg-dry	1	04/02/14 18:57
Chloroform	U		14	35	µg/Kg-dry	1	04/02/14 18:57
Chloromethane	U		19	120	µg/Kg-dry	1	04/02/14 18:57
cis-1,2-Dichloroethene	U		14	35	µg/Kg-dry	1	04/02/14 18:57
cis-1,3-Dichloropropene	U		12	35	µg/Kg-dry	1	04/02/14 18:57
Cyclohexane	U		16	35	µg/Kg-dry	1	04/02/14 18:57
Dibromochloromethane	U		6.4	35	µg/Kg-dry	1	04/02/14 18:57
Dichlorodifluoromethane	U		16	35	µg/Kg-dry	1	04/02/14 18:57
Ethylbenzene	U		13	35	µg/Kg-dry	1	04/02/14 18:57
Isopropylbenzene	U		15	35	µg/Kg-dry	1	04/02/14 18:57
Methyl acetate	U		46	230	µg/Kg-dry	1	04/02/14 18:57
Methyl tert-butyl ether	U		15	35	µg/Kg-dry	1	04/02/14 18:57
Methylcyclohexane	U		16	35	µg/Kg-dry	1	04/02/14 18:57
Methylene chloride	U		14	35	µg/Kg-dry	1	04/02/14 18:57
Styrene	U		13	35	µg/Kg-dry	1	04/02/14 18:57
Tetrachloroethene	U		15	35	µg/Kg-dry	1	04/02/14 18:57
Toluene	U		13	35	µg/Kg-dry	1	04/02/14 18:57
trans-1,2-Dichloroethene	U		11	35	µg/Kg-dry	1	04/02/14 18:57

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:15 PM

Work Order: 1404104
Lab ID: 1404104-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,3-Dichloropropene	U		12	35	µg/Kg-dry	1	04/02/14 18:57
Trichloroethene	U		16	35	µg/Kg-dry	1	04/02/14 18:57
Trichlorofluoromethane	U		9.5	35	µg/Kg-dry	1	04/02/14 18:57
Vinyl chloride	U		16	35	µg/Kg-dry	1	04/02/14 18:57
Xylenes, Total	U		41	100	µg/Kg-dry	1	04/02/14 18:57
Surr: 1,2-Dichloroethane-d4	109			70-130	%REC	1	04/02/14 18:57
Surr: 4-Bromofluorobenzene	91.2			70-130	%REC	1	04/02/14 18:57
Surr: Dibromofluoromethane	98.1			70-130	%REC	1	04/02/14 18:57
Surr: Toluene-d8	98.4			70-130	%REC	1	04/02/14 18:57
CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: <u>57241</u>							
Cyanide, Total	0.085	J	0.027	0.58	mg/Kg-dry	1	04/04/14 15:28
MOISTURE			A2540 G				Analyst: AT
BatchID: <u>R138307</u>							
Moisture	13		0.025	0.050	% of sample	1	04/02/14 13:35

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:55 PM

Work Order: 1404104
Lab ID: 1404104-06
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA (DISSOLVED)			SW7470			Prep: SW7470 / 4/3/14	Analyst: LR
BatchID: <u>57173</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/04/14 13:41
METALS BY ICP-MS (DISSOLVED)			SW6020A			Prep: SW3005A / 4/3/14	Analyst: ML
BatchID: <u>57199</u>							
Aluminum	0.38		0.00078	0.050	mg/L	1	04/03/14 19:52
Antimony	0.00033	J	0.000036	0.0020	mg/L	1	04/03/14 19:52
Arsenic	0.0062		0.00058	0.0050	mg/L	1	04/03/14 19:52
Barium	0.058	J	0.000063	0.10	mg/L	1	04/03/14 19:52
Beryllium	U		0.000082	0.0010	mg/L	1	04/03/14 19:52
Cadmium	0.000053	J	0.000045	0.0010	mg/L	1	04/03/14 19:52
Chromium	0.0014	J	0.00027	0.010	mg/L	1	04/03/14 19:52
Cobalt	0.0039	J	0.000041	0.020	mg/L	1	04/03/14 19:52
Copper	0.0015	J	0.00053	0.0040	mg/L	1	04/03/14 19:52
Iron	13		0.0053	0.20	mg/L	1	04/03/14 19:52
Lead	0.00044	J	0.000051	0.0030	mg/L	1	04/03/14 19:52
Manganese	0.66		0.000054	0.050	mg/L	1	04/03/14 19:52
Nickel	0.011	J	0.00025	0.020	mg/L	1	04/03/14 19:52
Selenium	U		0.00064	0.0050	mg/L	1	04/03/14 19:52
Silver	U		0.000042	0.00020	mg/L	1	04/03/14 19:52
Thallium	U		0.000062	0.0020	mg/L	1	04/03/14 19:52
Vanadium	0.0014	J	0.00016	0.0040	mg/L	1	04/03/14 19:52
Zinc	0.14		0.00048	0.050	mg/L	1	04/03/14 19:52
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3510 / 4/3/14	Analyst: RM
BatchID: <u>57176</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/04/14 15:31
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/04/14 15:31
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/04/14 15:31
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/04/14 15:31
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/04/14 15:31
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/04/14 15:31
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/04/14 15:31
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/04/14 15:31
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/04/14 15:31
2-Chlorophenol	U		0.32	10	µg/L	1	04/04/14 15:31
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/04/14 15:31
2-Methylphenol	U		0.20	10	µg/L	1	04/04/14 15:31
2-Nitroaniline	U		0.34	25	µg/L	1	04/04/14 15:31

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:55 PM

Work Order: 1404104
Lab ID: 1404104-06
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/04/14 15:31
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/04/14 15:31
3-Nitroaniline	U		0.34	25	µg/L	1	04/04/14 15:31
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/04/14 15:31
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/04/14 15:31
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/04/14 15:31
4-Chloroaniline	U		0.32	10	µg/L	1	04/04/14 15:31
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/04/14 15:31
4-Methylphenol	U		0.20	10	µg/L	1	04/04/14 15:31
4-Nitroaniline	U		0.30	25	µg/L	1	04/04/14 15:31
4-Nitrophenol	U		0.51	25	µg/L	1	04/04/14 15:31
Acenaphthene	U		0.11	5.0	µg/L	1	04/04/14 15:31
Acenaphthylene	U		0.12	5.0	µg/L	1	04/04/14 15:31
Acetophenone	U		0.090	5.0	µg/L	1	04/04/14 15:31
Anthracene	U		0.72	5.0	µg/L	1	04/04/14 15:31
Atrazine	U		0.13	5.0	µg/L	1	04/04/14 15:31
Benzaldehyde	U		0.46	10	µg/L	1	04/04/14 15:31
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/04/14 15:31
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/04/14 15:31
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/04/14 15:31
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/04/14 15:31
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/04/14 15:31
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/04/14 15:31
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/04/14 15:31
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/04/14 15:31
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/04/14 15:31
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/04/14 15:31
Caprolactam	U		4.7	10	µg/L	1	04/04/14 15:31
Carbazole	U		0.16	10	µg/L	1	04/04/14 15:31
Chrysene	U		0.71	1.0	µg/L	1	04/04/14 15:31
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/04/14 15:31
Dibenzofuran	U		0.28	4.0	µg/L	1	04/04/14 15:31
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/04/14 15:31
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/04/14 15:31
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/04/14 15:31
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/04/14 15:31
Fluoranthene	U		0.77	1.0	µg/L	1	04/04/14 15:31
Fluorene	U		0.10	5.0	µg/L	1	04/04/14 15:31
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/04/14 15:31
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/04/14 15:31

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:55 PM

Work Order: 1404104
Lab ID: 1404104-06
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/04/14 15:31
Hexachloroethane	U		0.47	5.0	µg/L	1	04/04/14 15:31
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/04/14 15:31
Isophorone	U		0.30	5.0	µg/L	1	04/04/14 15:31
Naphthalene	U		0.12	5.0	µg/L	1	04/04/14 15:31
Nitrobenzene	U		0.33	3.0	µg/L	1	04/04/14 15:31
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/04/14 15:31
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/04/14 15:31
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/04/14 15:31
Phenanthrene	U		0.86	2.0	µg/L	1	04/04/14 15:31
Phenol	U		0.32	5.0	µg/L	1	04/04/14 15:31
Pyrene	U		0.65	5.0	µg/L	1	04/04/14 15:31
Surr: 2,4,6-Tribromophenol	79.4			32-115	%REC	1	04/04/14 15:31
Surr: 2-Fluorobiphenyl	71.6			32-100	%REC	1	04/04/14 15:31
Surr: 2-Fluorophenol	45.3			22-59	%REC	1	04/04/14 15:31
Surr: 4-Terphenyl-d14	105			23-112	%REC	1	04/04/14 15:31
Surr: Nitrobenzene-d5	80.4			31-93	%REC	1	04/04/14 15:31
Surr: Phenol-d6	29.9			13-36	%REC	1	04/04/14 15:31

VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: RS

BatchID: R138227

1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/02/14 20:34
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/02/14 20:34
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/02/14 20:34
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/02/14 20:34
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/02/14 20:34
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/02/14 20:34
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/02/14 20:34
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/02/14 20:34
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/02/14 20:34
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/02/14 20:34
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/02/14 20:34
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/02/14 20:34
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/02/14 20:34
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/02/14 20:34
2-Butanone	U		0.64	25	µg/L	1	04/02/14 20:34
2-Hexanone	U		0.19	50	µg/L	1	04/02/14 20:34
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/02/14 20:34
Acetone	U		3.0	50	µg/L	1	04/02/14 20:34
Benzene	U		0.14	1.0	µg/L	1	04/02/14 20:34

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-033114-ACN-003
Collection Date: 03/31/14 01:55 PM

Work Order: 1404104
Lab ID: 1404104-06
Matrix: AQUEOUS

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/02/14 20:34
Bromoform	U		0.18	1.0	µg/L	1	04/02/14 20:34
Bromomethane	U		0.38	5.0	µg/L	1	04/02/14 20:34
Carbon disulfide	U		0.26	5.0	µg/L	1	04/02/14 20:34
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/02/14 20:34
Chlorobenzene	U		0.12	1.0	µg/L	1	04/02/14 20:34
Chloroethane	U		0.25	5.0	µg/L	1	04/02/14 20:34
Chloroform	U		0.15	1.0	µg/L	1	04/02/14 20:34
Chloromethane	U		0.29	5.0	µg/L	1	04/02/14 20:34
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/02/14 20:34
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/02/14 20:34
Cyclohexane	U		0.20	1.0	µg/L	1	04/02/14 20:34
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/02/14 20:34
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/02/14 20:34
Ethylbenzene	U		0.12	1.0	µg/L	1	04/02/14 20:34
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/02/14 20:34
Methyl acetate	U		0.76	10	µg/L	1	04/02/14 20:34
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/02/14 20:34
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/02/14 20:34
Methylene chloride	U		0.75	5.0	µg/L	1	04/02/14 20:34
Styrene	U		0.12	1.0	µg/L	1	04/02/14 20:34
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/02/14 20:34
Toluene	U		0.13	1.0	µg/L	1	04/02/14 20:34
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/02/14 20:34
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/02/14 20:34
Trichloroethene	U		0.16	1.0	µg/L	1	04/02/14 20:34
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/02/14 20:34
Vinyl chloride	U		0.15	1.0	µg/L	1	04/02/14 20:34
Xylenes, Total	U		0.30	3.0	µg/L	1	04/02/14 20:34
Surr: 1,2-Dichloroethane-d4	108			70-120	%REC	1	04/02/14 20:34
Surr: 4-Bromofluorobenzene	89.9			75-120	%REC	1	04/02/14 20:34
Surr: Dibromofluoromethane	106			85-115	%REC	1	04/02/14 20:34
Surr: Toluene-d8	101			85-120	%REC	1	04/02/14 20:34
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/4/14	Analyst: JB
BatchID: 57242							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	04/04/14 15:28

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 03/31/14

Work Order: 1404104
Lab ID: 1404104-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: RS
<u>BatchID: R138227</u>							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/02/14 14:52
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/02/14 14:52
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/02/14 14:52
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/02/14 14:52
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/02/14 14:52
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/02/14 14:52
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/02/14 14:52
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/02/14 14:52
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/02/14 14:52
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/02/14 14:52
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/02/14 14:52
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/02/14 14:52
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/02/14 14:52
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/02/14 14:52
2-Butanone	U		0.64	25	µg/L	1	04/02/14 14:52
2-Hexanone	U		0.19	50	µg/L	1	04/02/14 14:52
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/02/14 14:52
Acetone	U		3.0	50	µg/L	1	04/02/14 14:52
Benzene	U		0.14	1.0	µg/L	1	04/02/14 14:52
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/02/14 14:52
Bromoform	U		0.18	1.0	µg/L	1	04/02/14 14:52
Bromomethane	U		0.38	5.0	µg/L	1	04/02/14 14:52
Carbon disulfide	U		0.26	5.0	µg/L	1	04/02/14 14:52
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/02/14 14:52
Chlorobenzene	U		0.12	1.0	µg/L	1	04/02/14 14:52
Chloroethane	U		0.25	5.0	µg/L	1	04/02/14 14:52
Chloroform	U		0.15	1.0	µg/L	1	04/02/14 14:52
Chloromethane	U		0.29	5.0	µg/L	1	04/02/14 14:52
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/02/14 14:52
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/02/14 14:52
Cyclohexane	U		0.20	1.0	µg/L	1	04/02/14 14:52
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/02/14 14:52
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/02/14 14:52
Ethylbenzene	U		0.12	1.0	µg/L	1	04/02/14 14:52
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/02/14 14:52
Methyl acetate	U		0.76	10	µg/L	1	04/02/14 14:52
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/02/14 14:52

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

ALS Group USA, Corp

Date: 07-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 03/31/14

Work Order: 1404104
Lab ID: 1404104-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/02/14 14:52
Methylene chloride	2.0	J	0.75	5.0	µg/L	1	04/02/14 14:52
Styrene	U		0.12	1.0	µg/L	1	04/02/14 14:52
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/02/14 14:52
Toluene	U		0.13	1.0	µg/L	1	04/02/14 14:52
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/02/14 14:52
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/02/14 14:52
Trichloroethene	U		0.16	1.0	µg/L	1	04/02/14 14:52
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/02/14 14:52
Vinyl chloride	U		0.15	1.0	µg/L	1	04/02/14 14:52
Xylenes, Total	U		0.30	3.0	µg/L	1	04/02/14 14:52
Surr: 1,2-Dichloroethane-d4	108			70-120	%REC	1	04/02/14 14:52
Surr: 4-Bromofluorobenzene	84.0			75-120	%REC	1	04/02/14 14:52
Surr: Dibromofluoromethane	103			85-115	%REC	1	04/02/14 14:52
Surr: Toluene-d8	99.6			85-120	%REC	1	04/02/14 14:52

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

Client: The Mannik & Smith Group, Inc.

Work Order: 1404104

Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57173

Instrument ID HG1

Method: SW7470

MBLK		Sample ID: MBLK-57173-57173				Units: mg/L		Analysis Date: 04/03/14 04:32 PM		
Client ID:		Run ID: HG1_140403A				SeqNo: 2699509		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020								

LCS		Sample ID: LCS-57173-57173				Units: mg/L		Analysis Date: 04/03/14 04:34 PM		
Client ID:		Run ID: HG1_140403A				SeqNo: 2699510		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.001853	0.00020	0.002	0	92.6	80-120	0			

MS		Sample ID: 14031379-12DMS				Units: mg/L		Analysis Date: 04/04/14 01:45 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2699626		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.002171	0.00020	0.002	-0.000035	110	75-125	0			

MSD		Sample ID: 14031379-12DMSD				Units: mg/L		Analysis Date: 04/04/14 01:48 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2699627		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.002178	0.00020	0.002	-0.000035	111	75-125	0.002171	0.322	20	

The following samples were analyzed in this batch:

1404104-02D	1404104-04D	1404104-06D

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57199** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57199-57199				Units: mg/L		Analysis Date: 04/03/14 05:03 PM		
Client ID:		Run ID: ICPMS1_140403A				SeqNo: 2699034		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	U	0.0050								
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

LCS		Sample ID: LCS-57199-57199				Units: mg/L		Analysis Date: 04/03/14 05:09 PM		
Client ID:		Run ID: ICPMS1_140403A				SeqNo: 2699036		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08616	0.010	0.1	0	86.2	80-120	0			
Antimony	0.09415	0.0050	0.1	0	94.2	80-120	0			
Arsenic	0.09282	0.0050	0.1	0	92.8	80-120	0			
Barium	0.09291	0.0050	0.1	0	92.9	80-120	0			
Beryllium	0.09869	0.0020	0.1	0	98.7	80-120	0			
Cadmium	0.09587	0.0020	0.1	0	95.9	80-120	0			
Chromium	0.08936	0.0050	0.1	0	89.4	80-120	0			
Cobalt	0.08829	0.0050	0.1	0	88.3	80-120	0			
Copper	0.09031	0.0050	0.1	0	90.3	80-120	0			
Iron	9.364	0.080	10	0	93.6	80-120	0			
Lead	0.09206	0.0050	0.1	0	92.1	80-120	0			
Manganese	0.09146	0.0050	0.1	0	91.5	80-120	0			
Nickel	0.08847	0.0050	0.1	0	88.5	80-120	0			
Selenium	0.09233	0.0050	0.1	0	92.3	80-120	0			
Silver	0.08688	0.0050	0.1	0	86.9	80-120	0			
Thallium	0.08927	0.0050	0.1	0	89.3	80-120	0			
Vanadium	0.09079	0.0050	0.1	0	90.8	80-120	0			
Zinc	0.09449	0.010	0.1	0	94.5	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57199** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 1404082-02AMS		Units: mg/L		Analysis Date: 04/03/14 06:24 PM		
Client ID:			Run ID: ICPMS1_140403A			SeqNo: 2699058		Prep Date: 04/03/14		DF: 2.5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	1.011	0.25	1	0.1912	82	75-125		0		
Antimony	0.936	0.12	1	0.00739	92.9	75-125		0		
Arsenic	0.9402	0.12	1	0.00331	93.7	75-125		0		
Barium	1.12	0.12	1	0.1696	95	75-125		0		
Beryllium	0.976	0.050	1	-0.004592	98.1	75-125		0		
Cadmium	0.9802	0.050	1	0.03612	94.4	75-125		0		
Chromium	0.8775	0.12	1	0.004155	87.3	75-125		0		
Cobalt	0.8465	0.12	1	-0.001829	84.8	75-125		0		
Copper	0.8725	0.12	1	0.006185	86.6	75-125		0		
Iron	91.28	2.0	100	0.2872	91	75-125		0		
Lead	0.9148	0.12	1	0.003918	91.1	75-125		0		
Manganese	17.8	0.12	1	17.38	42.5	75-125		0		SO
Nickel	0.872	0.12	1	0.01165	86	75-125		0		
Selenium	0.9138	0.12	1	0.00538	90.8	75-125		0		
Silver	0.8382	0.12	1	0.0005695	83.8	75-125		0		
Thallium	0.8572	0.12	1	-0.03285	89	75-125		0		
Vanadium	0.897	0.12	1	-0.00118	89.8	75-125		0		
Zinc	0.928	0.25	1	0.04635	88.2	75-125		0		

MSD				Sample ID: 1404082-02AMSD		Units: mg/L		Analysis Date: 04/03/14 06:30 PM		
Client ID:			Run ID: ICPMS1_140403A			SeqNo: 2699060		Prep Date: 04/03/14		DF: 2.5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.9518	0.25	1	0.1912	76	75-125	1.011	6.01	20	
Antimony	0.9532	0.12	1	0.00739	94.6	75-125	0.936	1.83	20	
Arsenic	0.943	0.12	1	0.00331	94	75-125	0.9402	0.292	20	
Barium	1.12	0.12	1	0.1696	95	75-125	1.12	0.0223	20	
Beryllium	0.9725	0.050	1	-0.004592	97.7	75-125	0.976	0.359	20	
Cadmium	0.9832	0.050	1	0.03612	94.7	75-125	0.9802	0.306	20	
Chromium	0.896	0.12	1	0.004155	89.2	75-125	0.8775	2.09	20	
Cobalt	0.8678	0.12	1	-0.001829	87	75-125	0.8465	2.48	20	
Copper	0.8888	0.12	1	0.006185	88.3	75-125	0.8725	1.85	20	
Iron	92.88	2.0	100	0.2872	92.6	75-125	91.28	1.74	20	
Lead	0.9312	0.12	1	0.003918	92.7	75-125	0.9148	1.79	20	
Manganese	18.34	0.12	1	17.38	96.5	75-125	17.8	2.99	20	O
Nickel	0.8755	0.12	1	0.01165	86.4	75-125	0.872	0.401	20	
Selenium	0.9308	0.12	1	0.00538	92.5	75-125	0.9138	1.84	20	
Silver	0.8548	0.12	1	0.0005695	85.4	75-125	0.8382	1.95	20	
Thallium	0.8855	0.12	1	-0.03285	91.8	75-125	0.8572	3.24	20	
Vanadium	0.9212	0.12	1	-0.00118	92.2	75-125	0.897	2.67	20	
Zinc	0.9552	0.25	1	0.04635	90.9	75-125	0.928	2.89	20	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57199** Instrument ID **ICPMS1** Method: **SW6020A**

The following samples were analyzed in this batch:

1404104-02D	1404104-04D	1404104-06D

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57134** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57134-57134				Units: µg/Kg		Analysis Date: 04/02/14 06:18 PM		
Client ID:		Run ID: SVMS8_140402A				SeqNo: 2697991		Prep Date: 04/02/14		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	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
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	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57134	Instrument ID SVMS8	Method: SW8270						
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
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	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	160						
Naphthalene	U	6.7						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	6.7						
Phenol	U	160						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1287</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>77.2</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>1110</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>66.6</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>1265</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>75.9</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>1785</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>107</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>1311</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>78.7</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>1205</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>72.3</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57134** Instrument ID **SVMS8** Method: **SW8270**

LCS Sample ID: SLCSS1-57134-57134				Units: µg/Kg			Analysis Date: 04/02/14 06:39 PM			
Client ID:		Run ID: SVMS8_140402A		SeqNo: 2698033		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	536.3	160	666.7	0	80.4	50-110	0			
2,4,6-Trichlorophenol	465	160	666.7	0	69.7	45-110	0			
2,4-Dichlorophenol	488.7	160	666.7	0	73.3	45-110	0			
2,4-Dimethylphenol	403.7	330	666.7	0	60.5	30-105	0			
2,4-Dinitrophenol	513	660	666.7	0	76.9	15-130	0			J
2,4-Dinitrotoluene	545	160	666.7	0	81.7	50-115	0			
2,6-Dinitrotoluene	503.3	160	666.7	0	75.5	50-110	0			
2-Chloronaphthalene	465	6.7	666.7	0	69.7	45-105	0			
2-Chlorophenol	483.7	160	666.7	0	72.5	45-105	0			
2-Methylnaphthalene	452.7	6.7	666.7	0	67.9	45-105	0			
2-Methylphenol	465.3	160	666.7	0	69.8	40-105	0			
2-Nitroaniline	631.3	660	666.7	0	94.7	45-120	0			J
2-Nitrophenol	517	160	666.7	0	77.5	40-110	0			
3-Nitroaniline	384.7	660	666.7	0	57.7	25-150	0			J
4-Bromophenyl phenyl ether	575.7	160	666.7	0	86.3	45-115	0			
4-Chloro-3-methylphenol	533	160	666.7	0	79.9	45-115	0			
4-Chloroaniline	290.7	660	666.7	0	43.6	15-110	0			J
4-Chlorophenyl phenyl ether	489.7	160	666.7	0	73.4	45-110	0			
4-Methylphenol	486.3	160	666.7	0	72.9	40-105	0			
4-Nitroaniline	339.7	660	666.7	0	50.9	35-150	0			J
4-Nitrophenol	725	660	666.7	0	109	15-140	0			
Acenaphthene	482	6.7	666.7	0	72.3	45-110	0			
Acenaphthylene	488.7	6.7	666.7	0	73.3	45-105	0			
Anthracene	591.3	6.7	666.7	0	88.7	55-105	0			
Benzo(a)anthracene	622.3	6.7	666.7	0	93.3	50-110	0			
Benzo(a)pyrene	615.7	6.7	666.7	0	92.3	50-110	0			
Benzo(b)fluoranthene	596.3	6.7	666.7	0	89.4	45-115	0			
Benzo(g,h,i)perylene	650.3	6.7	666.7	0	97.5	40-125	0			
Benzo(k)fluoranthene	608.7	6.7	666.7	0	91.3	45-115	0			
Bis(2-chloroethoxy)methane	461.7	160	666.7	0	69.2	45-110	0			
Bis(2-chloroethyl)ether	450.7	160	666.7	0	67.6	40-105	0			
Bis(2-chloroisopropyl)ether	550.3	160	666.7	0	82.5	20-115	0			
Bis(2-ethylhexyl)phthalate	643.3	330	666.7	0	96.5	45-125	0			
Butyl benzyl phthalate	667	160	666.7	0	100	50-125	0			
Carbazole	578.7	160	666.7	0	86.8	50-150	0			
Chrysene	607.7	6.7	666.7	0	91.1	55-110	0			
Dibenzo(a,h)anthracene	604	6.7	666.7	0	90.6	40-125	0			
Dibenzofuran	471.3	160	666.7	0	70.7	50-105	0			
Diethyl phthalate	557.3	330	666.7	0	83.6	50-115	0			
Dimethyl phthalate	531.7	330	666.7	0	79.7	50-110	0			
Di-n-butyl phthalate	587.7	330	666.7	0	88.1	55-110	0			
Di-n-octyl phthalate	702.3	160	666.7	0	105	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57134		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	539	6.7	666.7	0	80.8	55-115	0
Fluorene	488.3	6.7	666.7	0	73.2	50-110	0
Hexachlorobenzene	579.3	160	666.7	0	86.9	45-120	0
Hexachlorobutadiene	485.3	160	666.7	0	72.8	40-115	0
Hexachlorocyclopentadiene	420.3	330	666.7	0	63	40-115	0
Hexachloroethane	486	160	666.7	0	72.9	35-110	0
Indeno(1,2,3-cd)pyrene	643.3	6.7	666.7	0	96.5	40-120	0
Isophorone	523.3	160	666.7	0	78.5	45-110	0
Naphthalene	423	6.7	666.7	0	63.4	40-105	0
Nitrobenzene	461	160	666.7	0	69.1	40-115	0
N-Nitrosodi-n-propylamine	576.3	160	666.7	0	86.4	40-115	0
N-Nitrosodiphenylamine	579	160	666.7	0	86.8	50-115	0
Pentachlorophenol	476	330	666.7	0	71.4	25-120	0
Phenanthrene	557	6.7	666.7	0	83.5	50-110	0
Phenol	490	160	666.7	0	73.5	40-100	0
Pyrene	673.7	6.7	666.7	0	101	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1463</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>87.8</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1113</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>66.8</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1239</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>74.3</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1799</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>108</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1333</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>80</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1218</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>73.1</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57134** Instrument ID **SVMS8** Method: **SW8270**

MS Sample ID: 14031362-01B MS				Units: µg/Kg			Analysis Date: 04/02/14 08:41 PM			
Client ID:		Run ID: SVMS8_140402A		SeqNo: 2698007		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1732	470	1979	0	87.5	50-110	0			
2,4,6-Trichlorophenol	1583	470	1979	0	80	45-110	0			
2,4-Dichlorophenol	1566	470	1979	0	79.1	45-110	0			
2,4-Dimethylphenol	1632	980	1979	0	82.4	30-105	0			
2,4-Dinitrophenol	1353	2,000	1979	0	68.3	15-130	0			J
2,4-Dinitrotoluene	1594	470	1979	0	80.5	50-115	0			
2,6-Dinitrotoluene	1592	470	1979	0	80.4	50-110	0			
2-Chloronaphthalene	1575	20	1979	0	79.6	45-105	0			
2-Chlorophenol	1525	470	1979	0	77	45-105	0			
2-Methylnaphthalene	1482	20	1979	0	74.9	45-105	0			
2-Methylphenol	1516	470	1979	0	76.6	40-105	0			
2-Nitroaniline	2009	2,000	1979	0	102	45-120	0			
2-Nitrophenol	1682	470	1979	0	85	40-110	0			
3-Nitroaniline	1185	2,000	1979	0	59.9	25-110	0			J
4-Bromophenyl phenyl ether	1817	470	1979	0	91.8	45-115	0			
4-Chloro-3-methylphenol	1695	470	1979	0	85.6	45-115	0			
4-Chloroaniline	1132	2,000	1979	0	57.2	15-110	0			J
4-Chlorophenyl phenyl ether	1569	470	1979	0	79.3	45-110	0			
4-Methylphenol	1560	470	1979	0	78.8	40-105	0			
4-Nitroaniline	971.6	2,000	1979	0	49.1	35-150	0			J
4-Nitrophenol	2069	2,000	1979	0	105	15-140	0			
Acenaphthene	1578	20	1979	0	79.7	45-110	0			
Acenaphthylene	1650	20	1979	0	83.4	45-105	0			
Anthracene	1819	20	1979	0	91.9	55-105	0			
Benzo(a)anthracene	1796	20	1979	0	90.7	50-110	0			
Benzo(a)pyrene	1835	20	1979	0	92.7	50-110	0			
Benzo(b)fluoranthene	1800	20	1979	0	90.9	45-115	0			
Benzo(g,h,i)perylene	1944	20	1979	0	98.2	40-125	0			
Benzo(k)fluoranthene	1711	20	1979	0	86.4	45-115	0			
Bis(2-chloroethoxy)methane	1533	470	1979	0	77.4	45-110	0			
Bis(2-chloroethyl)ether	1473	470	1979	0	74.4	40-105	0			
Bis(2-chloroisopropyl)ether	1863	470	1979	0	94.1	20-115	0			
Bis(2-ethylhexyl)phthalate	1918	980	1979	0	96.9	45-125	0			
Butyl benzyl phthalate	1978	470	1979	0	99.9	50-125	0			
Carbazole	1691	470	1979	0	85.4	50-150	0			
Chrysene	1716	20	1979	0	86.7	55-110	0			
Dibenzo(a,h)anthracene	1738	20	1979	0	87.8	40-125	0			
Dibenzofuran	1576	470	1979	0	79.6	50-105	0			
Diethyl phthalate	1722	980	1979	0	87	50-115	0			
Dimethyl phthalate	1672	980	1979	0	84.5	50-110	0			
Di-n-butyl phthalate	1781	980	1979	0	90	55-110	0			
Di-n-octyl phthalate	2094	470	1979	0	106	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57134		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	1609	20	1979	0	81.3	55-115	0
Fluorene	1574	20	1979	0	79.5	50-110	0
Hexachlorobenzene	1762	470	1979	0	89	45-120	0
Hexachlorobutadiene	1686	470	1979	0	85.2	40-115	0
Hexachlorocyclopentadiene	1470	980	1979	0	74.3	40-115	0
Hexachloroethane	1618	470	1979	0	81.7	35-110	0
Indeno(1,2,3-cd)pyrene	1973	20	1979	0	99.7	40-120	0
Isophorone	1763	470	1979	0	89.1	45-110	0
Naphthalene	1408	20	1979	0	71.1	40-105	0
Nitrobenzene	1584	470	1979	0	80	40-115	0
N-Nitrosodi-n-propylamine	1866	470	1979	0	94.3	40-115	0
N-Nitrosodiphenylamine	1812	470	1979	0	91.5	50-115	0
Pentachlorophenol	1466	980	1979	0	74.1	25-120	0
Phenanthrene	1673	20	1979	0	84.5	50-110	0
Phenol	1552	470	1979	0	78.4	40-100	0
Pyrene	1899	20	1979	0	95.9	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>4618</i>	<i>0</i>	<i>4947</i>	<i>0</i>	<i>93.3</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>3810</i>	<i>0</i>	<i>4947</i>	<i>0</i>	<i>77</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>4135</i>	<i>0</i>	<i>4947</i>	<i>0</i>	<i>83.6</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>5146</i>	<i>0</i>	<i>4947</i>	<i>0</i>	<i>104</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>4702</i>	<i>0</i>	<i>4947</i>	<i>0</i>	<i>95</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>3883</i>	<i>0</i>	<i>4947</i>	<i>0</i>	<i>78.5</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57134** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 14031362-01B MSD				Units: µg/Kg		Analysis Date: 04/02/14 09:01 PM	
Client ID:		Run ID: SVMS8_140402A			SeqNo: 2698008		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	1615	470	1975	0	81.8	50-110	1732	7.01	30		
2,4,6-Trichlorophenol	1542	470	1975	0	78.1	45-110	1583	2.62	30		
2,4-Dichlorophenol	1529	470	1975	0	77.4	45-110	1566	2.39	30		
2,4-Dimethylphenol	1593	980	1975	0	80.7	30-105	1632	2.36	30		
2,4-Dinitrophenol	1145	2,000	1975	0	58	15-130	1353	0	30	J	
2,4-Dinitrotoluene	1450	470	1975	0	73.4	50-115	1594	9.44	30		
2,6-Dinitrotoluene	1515	470	1975	0	76.7	50-110	1592	4.92	30		
2-Chloronaphthalene	1519	20	1975	0	76.9	45-105	1575	3.6	30		
2-Chlorophenol	1504	470	1975	0	76.1	45-105	1525	1.39	30		
2-Methylnaphthalene	1441	20	1975	0	73	45-105	1482	2.79	30		
2-Methylphenol	1420	470	1975	0	71.9	40-105	1516	6.55	30		
2-Nitroaniline	1894	2,000	1975	0	95.9	45-120	2009	0	30	J	
2-Nitrophenol	1678	470	1975	0	85	40-110	1682	0.217	30		
3-Nitroaniline	1174	2,000	1975	0	59.4	25-110	1185	0	30	J	
4-Bromophenyl phenyl ether	1773	470	1975	0	89.8	45-115	1817	2.42	30		
4-Chloro-3-methylphenol	1554	470	1975	0	78.7	45-115	1695	8.67	30		
4-Chloroaniline	1024	2,000	1975	0	51.8	15-110	1132	0	30	J	
4-Chlorophenyl phenyl ether	1528	470	1975	0	77.4	45-110	1569	2.64	30		
4-Methylphenol	1466	470	1975	0	74.2	40-105	1560	6.23	30		
4-Nitroaniline	954.7	2,000	1975	0	48.3	35-150	971.6	0	30	J	
4-Nitrophenol	1849	2,000	1975	0	93.6	15-140	2069	0	30	J	
Acenaphthene	1506	20	1975	0	76.2	45-110	1578	4.7	30		
Acenaphthylene	1539	20	1975	0	77.9	45-105	1650	6.97	30		
Anthracene	1691	20	1975	0	85.6	55-105	1819	7.26	30		
Benzo(a)anthracene	1776	20	1975	0	89.9	50-110	1796	1.1	30		
Benzo(a)pyrene	1761	20	1975	0	89.2	50-110	1835	4.12	30		
Benzo(b)fluoranthene	1662	20	1975	0	84.1	45-115	1800	7.98	30		
Benzo(g,h,i)perylene	1901	20	1975	0	96.3	40-125	1944	2.22	30		
Benzo(k)fluoranthene	1707	20	1975	0	86.4	45-115	1711	0.217	30		
Bis(2-chloroethoxy)methane	1504	470	1975	0	76.1	45-110	1533	1.91	30		
Bis(2-chloroethyl)ether	1469	470	1975	0	74.4	40-105	1473	0.285	30		
Bis(2-chloroisopropyl)ether	1802	470	1975	0	91.2	20-115	1863	3.35	30		
Bis(2-ethylhexyl)phthalate	1935	980	1975	0	98	45-125	1918	0.86	30		
Butyl benzyl phthalate	1960	470	1975	0	99.2	50-125	1978	0.92	30		
Carbazole	1637	470	1975	0	82.9	50-150	1691	3.25	30		
Chrysene	1717	20	1975	0	86.9	55-110	1716	0.0705	30		
Dibenzo(a,h)anthracene	1726	20	1975	0	87.4	40-125	1738	0.731	30		
Dibenzofuran	1484	470	1975	0	75.1	50-105	1576	6.03	30		
Diethyl phthalate	1603	980	1975	0	81.2	50-115	1722	7.11	30		
Dimethyl phthalate	1564	980	1975	0	79.2	50-110	1672	6.69	30		
Di-n-butyl phthalate	1729	980	1975	0	87.5	55-110	1781	2.98	30		
Di-n-octyl phthalate	2006	470	1975	0	102	40-130	2094	4.27	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57134		Instrument ID SVMS8		Method: SW8270					
Fluoranthene	1544	20	1975	0	78.2	55-115	1609	4.1	30
Fluorene	1461	20	1975	0	74	50-110	1574	7.45	30
Hexachlorobenzene	1652	470	1975	0	83.6	45-120	1762	6.47	30
Hexachlorobutadiene	1631	470	1975	0	82.6	40-115	1686	3.32	30
Hexachlorocyclopentadiene	1447	980	1975	0	73.3	40-115	1470	1.57	30
Hexachloroethane	1555	470	1975	0	78.7	35-110	1618	3.96	30
Indeno(1,2,3-cd)pyrene	1946	20	1975	0	98.5	40-120	1973	1.38	30
Isophorone	1703	470	1975	0	86.2	45-110	1763	3.47	30
Naphthalene	1387	20	1975	0	70.2	40-105	1408	1.49	30
Nitrobenzene	1564	470	1975	0	79.2	40-115	1584	1.28	30
N-Nitrosodi-n-propylamine	1804	470	1975	0	91.3	40-115	1866	3.4	30
N-Nitrosodiphenylamine	1746	470	1975	0	88.4	50-115	1812	3.66	30
Pentachlorophenol	1374	980	1975	0	69.6	25-120	1466	6.48	30
Phenanthrene	1594	20	1975	0	80.7	50-110	1673	4.82	30
Phenol	1481	470	1975	0	75	40-100	1552	4.71	30
Pyrene	1864	20	1975	0	94.4	45-125	1899	1.85	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>4311</i>	<i>0</i>	<i>4936</i>	<i>0</i>	<i>87.3</i>	<i>34-140</i>	<i>4618</i>	<i>6.86</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>3708</i>	<i>0</i>	<i>4936</i>	<i>0</i>	<i>75.1</i>	<i>12-100</i>	<i>3810</i>	<i>2.72</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>3923</i>	<i>0</i>	<i>4936</i>	<i>0</i>	<i>79.5</i>	<i>33-117</i>	<i>4135</i>	<i>5.25</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>5044</i>	<i>0</i>	<i>4936</i>	<i>0</i>	<i>102</i>	<i>25-137</i>	<i>5146</i>	<i>2</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>4559</i>	<i>0</i>	<i>4936</i>	<i>0</i>	<i>92.4</i>	<i>37-107</i>	<i>4702</i>	<i>3.08</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>3737</i>	<i>0</i>	<i>4936</i>	<i>0</i>	<i>75.7</i>	<i>40-106</i>	<i>3883</i>	<i>3.85</i>	<i>40</i>

The following samples were analyzed in this batch: | 1404104-01C | 1404104-03C | 1404104-05C |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57176** Instrument ID **SVMS8** Method: **SW8270**

MBLK				Sample ID: SBLKW1-57176-57176			Units: µg/L		Analysis Date: 04/04/14 11:02 AM		
Client ID:			Run ID: SVMS8_140404A			SeqNo: 2700280		Prep Date: 04/03/14		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	1.0									
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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57176		Instrument ID SVMS8		Method: SW8270				
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>	30.23	0	50	0	60.5	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	31.72	0	50	0	63.4	32-100	0	
<i>Surr: 2-Fluorophenol</i>	19.15	0	50	0	38.3	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	45.82	0	50	0	91.6	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	35.48	0	50	0	71	31-93	0	
<i>Surr: Phenol-d6</i>	11.82	0	50	0	23.6	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57176** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-57176-57176				Units: µg/L		Analysis Date: 04/04/14 11:23 AM		
Client ID:		Run ID: SVMS8_140404A				SeqNo: 2700281		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	14.37	5.0	20	0	71.8	50-110	0			
2,4,6-Trichlorophenol	13.79	5.0	20	0	69	50-115	0			
2,4-Dichlorophenol	13.07	10	20	0	65.4	50-105	0			
2,4-Dimethylphenol	12.01	5.0	20	0	60	30-110	0			
2,4-Dinitrophenol	12.48	5.0	20	0	62.4	15-140	0			
2,4-Dinitrotoluene	15.08	5.0	20	0	75.4	50-120	0			
2,6-Dinitrotoluene	14.77	5.0	20	0	73.8	50-115	0			
2-Chloronaphthalene	14.49	5.0	20	0	72.4	50-105	0			
2-Chlorophenol	12.81	5.0	20	0	64	35-105	0			
2-Methylnaphthalene	13.81	5.0	20	0	69	45-105	0			
2-Methylphenol	11.55	5.0	20	0	57.8	40-110	0			
2-Nitroaniline	15.92	20	20	0	79.6	50-115	0			J
2-Nitrophenol	13.9	5.0	20	0	69.5	40-115	0			
3-Nitroaniline	14.59	20	20	0	73	20-125	0			J
4,6-Dinitro-2-methylphenol	14.74	20	20	0	73.7	40-130	0			J
4-Bromophenyl phenyl ether	15.89	5.0	20	0	79.4	50-115	0			
4-Chloro-3-methylphenol	13.72	5.0	20	0	68.6	45-110	0			
4-Chloroaniline	15.23	20	20	0	76.2	15-110	0			J
4-Chlorophenyl phenyl ether	14.5	5.0	20	0	72.5	50-110	0			
4-Methylphenol	9.9	5.0	20	0	49.5	30-110	0			
4-Nitroaniline	14.13	20	20	0	70.6	35-150	0			J
4-Nitrophenol	5.09	20	20	0	25.4	1-58	0			J
Acenaphthene	14.04	5.0	20	0	70.2	45-110	0			
Acenaphthylene	15.42	5.0	20	0	77.1	50-105	0			
Anthracene	16.78	5.0	20	0	83.9	55-110	0			
Benzo(a)anthracene	15.81	5.0	20	0	79	55-110	0			
Benzo(a)pyrene	16.25	5.0	20	0	81.2	55-110	0			
Benzo(b)fluoranthene	16.8	5.0	20	0	84	45-120	0			
Benzo(g,h,i)perylene	16.33	5.0	20	0	81.6	40-125	0			
Benzo(k)fluoranthene	16.98	5.0	20	0	84.9	45-125	0			
Bis(2-chloroethoxy)methane	14.59	5.0	20	0	73	45-105	0			
Bis(2-chloroethyl)ether	15.9	5.0	20	0	79.5	35-110	0			
Bis(2-chloroisopropyl)ether	16.54	5.0	20	0	82.7	25-130	0			
Bis(2-ethylhexyl)phthalate	15.67	5.0	20	0	78.4	40-125	0			
Butyl benzyl phthalate	15.7	5.0	20	0	78.5	45-115	0			
Carbazole	16.76	10	20	0	83.8	50-150	0			
Chrysene	16.62	5.0	20	0	83.1	55-110	0			
Dibenzo(a,h)anthracene	15.19	5.0	20	0	76	40-125	0			
Dibenzofuran	14.33	5.0	20	0	71.6	55-105	0			
Diethyl phthalate	16.12	20	20	0	80.6	40-120	0			J
Dimethyl phthalate	15.49	20	20	0	77.4	25-125	0			J
Di-n-butyl phthalate	16.73	5.0	20	0	83.6	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57176		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	15.68	5.0	20	0	78.4	35-135	0	
Fluoranthene	16.77	5.0	20	0	83.8	55-115	0	
Fluorene	14.9	5.0	20	0	74.5	50-110	0	
Hexachlorobenzene	15.32	5.0	20	0	76.6	50-110	0	
Hexachlorobutadiene	12.26	5.0	20	0	61.3	25-105	0	
Hexachlorocyclopentadiene	10.97	20	20	0	54.8	25-105	0	J
Hexachloroethane	12.73	5.0	20	0	63.6	30-95	0	
Indeno(1,2,3-cd)pyrene	18.13	5.0	20	0	90.6	45-125	0	
Isophorone	15.65	5.0	20	0	78.2	50-110	0	
Naphthalene	13.15	5.0	20	0	65.8	40-100	0	
Nitrobenzene	14.96	5.0	20	0	74.8	45-110	0	
N-Nitrosodi-n-propylamine	15.72	5.0	20	0	78.6	35-130	0	
N-Nitrosodiphenylamine	16.13	5.0	20	0	80.6	50-110	0	
Pentachlorophenol	13.13	20	20	0	65.6	40-115	0	J
Phenanthrene	15.83	5.0	20	0	79.2	50-115	0	
Phenol	5.19	5.0	20	0	26	12-43	0	
Pyrene	17.65	5.0	20	0	88.2	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	37.35	0	50	0	74.7	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	34.28	0	50	0	68.6	32-100	0	
<i>Surr: 2-Fluorophenol</i>	19.09	0	50	0	38.2	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	46.26	0	50	0	92.5	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	41.24	0	50	0	82.5	31-93	0	
<i>Surr: Phenol-d6</i>	12.93	0	50	0	25.9	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57176** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1404130-15B MS			Units: µg/L		Analysis Date: 04/04/14 01:49 PM	
Client ID:				Run ID: SVMS8_140404A			SeqNo: 2700286		Prep Date: 04/03/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	159	50	200	0	79.5	50-110	0			
2,4,6-Trichlorophenol	157.7	50	200	0	78.8	50-115	0			
2,4-Dichlorophenol	144.9	100	200	0	72.4	50-105	0			
2,4-Dimethylphenol	155.7	50	200	0	77.8	30-110	0			
2,4-Dinitrophenol	16.1	50	200	0	8.05	15-140	0			JS
2,4-Dinitrotoluene	157.9	50	200	0	79	50-120	0			
2,6-Dinitrotoluene	151.9	50	200	0	76	50-115	0			
2-Chloronaphthalene	148.4	50	200	0	74.2	50-105	0			
2-Chlorophenol	146.9	50	200	0	73.4	35-105	0			
2-Methylnaphthalene	140.6	50	200	0	70.3	45-105	0			
2-Methylphenol	131.2	50	200	0	65.6	40-110	0			
2-Nitroaniline	171.6	200	200	0	85.8	50-115	0			J
2-Nitrophenol	140.1	50	200	0	70	40-115	0			
3-Nitroaniline	150.2	200	200	0	75.1	20-125	0			J
4,6-Dinitro-2-methylphenol	45.8	200	200	0	22.9	40-130	0			JS
4-Bromophenyl phenyl ether	162.6	50	200	0	81.3	50-115	0			
4-Chloro-3-methylphenol	157.2	50	200	0	78.6	45-110	0			
4-Chloroaniline	121.6	200	200	0	60.8	15-110	0			J
4-Chlorophenyl phenyl ether	150.4	50	200	0	75.2	50-110	0			
4-Methylphenol	116	50	200	0	58	30-110	0			
4-Nitroaniline	144.2	200	200	0	72.1	35-150	0			J
4-Nitrophenol	38.7	200	200	0	19.4	1-58	0			J
Acenaphthene	130.2	50	200	0	65.1	45-110	0			
Acenaphthylene	156.9	50	200	0	78.4	50-105	0			
Anthracene	171.4	50	200	0	85.7	55-110	0			
Benzo(a)anthracene	169.6	50	200	0	84.8	55-110	0			
Benzo(a)pyrene	179.6	50	200	0	89.8	55-110	0			
Benzo(b)fluoranthene	191.3	50	200	0	95.6	45-120	0			
Benzo(g,h,i)perylene	157.5	50	200	0	78.8	40-125	0			
Benzo(k)fluoranthene	189.2	50	200	0	94.6	45-125	0			
Bis(2-chloroethoxy)methane	147.6	50	200	0	73.8	45-105	0			
Bis(2-chloroethyl)ether	151.5	50	200	0	75.8	35-110	0			
Bis(2-chloroisopropyl)ether	154.4	50	200	0	77.2	25-130	0			
Bis(2-ethylhexyl)phthalate	195.7	50	200	0	97.8	40-125	0			
Butyl benzyl phthalate	197.1	50	200	0	98.6	45-115	0			
Carbazole	171.8	100	200	0	85.9	50-150	0			
Chrysene	163.2	50	200	0	81.6	55-110	0			
Dibenzo(a,h)anthracene	153.8	50	200	0	76.9	40-125	0			
Dibenzofuran	147.6	50	200	0	73.8	55-105	0			
Diethyl phthalate	164.6	200	200	0	82.3	40-120	0			J
Dimethyl phthalate	160.7	200	200	0	80.4	25-125	0			J
Di-n-butyl phthalate	179.7	50	200	0	89.8	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57176		Instrument ID SVMS8		Method: SW8270			
Di-n-octyl phthalate	258.7	50	200	0	129	35-135	0
Fluoranthene	173.7	50	200	0	86.8	55-115	0
Fluorene	152.1	50	200	0	76	50-110	0
Hexachlorobenzene	152.5	50	200	0	76.2	50-110	0
Hexachlorobutadiene	128	50	200	0	64	25-105	0
Hexachlorocyclopentadiene	67.1	200	200	0	33.6	25-105	0
Hexachloroethane	131.3	50	200	0	65.6	30-95	0
Indeno(1,2,3-cd)pyrene	195.2	50	200	0	97.6	45-125	0
Isophorone	159.6	50	200	0	79.8	50-110	0
Naphthalene	134.5	50	200	0	67.2	40-100	0
Nitrobenzene	153	50	200	0	76.5	45-110	0
N-Nitrosodi-n-propylamine	162	50	200	0	81	35-130	0
N-Nitrosodiphenylamine	162.5	50	200	0	81.2	50-110	0
Pentachlorophenol	113.5	200	200	0	56.8	40-115	0
Phenanthrene	155.9	50	200	0	78	50-115	0
Phenol	53.1	50	200	0	26.6	12-43	0
Pyrene	211	50	200	0	106	50-130	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>394.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>78.9</i>	<i>38-115</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>347.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>69.5</i>	<i>32-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>210.2</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>42</i>	<i>22-59</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>555</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>111</i>	<i>23-112</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>413.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>82.7</i>	<i>31-93</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>135.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>27.1</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57176** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 1404130-15B MSD			Units: µg/L		Analysis Date: 04/04/14 02:09 PM	
Client ID:				Run ID: SVMS8_140404A			SeqNo: 2700287		Prep Date: 04/03/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	163.6	50	200	0	81.8	50-110	159	2.85	30	
2,4,6-Trichlorophenol	166	50	200	0	83	50-115	157.7	5.13	30	
2,4-Dichlorophenol	150.5	100	200	0	75.2	50-105	144.9	3.79	30	
2,4-Dimethylphenol	137.9	50	200	0	69	30-110	155.7	12.1	30	
2,4-Dinitrophenol	28.2	50	200	0	14.1	15-140	16.1	0	30	JS
2,4-Dinitrotoluene	160.6	50	200	0	80.3	50-120	157.9	1.7	30	
2,6-Dinitrotoluene	159.3	50	200	0	79.6	50-115	151.9	4.76	30	
2-Chloronaphthalene	152.6	50	200	0	76.3	50-105	148.4	2.79	30	
2-Chlorophenol	148.8	50	200	0	74.4	35-105	146.9	1.29	30	
2-Methylnaphthalene	145.5	50	200	0	72.8	45-105	140.6	3.43	30	
2-Methylphenol	135.5	50	200	0	67.8	40-110	131.2	3.22	30	
2-Nitroaniline	174.4	200	200	0	87.2	50-115	171.6	0	30	J
2-Nitrophenol	149.1	50	200	0	74.6	40-115	140.1	6.22	30	
3-Nitroaniline	166	200	200	0	83	20-125	150.2	0	30	J
4,6-Dinitro-2-methylphenol	60.7	200	200	0	30.4	40-130	45.8	0	30	JS
4-Bromophenyl phenyl ether	160.1	50	200	0	80	50-115	162.6	1.55	30	
4-Chloro-3-methylphenol	170.5	50	200	0	85.2	45-110	157.2	8.12	30	
4-Chloroaniline	154.7	200	200	0	77.4	15-110	121.6	0	30	J
4-Chlorophenyl phenyl ether	151.7	50	200	0	75.8	50-110	150.4	0.861	30	
4-Methylphenol	126.6	50	200	0	63.3	30-110	116	8.74	30	
4-Nitroaniline	157.8	200	200	0	78.9	35-150	144.2	0	30	J
4-Nitrophenol	50.4	200	200	0	25.2	1-58	38.7	0	0	J
Acenaphthene	133.9	50	200	0	67	45-110	130.2	2.8	30	
Acenaphthylene	158.5	50	200	0	79.2	50-105	156.9	1.01	30	
Anthracene	168.8	50	200	0	84.4	55-110	171.4	1.53	30	
Benzo(a)anthracene	170.7	50	200	0	85.4	55-110	169.6	0.646	30	
Benzo(a)pyrene	179.4	50	200	0	89.7	55-110	179.6	0.111	30	
Benzo(b)fluoranthene	192.7	50	200	0	96.4	45-120	191.3	0.729	30	
Benzo(g,h,i)perylene	152	50	200	0	76	40-125	157.5	3.55	30	
Benzo(k)fluoranthene	190.5	50	200	0	95.2	45-125	189.2	0.685	30	
Bis(2-chloroethoxy)methane	150.7	50	200	0	75.4	45-105	147.6	2.08	30	
Bis(2-chloroethyl)ether	157.6	50	200	0	78.8	35-110	151.5	3.95	30	
Bis(2-chloroisopropyl)ether	157.9	50	200	0	79	25-130	154.4	2.24	30	
Bis(2-ethylhexyl)phthalate	191.8	50	200	0	95.9	40-125	195.7	2.01	30	
Butyl benzyl phthalate	189.3	50	200	0	94.6	45-115	197.1	4.04	30	
Carbazole	175.1	100	200	0	87.6	50-150	171.8	1.9	30	
Chrysene	166.8	50	200	0	83.4	55-110	163.2	2.18	30	
Dibenzo(a,h)anthracene	149.1	50	200	0	74.6	40-125	153.8	3.1	30	
Dibenzofuran	149.8	50	200	0	74.9	55-105	147.6	1.48	30	
Diethyl phthalate	173	200	200	0	86.5	40-120	164.6	0	30	J
Dimethyl phthalate	165.4	200	200	0	82.7	25-125	160.7	0	30	J
Di-n-butyl phthalate	180	50	200	0	90	55-115	179.7	0.167	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57176		Instrument ID SVMS8		Method: SW8270					
Di-n-octyl phthalate	251.8	50	200	0	126	35-135	258.7	2.7	30
Fluoranthene	174.7	50	200	0	87.4	55-115	173.7	0.574	30
Fluorene	154.8	50	200	0	77.4	50-110	152.1	1.76	30
Hexachlorobenzene	154.6	50	200	0	77.3	50-110	152.5	1.37	30
Hexachlorobutadiene	132.1	50	200	0	66	25-105	128	3.15	30
Hexachlorocyclopentadiene	63.3	200	200	0	31.6	25-105	67.1	0	30 J
Hexachloroethane	129.1	50	200	0	64.6	30-95	131.3	1.69	30
Indeno(1,2,3-cd)pyrene	189.1	50	200	0	94.6	45-125	195.2	3.17	30
Isophorone	165.1	50	200	0	82.6	50-110	159.6	3.39	30
Naphthalene	138.2	50	200	0	69.1	40-100	134.5	2.71	30
Nitrobenzene	160.2	50	200	0	80.1	45-110	153	4.6	30
N-Nitrosodi-n-propylamine	168.4	50	200	0	84.2	35-130	162	3.87	30
N-Nitrosodiphenylamine	164.2	50	200	0	82.1	50-110	162.5	1.04	30
Pentachlorophenol	117.4	200	200	0	58.7	40-115	113.5	0	30 J
Phenanthrene	161.2	50	200	0	80.6	50-115	155.9	3.34	30
Phenol	62.7	50	200	0	31.4	12-43	53.1	16.6	30
Pyrene	199.9	50	200	0	100	50-130	211	5.4	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>397.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>79.5</i>	<i>38-115</i>	<i>394.5</i>	<i>0.758</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>349.2</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>69.8</i>	<i>32-100</i>	<i>347.5</i>	<i>0.488</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>235.1</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>47</i>	<i>22-59</i>	<i>210.2</i>	<i>11.2</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>528.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>106</i>	<i>23-112</i>	<i>555</i>	<i>4.91</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>420.8</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>84.2</i>	<i>31-93</i>	<i>413.4</i>	<i>1.77</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>159.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>31.9</i>	<i>13-36</i>	<i>135.5</i>	<i>16.3</i>	<i>40</i>

The following samples were analyzed in this batch:

1404104-02B	1404104-04B	1404104-06B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57139** Instrument ID **VMS9** Method: **SW8260B**

MBLK		Sample ID: MBLK-57139-57139				Units: µg/Kg		Analysis Date: 04/02/14 02:03 PM		
Client ID:		Run ID: VMS9_140402A				SeqNo: 2697486		Prep Date: 04/02/14		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	157	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	1466	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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57139	Instrument ID VMS9	Method: SW8260B					
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>1066</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>107</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>872.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>87.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>983</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.3</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>1013</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57139** Instrument ID **VMS9** Method: **SW8260B**

LCS Sample ID: LCS-57139-57139				Units: µg/Kg			Analysis Date: 04/02/14 12:26 PM			
Client ID:		Run ID: VMS9_140402A		SeqNo: 2697485		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1072	30	1000	0	107	70-135	0			
1,1,2,2-Tetrachloroethane	904.5	30	1000	0	90.4	55-130	0			
1,1,2-Trichloroethane	952	30	1000	0	95.2	60-125	0			
1,1-Dichloroethane	1128	30	1000	0	113	75-125	0			
1,1-Dichloroethene	1116	30	1000	0	112	65-135	0			
1,2,4-Trichlorobenzene	902.5	30	1000	0	90.2	65-130	0			
1,2-Dibromo-3-chloropropane	873	30	1000	0	87.3	40-135	0			
1,2-Dibromoethane	951	30	1000	0	95.1	75-125	0			
1,2-Dichlorobenzene	941.5	30	1000	0	94.2	75-120	0			
1,2-Dichloroethane	1091	30	1000	0	109	70-135	0			
1,2-Dichloropropane	1019	30	1000	0	102	70-120	0			
1,3-Dichlorobenzene	941.5	30	1000	0	94.2	70-125	0			
1,4-Dichlorobenzene	985.5	30	1000	0	98.6	70-125	0			
2-Butanone	1246	200	1000	0	125	30-160	0			
2-Hexanone	883.5	30	1000	0	88.4	45-145	0			
4-Methyl-2-pentanone	1278	30	1000	0	128	96-168	0			
Acetone	1380	100	1000	0	138	20-160	0			B
Benzene	1048	30	1000	0	105	75-125	0			
Bromodichloromethane	1014	30	1000	0	101	70-130	0			
Bromoform	879	30	1000	0	87.9	55-135	0			
Bromomethane	1664	75	1000	0	166	30-160	0			S
Carbon disulfide	1176	30	1000	0	118	45-160	0			
Carbon tetrachloride	909	30	1000	0	90.9	65-135	0			
Chlorobenzene	948	30	1000	0	94.8	75-125	0			
Chloroethane	1062	100	1000	0	106	40-155	0			
Chloroform	1080	30	1000	0	108	70-125	0			
Chloromethane	1012	100	1000	0	101	50-130	0			
cis-1,2-Dichloroethene	1156	30	1000	0	116	65-125	0			
cis-1,3-Dichloropropene	1023	30	1000	0	102	70-125	0			
Dibromochloromethane	820.5	30	1000	0	82	65-135	0			
Dichlorodifluoromethane	864.5	30	1000	0	86.4	35-135	0			
Ethylbenzene	1016	30	1000	0	102	75-125	0			
Isopropylbenzene	947.5	30	1000	0	94.8	75-130	0			
Methyl tert-butyl ether	1154	30	1000	0	115	75-125	0			
Methylene chloride	1214	30	1000	0	121	55-145	0			
Styrene	965.5	30	1000	0	96.6	75-125	0			
Tetrachloroethene	1102	30	1000	0	110	64-140	0			
Toluene	1014	30	1000	0	101	70-125	0			
trans-1,2-Dichloroethene	1133	30	1000	0	113	65-135	0			
trans-1,3-Dichloropropene	1077	30	1000	0	108	65-125	0			
Trichloroethene	961.5	30	1000	0	96.2	75-125	0			
Trichlorofluoromethane	1014	30	1000	0	101	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57139	Instrument ID VMS9		Method: SW8260B				
Vinyl chloride	991	30	1000	0	99.1	60-125	0
Xylenes, Total	3134	90	3000	0	104	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1049</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>105</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>993.5</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>1016</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>1046</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>105</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57139** Instrument ID **VMS9** Method: **SW8260B**

MS Sample ID: 1404094-09A MS				Units: µg/Kg			Analysis Date: 04/04/14 12:15 PM			
Client ID:		Run ID: VMS8_140403A		SeqNo: 2699063		Prep Date: 04/02/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	844	30	1000	0	84.4	70-135	0			
1,1,2,2-Tetrachloroethane	720.5	30	1000	0	72	55-130	0			
1,1,2-Trichloroethane	816.5	30	1000	0	81.6	60-125	0			
1,1-Dichloroethane	942.5	30	1000	0	94.2	75-125	0			
1,1-Dichloroethene	1112	30	1000	0	111	65-135	0			
1,2,4-Trichlorobenzene	480.5	30	1000	0	48	65-130	0			S
1,2-Dibromo-3-chloropropane	735	30	1000	0	73.5	40-135	0			
1,2-Dibromoethane	1062	30	1000	0	106	75-125	0			
1,2-Dichlorobenzene	708	30	1000	0	70.8	75-120	0			S
1,2-Dichloroethane	768	30	1000	0	76.8	70-135	0			
1,2-Dichloropropane	808	30	1000	0	80.8	70-120	0			
1,3-Dichlorobenzene	708.5	30	1000	0	70.8	70-125	0			
1,4-Dichlorobenzene	699.5	30	1000	0	70	70-125	0			S
2-Butanone	U	200	1000	0	0	30-160	0			S
2-Hexanone	852.5	30	1000	0	85.2	45-145	0			
4-Methyl-2-pentanone	1032	30	1000	0	103	89-161	0			
Acetone	U	100	1000	0	0	20-160	0			S
Benzene	960.5	30	1000	0	96	75-125	0			
Bromodichloromethane	683	30	1000	0	68.3	70-130	0			S
Bromoform	579	30	1000	0	57.9	55-135	0			
Bromomethane	730	75	1000	0	73	30-160	0			
Carbon disulfide	1380	30	1000	0	138	45-160	0			
Carbon tetrachloride	976.5	30	1000	0	97.6	65-135	0			
Chlorobenzene	866	30	1000	0	86.6	75-125	0			
Chloroethane	628	100	1000	0	62.8	40-155	0			
Chloroform	875	30	1000	0	87.5	70-125	0			
Chloromethane	750	100	1000	0	75	50-130	0			
cis-1,2-Dichloroethene	919	30	1000	0	91.9	65-125	0			
cis-1,3-Dichloropropene	755	30	1000	0	75.5	70-125	0			
Dibromochloromethane	643	30	1000	0	64.3	65-135	0			S
Dichlorodifluoromethane	596	30	1000	0	59.6	35-135	0			
Ethylbenzene	886	30	1000	0	88.6	75-125	0			
Isopropylbenzene	791	30	1000	0	79.1	75-130	0			
Methyl tert-butyl ether	931.5	30	1000	0	93.2	75-125	0			
Methylene chloride	1064	30	1000	0	106	55-145	0			
Styrene	827	30	1000	0	82.7	75-125	0			
Tetrachloroethene	951	30	1000	0	95.1	64-140	0			
Toluene	983.5	30	1000	0	98.4	70-125	0			
trans-1,2-Dichloroethene	1027	30	1000	0	103	65-135	0			
trans-1,3-Dichloropropene	824.5	30	1000	0	82.4	65-125	0			
Trichloroethene	837.5	30	1000	102	73.6	75-125	0			S
Trichlorofluoromethane	918.5	30	1000	0	91.8	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57139	Instrument ID VMS9		Method: SW8260B				
Vinyl chloride	784	30	1000	0	78.4	60-125	0
Xylenes, Total	2586	90	3000	0	86.2	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	799.5	0	1000	0	80	70-130	0
<i>Surr: 4-Bromofluorobenzene</i>	955	0	1000	0	95.5	70-130	0
<i>Surr: Dibromofluoromethane</i>	921	0	1000	0	92.1	70-130	0
<i>Surr: Toluene-d8</i>	1033	0	1000	0	103	70-130	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57139** Instrument ID **VMS9** Method: **SW8260B**

MSD				Sample ID: 1404094-09A MSD				Units: µg/Kg			Analysis Date: 04/04/14 12:39 PM		
Client ID:			Run ID: VMS8_140403A			SeqNo: 2699068			Prep Date: 04/02/14			DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
1,1,1-Trichloroethane	944.5	30	1000	0	94.4	70-135	844	11.2	30				
1,1,2,2-Tetrachloroethane	724	30	1000	0	72.4	55-130	720.5	0.485	30				
1,1,2-Trichloroethane	833.5	30	1000	0	83.4	60-125	816.5	2.06	30				
1,1-Dichloroethane	936.5	30	1000	0	93.6	75-125	942.5	0.639	30				
1,1-Dichloroethene	1081	30	1000	0	108	65-135	1112	2.78	30				
1,2,4-Trichlorobenzene	578.5	30	1000	0	57.8	65-130	480.5	18.5	30	S			
1,2-Dibromo-3-chloropropane	781	30	1000	0	78.1	40-135	735	6.07	30				
1,2-Dibromoethane	1019	30	1000	0	102	75-125	1062	4.09	30				
1,2-Dichlorobenzene	726	30	1000	0	72.6	75-120	708	2.51	30	S			
1,2-Dichloroethane	889.5	30	1000	0	89	70-135	768	14.7	30				
1,2-Dichloropropane	906.5	30	1000	0	90.6	70-120	808	11.5	30				
1,3-Dichlorobenzene	719.5	30	1000	0	72	70-125	708.5	1.54	30				
1,4-Dichlorobenzene	732	30	1000	0	73.2	70-125	699.5	4.54	30				
2-Butanone	U	200	1000	0	0	30-160	0	0	30	S			
2-Hexanone	865.5	30	1000	0	86.6	45-145	852.5	1.51	30				
4-Methyl-2-pentanone	1056	30	1000	0	106	89-161	1032	2.25	30				
Acetone	U	100	1000	0	0	20-160	0	0	30	S			
Benzene	1046	30	1000	0	105	75-125	960.5	8.52	30				
Bromodichloromethane	808.5	30	1000	0	80.8	70-130	683	16.8	30				
Bromoform	603	30	1000	0	60.3	55-135	579	4.06	30				
Bromomethane	801	75	1000	0	80.1	30-160	730	9.27	30				
Carbon disulfide	1300	30	1000	0	130	45-160	1380	6.04	30				
Carbon tetrachloride	1066	30	1000	0	107	65-135	976.5	8.76	30				
Chlorobenzene	853	30	1000	0	85.3	75-125	866	1.51	30				
Chloroethane	650	100	1000	0	65	40-155	628	3.44	30				
Chloroform	889.5	30	1000	0	89	70-125	875	1.64	30				
Chloromethane	774	100	1000	0	77.4	50-130	750	3.15	30				
cis-1,2-Dichloroethene	916.5	30	1000	0	91.6	65-125	919	0.272	30				
cis-1,3-Dichloropropene	895	30	1000	0	89.5	70-125	755	17	30				
Dibromochloromethane	690	30	1000	0	69	65-135	643	7.05	30				
Dichlorodifluoromethane	595	30	1000	0	59.5	35-135	596	0.168	30				
Ethylbenzene	845	30	1000	0	84.5	75-125	886	4.74	30				
Isopropylbenzene	771.5	30	1000	0	77.2	75-130	791	2.5	30				
Methyl tert-butyl ether	930.5	30	1000	0	93	75-125	931.5	0.107	30				
Methylene chloride	1127	30	1000	0	113	55-145	1064	5.8	30				
Styrene	831.5	30	1000	0	83.2	75-125	827	0.543	30				
Tetrachloroethene	885.5	30	1000	0	88.6	64-140	951	7.13	30				
Toluene	912.5	30	1000	0	91.2	70-125	983.5	7.49	30				
trans-1,2-Dichloroethene	992	30	1000	0	99.2	65-135	1027	3.47	30				
trans-1,3-Dichloropropene	842.5	30	1000	0	84.2	65-125	824.5	2.16	30				
Trichloroethene	947.5	30	1000	102	84.6	75-125	837.5	12.3	30				
Trichlorofluoromethane	867	30	1000	0	86.7	25-185	918.5	5.77	30				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57139	Instrument ID VMS9			Method: SW8260B					
Vinyl chloride	802	30	1000	0	80.2	60-125	784	2.27	30
Xylenes, Total	2508	90	3000	0	83.6	75-125	2586	3.02	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>926</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>92.6</i>	<i>70-130</i>	<i>799.5</i>	<i>14.7</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>959</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95.9</i>	<i>70-130</i>	<i>955</i>	<i>0.418</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>1062</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>106</i>	<i>70-130</i>	<i>921</i>	<i>14.3</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>981</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.1</i>	<i>70-130</i>	<i>1033</i>	<i>5.16</i>	<i>30</i>

The following samples were analyzed in this batch: | 1404104-01A | 1404104-03A | 1404104-05A |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138227** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VBK140402-R138227				Units: µg/L		Analysis Date: 04/02/14 01:39 PM		
Client ID:		Run ID: VMS9_140402A				SeqNo: 2697354		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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138227	Instrument ID VMS9	Method: SW8260						
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>21.01</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>105</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>18.07</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>90.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19.93</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.6</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>20.04</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138227** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW1-140402-R138227				Units: µg/L		Analysis Date: 04/02/14 12:01 PM		
Client ID:		Run ID: VMS9_140402A				SeqNo: 2697352		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	23.37	1.0	20	0	117	65-130	0			
1,1,2,2-Tetrachloroethane	18.04	1.0	20	0	90.2	65-130	0			
1,1,2-Trichloroethane	18.7	1.0	20	0	93.5	75-125	0			
1,1-Dichloroethane	23.78	1.0	20	0	119	70-135	0			
1,1-Dichloroethene	25.94	1.0	20	0	130	70-130	0			
1,2,4-Trichlorobenzene	19.76	1.0	20	0	98.8	65-135	0			
1,2-Dibromo-3-chloropropane	16.28	1.0	20	0	81.4	50-130	0			
1,2-Dibromoethane	19.09	1.0	20	0	95.4	87-179	0			
1,2-Dichlorobenzene	20.2	1.0	20	0	101	70-120	0			
1,2-Dichloroethane	22.09	1.0	20	0	110	87-179	0			
1,2-Dichloropropane	20.62	2.0	20	0	103	75-125	0			
1,3-Dichlorobenzene	20.62	2.0	20	0	103	75-125	0			
1,4-Dichlorobenzene	21.48	2.0	20	0	107	75-125	0			
2-Butanone	23.54	5.0	20	0	118	30-150	0			
2-Hexanone	16.84	5.0	20	0	84.2	55-130	0			
4-Methyl-2-pentanone	24.26	5.0	20	0	121	77-178	0			
Acetone	24.86	20	20	0	124	40-140	0			
Benzene	22.17	1.0	20	0	111	80-120	0			
Bromodichloromethane	21.44	1.0	20	0	107	75-120	0			
Bromoform	17.97	1.0	20	0	89.8	70-130	0			
Bromomethane	35.87	1.0	20	0	179	30-145	0			S
Carbon disulfide	26.9	2.5	20	0	134	35-165	0			
Carbon tetrachloride	20.63	1.0	20	0	103	65-140	0			
Chlorobenzene	20.01	1.0	20	0	100	80-120	0			
Chloroethane	23.72	1.0	20	0	119	60-135	0			
Chloroform	23.86	1.0	20	0	119	65-135	0			
Chloromethane	23.43	1.0	20	0	117	70-125	0			
cis-1,2-Dichloroethene	24.57	1.0	20	0	123	70-125	0			
cis-1,3-Dichloropropene	21.15	1.0	20	0	106	70-130	0			
Dibromochloromethane	16.2	1.0	20	0	81	60-135	0			
Dichlorodifluoromethane	19.68	1.0	20	0	98.4	30-155	0			
Ethylbenzene	21.99	1.0	20	0	110	75-125	0			
Isopropylbenzene	20.08	1.0	20	0	100	75-125	0			
Methyl tert-butyl ether	23.49	5.0	20	0	117	65-125	0			
Methylene chloride	24.89	5.0	20	0	124	55-140	0			
Styrene	19.91	1.0	20	0	99.6	65-135	0			
Tetrachloroethene	22.48	2.0	20	0	112	45-150	0			
Toluene	21.44	1.0	20	0	107	75-120	0			
trans-1,2-Dichloroethene	24.17	1.0	20	0	121	60-140	0			
trans-1,3-Dichloropropene	22.31	1.0	20	0	112	55-140	0			
Trichloroethene	20.92	1.0	20	0	105	70-125	0			
Trichlorofluoromethane	23.31	1.0	20	0	117	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138227	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	23.71	1.0	20	0	119	50-145	0
Xylenes, Total	66.3	3.0	60	0	110	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	20.9	0	20	0	104	70-120	0
<i>Surr: 4-Bromofluorobenzene</i>	19.94	0	20	0	99.7	75-120	0
<i>Surr: Dibromofluoromethane</i>	20.22	0	20	0	101	85-115	0
<i>Surr: Toluene-d8</i>	20.34	0	20	0	102	85-120	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138227** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 1404029-02A MS			Units: µg/L		Analysis Date: 04/02/14 09:47 PM	
Client ID:				Run ID: VMS9_140402A			SeqNo: 2697383		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	24.12	1.0	20	0	121	65-130	0			
1,1,2,2-Tetrachloroethane	17.52	1.0	20	0	87.6	65-130	0			
1,1,2-Trichloroethane	17.85	1.0	20	0	89.2	75-125	0			
1,1-Dichloroethane	24.71	1.0	20	0	124	70-135	0			
1,1-Dichloroethene	27.85	1.0	20	0	139	70-130	0			S
1,2,4-Trichlorobenzene	13.88	1.0	20	0	69.4	65-135	0			
1,2-Dibromo-3-chloropropane	15.22	1.0	20	0	76.1	50-130	0			
1,2-Dibromoethane	18.11	1.0	20	0	90.6	81-158	0			
1,2-Dichlorobenzene	17.7	1.0	20	0	88.5	70-120	0			
1,2-Dichloroethane	22.78	1.0	20	0	114	70-130	0			
1,2-Dichloropropane	21.51	2.0	20	0	108	75-125	0			
1,3-Dichlorobenzene	18.53	2.0	20	0	92.6	75-125	0			
1,4-Dichlorobenzene	18.46	2.0	20	0	92.3	75-125	0			
2-Butanone	21.49	5.0	20	0	107	30-150	0			
2-Hexanone	15.72	5.0	20	0	78.6	55-130	0			
4-Methyl-2-pentanone	22.37	5.0	20	0	112	73-162	0			
Acetone	24.17	20	20	0	121	40-140	0			
Benzene	22.7	1.0	20	0	114	80-120	0			
Bromodichloromethane	20.17	1.0	20	0	101	75-120	0			
Bromoform	16.06	1.0	20	0	80.3	70-130	0			
Bromomethane	34.31	1.0	20	0	172	30-145	0			S
Carbon disulfide	25.46	2.5	20	0	127	35-165	0			
Carbon tetrachloride	23.99	1.0	20	0	120	65-140	0			
Chlorobenzene	18.96	1.0	20	0	94.8	80-120	0			
Chloroethane	24.49	1.0	20	0	122	60-135	0			
Chloroform	22.76	1.0	20	0	114	65-135	0			
Chloromethane	22.16	1.0	20	0	111	70-125	0			
cis-1,2-Dichloroethene	23.88	1.0	20	0	119	70-125	0			
cis-1,3-Dichloropropene	19.62	1.0	20	0	98.1	70-130	0			
Dibromochloromethane	14.91	1.0	20	0	74.6	60-135	0			
Dichlorodifluoromethane	22.43	1.0	20	0	112	30-155	0			
Ethylbenzene	20.62	1.0	20	0	103	75-125	0			
Isopropylbenzene	19.38	1.0	20	0	96.9	75-125	0			
Methyl tert-butyl ether	22.45	5.0	20	0	112	65-125	0			
Methylene chloride	26.47	5.0	20	0	132	55-140	0			
Styrene	19.21	1.0	20	0	96	65-135	0			
Tetrachloroethene	26.85	2.0	20	3.19	118	45-150	0			
Toluene	20.37	1.0	20	0	102	75-120	0			
trans-1,2-Dichloroethene	25.56	1.0	20	0	128	60-140	0			
trans-1,3-Dichloropropene	19.22	1.0	20	0	96.1	55-140	0			
Trichloroethene	22.02	1.0	20	0	110	70-125	0			
Trichlorofluoromethane	25.28	1.0	20	0	126	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138227	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	24.03	1.0	20	0	120	50-145	0
Xylenes, Total	62.58	3.0	60	0	104	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>21.98</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>110</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>21.43</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>107</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.41</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.66</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.3</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: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138227** Instrument ID **VMS9** Method: **SW8260**

MSD				Sample ID: 1404029-02A MSD				Units: µg/L		Analysis Date: 04/02/14 10:12 PM	
Client ID:			Run ID: VMS9_140402A			SeqNo: 2697385		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	23.7	1.0	20	0	118	65-130	24.12	1.76	30		
1,1,2,2-Tetrachloroethane	17.48	1.0	20	0	87.4	65-130	17.52	0.229	30		
1,1,2-Trichloroethane	18.79	1.0	20	0	94	75-125	17.85	5.13	30		
1,1-Dichloroethane	24.17	1.0	20	0	121	70-135	24.71	2.21	30		
1,1-Dichloroethene	27.16	1.0	20	0	136	70-130	27.85	2.51	30	S	
1,2,4-Trichlorobenzene	14.85	1.0	20	0	74.2	65-135	13.88	6.75	30		
1,2-Dibromo-3-chloropropane	15.24	1.0	20	0	76.2	50-130	15.22	0.131	30		
1,2-Dibromoethane	18.3	1.0	20	0	91.5	81-158	18.11	1.04	30		
1,2-Dichlorobenzene	18.18	1.0	20	0	90.9	70-120	17.7	2.68	30		
1,2-Dichloroethane	22.36	1.0	20	0	112	70-130	22.78	1.86	30		
1,2-Dichloropropane	20.23	2.0	20	0	101	75-125	21.51	6.13	30		
1,3-Dichlorobenzene	18.32	2.0	20	0	91.6	75-125	18.53	1.14	30		
1,4-Dichlorobenzene	18.92	2.0	20	0	94.6	75-125	18.46	2.46	30		
2-Butanone	22.39	5.0	20	0	112	30-150	21.49	4.1	30		
2-Hexanone	14.5	5.0	20	0	72.5	55-130	15.72	8.07	30		
4-Methyl-2-pentanone	22.95	5.0	20	0	115	73-162	22.37	2.56	30		
Acetone	24.65	20	20	0	123	40-140	24.17	1.97	30		
Benzene	22.37	1.0	20	0	112	80-120	22.7	1.46	30		
Bromodichloromethane	19.89	1.0	20	0	99.4	75-120	20.17	1.4	30		
Bromoform	16.8	1.0	20	0	84	70-130	16.06	4.5	30		
Bromomethane	32.77	1.0	20	0	164	30-145	34.31	4.59	30	S	
Carbon disulfide	25.45	2.5	20	0	127	35-165	25.46	0.0393	30		
Carbon tetrachloride	20.15	1.0	20	0	101	65-140	23.99	17.4	30		
Chlorobenzene	19.36	1.0	20	0	96.8	80-120	18.96	2.09	30		
Chloroethane	24.52	1.0	20	0	123	60-135	24.49	0.122	30		
Chloroform	22.42	1.0	20	0	112	65-135	22.76	1.51	30		
Chloromethane	21.76	1.0	20	0	109	70-125	22.16	1.82	30		
cis-1,2-Dichloroethene	23.27	1.0	20	0	116	70-125	23.88	2.59	30		
cis-1,3-Dichloropropene	19.1	1.0	20	0	95.5	70-130	19.62	2.69	30		
Dibromochloromethane	15.11	1.0	20	0	75.6	60-135	14.91	1.33	30		
Dichlorodifluoromethane	20.94	1.0	20	0	105	30-155	22.43	6.87	30		
Ethylbenzene	20.84	1.0	20	0	104	75-125	20.62	1.06	30		
Isopropylbenzene	19.3	1.0	20	0	96.5	75-125	19.38	0.414	30		
Methyl tert-butyl ether	22.37	5.0	20	0	112	65-125	22.45	0.357	30		
Methylene chloride	25.11	5.0	20	0	126	55-140	26.47	5.27	30		
Styrene	18.95	1.0	20	0	94.8	65-135	19.21	1.36	30		
Tetrachloroethene	27.35	2.0	20	3.19	121	45-150	26.85	1.85	30		
Toluene	20.78	1.0	20	0	104	75-120	20.37	1.99	30		
trans-1,2-Dichloroethene	24.71	1.0	20	0	124	60-140	25.56	3.38	30		
trans-1,3-Dichloropropene	20.23	1.0	20	0	101	55-140	19.22	5.12	30		
Trichloroethene	20.9	1.0	20	0	104	70-125	22.02	5.22	30		
Trichlorofluoromethane	24.47	1.0	20	0	122	60-145	25.28	3.26	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138227		Instrument ID VMS9		Method: SW8260					
Vinyl chloride	24.27	1.0	20	0	121	50-145	24.03	0.994	30
Xylenes, Total	63.17	3.0	60	0	105	75-130	62.58	0.938	30
<i>Surr: 1,2-Dichloroethane-d4</i>	21.06	0	20	0	105	70-120	21.98	4.28	30
<i>Surr: 4-Bromofluorobenzene</i>	20.85	0	20	0	104	75-120	21.43	2.74	30
<i>Surr: Dibromofluoromethane</i>	20.43	0	20	0	102	85-115	20.41	0.0979	30
<i>Surr: Toluene-d8</i>	20.64	0	20	0	103	85-120	19.66	4.86	30

The following samples were analyzed in this batch:

1404104-02A

1404104-07A

1404104-04A

1404104-06A

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57241** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57241-57241				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404B		SeqNo: 2699951		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total U 0.50

LCS		Sample ID: LCS-57241-57241				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404B		SeqNo: 2699952		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.419 0.50 2.5 0 96.8 85-119 0

MS		Sample ID: 1404104-03C MS				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID: S-R2330012-033114-ACN-002		Run ID: LACHAT_140404B		SeqNo: 2699955		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.61 0.51 2.53 0.09996 99.2 70-130 0

MSD		Sample ID: 1404104-03C MSD				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID: S-R2330012-033114-ACN-002		Run ID: LACHAT_140404B		SeqNo: 2699956		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.549 0.51 2.541 0.09996 96.4 70-130 2.61 2.39 30

The following samples were analyzed in this batch:

1404104-01C	1404104-03C	1404104-05C

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57242** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57242-57242				Units: mg/L		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404C		SeqNo: 2699992		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	U	0.0050								

LCS		Sample ID: LCS-57242-57242				Units: mg/L		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404C		SeqNo: 2699993		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	0.2543	0.0050	0.25	0	102	83-120	0			

The following samples were analyzed in this batch:

1404104-02C	1404104-04C	1404104-06C

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404104
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138307** Instrument ID **MOIST** Method: **A2540 G**

MBLK				Sample ID: WBLKS-R138307				Units: % of sample			Analysis Date: 04/02/14 01:35 PM			
Client ID:				Run ID: MOIST_140402B				SeqNo: 2697810			Prep Date:		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS				Sample ID: LCS-R138307				Units: % of sample			Analysis Date: 04/02/14 01:35 PM												
Client ID:				Run ID: MOIST_140402B				SeqNo: 2697808		Prep Date:		DF: 1											
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

DUP					Sample ID: 1404034-02B DUP					Units: % of sample			Analysis Date: 04/02/14 01:35 PM		
Client ID:					Run ID: MOIST_140402B					SeqNo: 2697784		Prep Date:		DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 0.5 0.050 0 0 0 0-0 0.54 7.69 20

DUP				Sample ID: 1404094-12B DUP				Units: % of sample			Analysis Date: 04/02/14 01:35 PM												
Client ID:				Run ID: MOIST_140402B				SeqNo: 2697797		Prep Date:		DF: 1											
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Moisture 23.44 0.050 0 0 0 0-0 24.18 3.11 20

The following samples were analyzed in this batch:

1404104-01B	1404104-03B	1404104-05B

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



Environmental

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Chain of Custody Form

Page 1 of 1

COC ID: 105583

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Salt Lake City, UT
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South Charleston, WV
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York, PA
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ALS Project Manager: TBS

ALS Work Order #: 1407104

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number	R2330012	B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs											
Send Report To	Mike Friedhoff, Frank Biehl	Invoice Attn	Accounts Payable	D	Cyanide - total											
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	F	Metals (Including Hg) - total											
Phone	(734) 397-3100	Phone	734-397-3100	G	Moisture											
Fax	(734) 397-3131	Fax	734-397-3131	H	Metals (Including Hg) - dissolved <u>Field Filtered</u>											
e-Mail Address		e-Mail Address	mfriedhoff@racert.com	I												
				J	<u>RUSH (2 DAY)</u> <u>HOLD</u>											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-R2330012-033114-ACN-001	3-31-14	0945	S	7	2	X	X		X		X					
2	W-R2330012-033114-ACN-001		1020	A ₂	1,2,4	8	X	X			X	X		X			
3	S-R2330012-033114-ACN-002		1120	S	7	2	X	X		X		X					
4	W-R2330012-033114-ACN-002		1145	A ₂	1,2,4	8	X	X			X	X		X			
5	S-R2330012-033114-ACN-003		1315	S	7	2	X	X		X		X					
6	W-R2330012-033114-ACN-003		1355	A ₂	1,2,4	8	X	X			X	X		X			
7	Trip Blank		0000	A ₂	1	1	X										
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Adam N...</u>		Shipment Method <u>Carrier</u>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour		Results Due Date: <u>See Above (2 DAY)</u>	
Relinquished by: <u>[Signature]</u>	Date: 3-31-14	Time: 1600	Received by: <u>[Signature]</u>	Notes: <u>Rec'd 4/2/14 0900 Q-2 Sh</u>			
Relinquished by: <u>[Signature]</u>	Date: 4-1-14	Time: 0940	Received by (Laboratory): <u>[Signature]</u>	Cooler ID	Cooler Temp. 2.2°C	QC Package: (Check One Box Below)	
Logged by (Laboratory): <u>[Signature]</u>	Date: 4/2/14	Time: 1300	Checked by (Laboratory): <u>TBS</u>			☒ Level II Std QC ☐ TRRP Checklist ☐ Level III Std QC/Row Data ☐ TRRP Level IV ☐ Level IV SWB48/CLP ☐ Other	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035							

**ALS Environmental**

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CUSTODY SEAL

Date: 4-1-19
Name: [Signature]
Company: [Signature]

Seal Broken By:

Date:

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CUSTODY SEAL

Date: 4-1-19
Name: [Signature]
Company: [Signature]

Seal Broken By:

Date:

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CUSTODY SEAL

Date: 4-1-19
Name: [Signature]
Company: [Signature]

Seal Broken By:

Date:

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **02-Apr-14 09:00**

Work Order: **1404104**

Received by: **DS**

Checklist completed by Diane Shaw
eSignature

02-Apr-14
Date

Reviewed by: Tom Bramish
eSignature

02-Apr-14
Date

Matrices: Water, Soil

Carrier name: City Transfer

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>2.2 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/2/2014 1:19:40 PM</u>		
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:

Work Order: 1404174

Project Name:
RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl
2365 Haggerty Road South
Suite 100
Canton, MI 48188
(734) 397-3100

09-Apr-2014



Certificate No: MN 532786



09-Apr-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **1404174**

Dear Frank,

ALS Environmental received 7 samples on 03-Apr-2014 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 87.

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: MN 532786

Report of Laboratory Analysis

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

RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404174

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>
1404174-01	S-R2330012-040114-ACN-004	Soil		04/01/14 09:20	04/03/14 10:25	☐
1404174-02	W-R2330012-040114-ACN-004	Water		04/01/14 10:00	04/03/14 10:25	☐
1404174-03	S-R2330012-040114-ACN-005	Soil		04/01/14 10:45	04/03/14 10:25	☐
1404174-04	W-R2330012-040114-ACN-005	Water		04/01/14 11:10	04/03/14 10:25	☐
1404174-05	S-R2330012-040114-ACN-006	Soil		04/01/14 13:30	04/03/14 10:25	☐
1404174-06	W-R2330012-040114-ACN-006	Water		04/01/14 14:15	04/03/14 10:25	☐
1404174-07	Trip Blank	Water		04/01/14	04/03/14 10:25	☐

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
WorkOrder: 1404174

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404174

Case Narrative**Analytical Comments:**

Batch 57221A, Method SVO_8270_W, Sample 1404174-04B: One or more SVOC surrogate recoveries are outside of specifications due to matrix interference.

QC Comments:

Batch 57183, Method VOC_8260_S, Sample LCS-57183: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for Bromomethane.

Batch R138302A, Method VOC_8260_W, Sample VLCSW1-140403: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for Bromomethane.

Batch R138302A, Method VOC_8260_W, Sample 1404174-02A MS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for 1,1,2-Trichloroethane, and Toluene.

Batch R138302A, Method VOC_8260_W, Sample 1404174-02A MS: The MS and/or MSD recovery was below the control limit. The corresponding result in the parent sample may be biased low for Bromodichloromethane, and Bromoform.

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-004
Collection Date: 04/01/14 09:20 AM

Work Order: 1404174
Lab ID: 1404174-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7471			Prep: SW7471 / 4/4/14	Analyst: LR
BatchID: <u>57255</u>							
Mercury	0.0039	J	0.00092	0.018	mg/Kg-dry	1	04/04/14 18:41
METALS BY ICP-MS							
			SW6020A			Prep: SW3050B / 4/3/14	Analyst: ML
BatchID: <u>57201</u>							
Antimony	0.14	J	0.0095	2.4	mg/Kg-dry	5	04/04/14 06:45
Arsenic	2.9		0.32	0.95	mg/Kg-dry	5	04/04/14 06:45
Barium	9.2		0.066	2.4	mg/Kg-dry	5	04/04/14 06:45
Beryllium	U		0.019	0.95	mg/Kg-dry	5	04/04/14 16:28
Cadmium	0.078	J	0.0095	0.95	mg/Kg-dry	5	04/04/14 06:45
Chromium	7.4		0.39	2.4	mg/Kg-dry	5	04/04/14 16:28
Cobalt	2.7		0.0095	2.4	mg/Kg-dry	5	04/04/14 06:45
Copper	6.8		0.46	2.4	mg/Kg-dry	5	04/04/14 06:45
Iron	6,200		7.9	38	mg/Kg-dry	5	04/04/14 06:45
Lead	2.8		0.0095	2.4	mg/Kg-dry	5	04/04/14 16:28
Manganese	190		0.21	2.4	mg/Kg-dry	5	04/04/14 06:45
Nickel	7.7		0.24	2.4	mg/Kg-dry	5	04/04/14 06:45
Selenium	U		0.30	1.9	mg/Kg-dry	5	04/04/14 06:45
Silver	U		0.0095	0.95	mg/Kg-dry	5	04/04/14 06:45
Thallium	0.068	J	0.057	2.4	mg/Kg-dry	5	04/04/14 06:45
Vanadium	8.2		0.14	2.4	mg/Kg-dry	5	04/04/14 06:45
Zinc	15		0.20	4.7	mg/Kg-dry	5	04/04/14 06:45
BatchID: <u>57201</u>							
Aluminum	2,200		6.0	47	mg/Kg-dry	50	04/04/14 15:29
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270				Analyst: RM
BatchID: <u>57182A</u>							
1,1'-Biphenyl	U		5.8	390	µg/Kg-dry	1	04/07/14 17:24
2,4,5-Trichlorophenol	U		9.8	190	µg/Kg-dry	1	04/07/14 17:24
2,4,6-Trichlorophenol	U		6.6	190	µg/Kg-dry	1	04/07/14 17:24
2,4-Dichlorophenol	U		11	190	µg/Kg-dry	1	04/07/14 17:24
2,4-Dimethylphenol	U		63	390	µg/Kg-dry	1	04/07/14 17:24
2,4-Dinitrophenol	U		35	770	µg/Kg-dry	1	04/07/14 17:24
2,4-Dinitrotoluene	U		12	190	µg/Kg-dry	1	04/07/14 17:24
2,6-Dinitrotoluene	U		20	190	µg/Kg-dry	1	04/07/14 17:24
2-Chloronaphthalene	U		1.8	94	µg/Kg-dry	1	04/07/14 17:24
2-Chlorophenol	U		12	190	µg/Kg-dry	1	04/07/14 17:24
2-Methylnaphthalene	U		3.2	94	µg/Kg-dry	1	04/07/14 17:24
2-Methylphenol	U		16	190	µg/Kg-dry	1	04/07/14 17:24

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-004
Collection Date: 04/01/14 09:20 AM

Work Order: 1404174
Lab ID: 1404174-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		15	770	µg/Kg-dry	1	04/07/14 17:24
2-Nitrophenol	U		13	190	µg/Kg-dry	1	04/07/14 17:24
3,3'-Dichlorobenzidine	U		480	770	µg/Kg-dry	1	04/07/14 17:24
3-Nitroaniline	U		13	770	µg/Kg-dry	1	04/07/14 17:24
4,6-Dinitro-2-methylphenol	U		32	390	µg/Kg-dry	1	04/07/14 17:24
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	04/07/14 17:24
4-Chloro-3-methylphenol	U		9.1	190	µg/Kg-dry	1	04/07/14 17:24
4-Chloroaniline	U		12	390	µg/Kg-dry	1	04/07/14 17:24
4-Chlorophenyl phenyl ether	U		11	190	µg/Kg-dry	1	04/07/14 17:24
4-Methylphenol	U		19	190	µg/Kg-dry	1	04/07/14 17:24
4-Nitroaniline	U		11	770	µg/Kg-dry	1	04/07/14 17:24
4-Nitrophenol	U		7.7	770	µg/Kg-dry	1	04/07/14 17:24
Acenaphthene	U		1.2	35	µg/Kg-dry	1	04/07/14 17:24
Acenaphthylene	U		1.4	35	µg/Kg-dry	1	04/07/14 17:24
Acetophenone	U		5.8	390	µg/Kg-dry	1	04/07/14 17:24
Anthracene	U		1.5	35	µg/Kg-dry	1	04/07/14 17:24
Atrazine	U		12	59	µg/Kg-dry	1	04/07/14 17:24
Benzaldehyde	U		15	390	µg/Kg-dry	1	04/07/14 17:24
Benzo(a)anthracene	U		1.5	35	µg/Kg-dry	1	04/07/14 17:24
Benzo(a)pyrene	U		2.5	35	µg/Kg-dry	1	04/07/14 17:24
Benzo(b)fluoranthene	U		2.3	35	µg/Kg-dry	1	04/07/14 17:24
Benzo(g,h,i)perylene	U		3.1	35	µg/Kg-dry	1	04/07/14 17:24
Benzo(k)fluoranthene	U		1.7	35	µg/Kg-dry	1	04/07/14 17:24
Bis(2-chloroethoxy)methane	U		12	190	µg/Kg-dry	1	04/07/14 17:24
Bis(2-chloroethyl)ether	U		12	190	µg/Kg-dry	1	04/07/14 17:24
Bis(2-chloroisopropyl)ether	U		16	190	µg/Kg-dry	1	04/07/14 17:24
Bis(2-ethylhexyl)phthalate	U		13	390	µg/Kg-dry	1	04/07/14 17:24
Butyl benzyl phthalate	U		15	190	µg/Kg-dry	1	04/07/14 17:24
Caprolactam	U		17	390	µg/Kg-dry	1	04/07/14 17:24
Carbazole	U		12	190	µg/Kg-dry	1	04/07/14 17:24
Chrysene	U		1.9	35	µg/Kg-dry	1	04/07/14 17:24
Dibenzo(a,h)anthracene	U		2.9	35	µg/Kg-dry	1	04/07/14 17:24
Dibenzofuran	U		12	190	µg/Kg-dry	1	04/07/14 17:24
Diethyl phthalate	U		12	390	µg/Kg-dry	1	04/07/14 17:24
Dimethyl phthalate	U		13	390	µg/Kg-dry	1	04/07/14 17:24
Di-n-butyl phthalate	U		5.7	390	µg/Kg-dry	1	04/07/14 17:24
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	04/07/14 17:24
Fluoranthene	U		2.7	35	µg/Kg-dry	1	04/07/14 17:24
Fluorene	U		2.6	35	µg/Kg-dry	1	04/07/14 17:24
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	04/07/14 17:24

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-004
Collection Date: 04/01/14 09:20 AM

Work Order: 1404174
Lab ID: 1404174-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene		U	13	59	µg/Kg-dry	1	04/07/14 17:24
Hexachlorocyclopentadiene		U	12	390	µg/Kg-dry	1	04/07/14 17:24
Hexachloroethane		U	18	190	µg/Kg-dry	1	04/07/14 17:24
Indeno(1,2,3-cd)pyrene		U	2.6	35	µg/Kg-dry	1	04/07/14 17:24
Isophorone		U	13	190	µg/Kg-dry	1	04/07/14 17:24
Naphthalene		U	2.9	35	µg/Kg-dry	1	04/07/14 17:24
Nitrobenzene		U	15	190	µg/Kg-dry	1	04/07/14 17:24
N-Nitrosodi-n-propylamine		U	15	190	µg/Kg-dry	1	04/07/14 17:24
N-Nitrosodiphenylamine		U	70	190	µg/Kg-dry	1	04/07/14 17:24
Pentachlorophenol		U	7.5	23	µg/Kg-dry	1	04/07/14 17:24
Phenanthrene		U	1.6	35	µg/Kg-dry	1	04/07/14 17:24
Phenol		U	13	190	µg/Kg-dry	1	04/07/14 17:24
Pyrene		U	2.6	35	µg/Kg-dry	1	04/07/14 17:24
Surr: 2,4,6-Tribromophenol	63.8			34-140	%REC	1	04/07/14 17:24
Surr: 2-Fluorobiphenyl	73.9			12-100	%REC	1	04/07/14 17:24
Surr: 2-Fluorophenol	87.8			33-117	%REC	1	04/07/14 17:24
Surr: 4-Terphenyl-d14	95.7			25-137	%REC	1	04/07/14 17:24
Surr: Nitrobenzene-d5	86.8			37-107	%REC	1	04/07/14 17:24
Surr: Phenol-d6	84.1			40-106	%REC	1	04/07/14 17:24
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/3/14		Analyst: AK
BatchID: 57183							
1,1,1-Trichloroethane		U	14	37	µg/Kg-dry	1	04/03/14 21:00
1,1,2,2-Tetrachloroethane		U	16	37	µg/Kg-dry	1	04/03/14 21:00
1,1,2-Trichloroethane		U	13	37	µg/Kg-dry	1	04/03/14 21:00
1,1,2-Trichlorotrifluoroethane		U	14	37	µg/Kg-dry	1	04/03/14 21:00
1,1-Dichloroethane		U	14	37	µg/Kg-dry	1	04/03/14 21:00
1,1-Dichloroethene		U	15	37	µg/Kg-dry	1	04/03/14 21:00
1,2,4-Trichlorobenzene		U	19	37	µg/Kg-dry	1	04/03/14 21:00
1,2-Dibromo-3-chloropropane		U	18	37	µg/Kg-dry	1	04/03/14 21:00
1,2-Dibromoethane		U	15	37	µg/Kg-dry	1	04/03/14 21:00
1,2-Dichlorobenzene		U	15	37	µg/Kg-dry	1	04/03/14 21:00
1,2-Dichloroethane		U	18	37	µg/Kg-dry	1	04/03/14 21:00
1,2-Dichloropropane		U	12	37	µg/Kg-dry	1	04/03/14 21:00
1,3-Dichlorobenzene		U	15	37	µg/Kg-dry	1	04/03/14 21:00
1,4-Dichlorobenzene		U	14	37	µg/Kg-dry	1	04/03/14 21:00
2-Butanone		U	91	250	µg/Kg-dry	1	04/03/14 21:00
2-Hexanone		U	9.1	37	µg/Kg-dry	1	04/03/14 21:00
4-Methyl-2-pentanone		U	12	37	µg/Kg-dry	1	04/03/14 21:00
Acetone		U	78	120	µg/Kg-dry	1	04/03/14 21:00

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-004
Collection Date: 04/01/14 09:20 AM

Work Order: 1404174
Lab ID: 1404174-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		15	37	µg/Kg-dry	1	04/03/14 21:00
Bromodichloromethane	U		8.3	37	µg/Kg-dry	1	04/03/14 21:00
Bromoform	U		7.3	37	µg/Kg-dry	1	04/03/14 21:00
Bromomethane	U		14	92	µg/Kg-dry	1	04/03/14 21:00
Carbon disulfide	U		18	37	µg/Kg-dry	1	04/03/14 21:00
Carbon tetrachloride	U		10	37	µg/Kg-dry	1	04/03/14 21:00
Chlorobenzene	U		15	37	µg/Kg-dry	1	04/03/14 21:00
Chloroethane	U		78	120	µg/Kg-dry	1	04/03/14 21:00
Chloroform	U		15	37	µg/Kg-dry	1	04/03/14 21:00
Chloromethane	U		21	120	µg/Kg-dry	1	04/03/14 21:00
cis-1,2-Dichloroethene	U		15	37	µg/Kg-dry	1	04/03/14 21:00
cis-1,3-Dichloropropene	U		13	37	µg/Kg-dry	1	04/03/14 21:00
Cyclohexane	U		17	37	µg/Kg-dry	1	04/03/14 21:00
Dibromochloromethane	U		6.8	37	µg/Kg-dry	1	04/03/14 21:00
Dichlorodifluoromethane	U		17	37	µg/Kg-dry	1	04/03/14 21:00
Ethylbenzene	35	J	14	37	µg/Kg-dry	1	04/03/14 21:00
Isopropylbenzene	U		16	37	µg/Kg-dry	1	04/03/14 21:00
Methyl acetate	U		50	250	µg/Kg-dry	1	04/03/14 21:00
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	04/03/14 21:00
Methylcyclohexane	U		17	37	µg/Kg-dry	1	04/03/14 21:00
Methylene chloride	U		14	37	µg/Kg-dry	1	04/03/14 21:00
Styrene	U		14	37	µg/Kg-dry	1	04/03/14 21:00
Tetrachloroethene	U		16	37	µg/Kg-dry	1	04/03/14 21:00
Toluene	U		14	37	µg/Kg-dry	1	04/03/14 21:00
trans-1,2-Dichloroethene	U		11	37	µg/Kg-dry	1	04/03/14 21:00
trans-1,3-Dichloropropene	U		12	37	µg/Kg-dry	1	04/03/14 21:00
Trichloroethene	U		17	37	µg/Kg-dry	1	04/03/14 21:00
Trichlorofluoromethane	U		10	37	µg/Kg-dry	1	04/03/14 21:00
Vinyl chloride	U		17	37	µg/Kg-dry	1	04/03/14 21:00
Xylenes, Total	U		44	110	µg/Kg-dry	1	04/03/14 21:00
Surr: 1,2-Dichloroethane-d4	93.0			70-130	%REC	1	04/03/14 21:00
Surr: 4-Bromofluorobenzene	98.4			70-130	%REC	1	04/03/14 21:00
Surr: Dibromofluoromethane	97.2			70-130	%REC	1	04/03/14 21:00
Surr: Toluene-d8	98.4			70-130	%REC	1	04/03/14 21:00

CYANIDE, TOTAL

SW9012A

Prep: SW9012A / 4/4/14

Analyst: JB

BatchID: 57241

Cyanide, Total	0.11	J	0.028	0.61	mg/Kg-dry	1	04/04/14 15:28

MOISTURE

A2540 G

Analyst: AT

BatchID: R138469

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-004
Collection Date: 04/01/14 09:20 AM

Work Order: 1404174
Lab ID: 1404174-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	17		0.025	0.050	% of sample	1	04/04/14 09:57

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-004
Collection Date: 04/01/14 10:00 AM

Work Order: 1404174
Lab ID: 1404174-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/4/14	Analyst: LR
<u>BatchID: 57254</u>							
Mercury	0.00019	J	0.00010	0.00020	mg/L	1	04/07/14 15:07
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/4/14	Analyst: LR
<u>BatchID: 57254</u>							
Mercury		U	0.00010	0.00020	mg/L	1	04/07/14 15:10
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/4/14	Analyst: ML
<u>BatchID: 57239</u>							
Antimony	0.0030		0.000036	0.0020	mg/L	1	04/05/14 09:48
Arsenic	0.080		0.00058	0.0050	mg/L	1	04/05/14 09:48
Barium	0.38		0.000063	0.10	mg/L	1	04/05/14 09:48
Beryllium	0.0013		0.000082	0.0010	mg/L	1	04/05/14 09:48
Cadmium	0.0024		0.000045	0.0010	mg/L	1	04/05/14 09:48
Chromium	0.14		0.00027	0.010	mg/L	1	04/05/14 09:48
Cobalt	0.043		0.000041	0.020	mg/L	1	04/05/14 09:48
Copper	0.19		0.00053	0.0040	mg/L	1	04/05/14 09:48
Iron	100		0.0053	0.20	mg/L	1	04/05/14 09:48
Lead	0.097		0.000051	0.0030	mg/L	1	04/05/14 09:48
Nickel	0.15		0.00025	0.020	mg/L	1	04/05/14 09:48
Selenium	0.0071		0.00064	0.0050	mg/L	1	04/05/14 09:48
Silver	0.00013	J	0.000042	0.00020	mg/L	1	04/05/14 09:48
Thallium	0.0020		0.000062	0.0020	mg/L	1	04/05/14 09:48
Vanadium	0.11		0.00016	0.0040	mg/L	1	04/05/14 09:48
Zinc	1.2		0.00048	0.050	mg/L	1	04/05/14 09:48
<u>BatchID: 57239</u>							
Aluminum	33		0.0078	0.50	mg/L	10	04/07/14 19:32
Manganese	4.7		0.00054	0.50	mg/L	10	04/07/14 19:32
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/4/14	Analyst: ML
<u>BatchID: 57239</u>							
Aluminum	0.039	J	0.00078	0.050	mg/L	1	04/07/14 19:38
Antimony	0.00046	J	0.000036	0.0020	mg/L	1	04/05/14 09:54
Arsenic	0.0053		0.00058	0.0050	mg/L	1	04/05/14 09:54
Barium	0.14		0.000063	0.10	mg/L	1	04/05/14 09:54
Beryllium		U	0.000082	0.0010	mg/L	1	04/05/14 09:54
Cadmium		U	0.000045	0.0010	mg/L	1	04/05/14 09:54
Chromium		U	0.00027	0.010	mg/L	1	04/05/14 09:54
Cobalt	0.0058	J	0.000041	0.020	mg/L	1	04/05/14 09:54
Copper	0.00054	J	0.00053	0.0040	mg/L	1	04/05/14 09:54

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-004
Collection Date: 04/01/14 10:00 AM

Work Order: 1404174
Lab ID: 1404174-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron	2.1		0.0053	0.20	mg/L	1	04/05/14 09:54
Lead	0.000081	J	0.000051	0.0030	mg/L	1	04/05/14 09:54
Manganese	0.93		0.000054	0.050	mg/L	1	04/05/14 09:54
Nickel	0.018	J	0.00025	0.020	mg/L	1	04/05/14 09:54
Selenium	0.00084	J	0.00064	0.0050	mg/L	1	04/05/14 09:54
Silver	U		0.000042	0.00020	mg/L	1	04/05/14 09:54
Thallium	U		0.000062	0.0020	mg/L	1	04/05/14 09:54
Vanadium	0.00046	J	0.00016	0.0040	mg/L	1	04/05/14 09:54
Zinc	0.062		0.00048	0.050	mg/L	1	04/05/14 09:54

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Analyst: RM

BatchID: 57221A

1,1'-Biphenyl	U	0.095	10	µg/L	1	04/07/14 16:17
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	04/07/14 16:17
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	04/07/14 16:17
2,4-Dichlorophenol	U	0.22	10	µg/L	1	04/07/14 16:17
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	04/07/14 16:17
2,4-Dinitrophenol	U	0.67	25	µg/L	1	04/07/14 16:17
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	04/07/14 16:17
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	04/07/14 16:17
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	04/07/14 16:17
2-Chlorophenol	U	0.32	10	µg/L	1	04/07/14 16:17
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	04/07/14 16:17
2-Methylphenol	U	0.20	10	µg/L	1	04/07/14 16:17
2-Nitroaniline	U	0.34	25	µg/L	1	04/07/14 16:17
2-Nitrophenol	U	0.28	5.0	µg/L	1	04/07/14 16:17
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	04/07/14 16:17
3-Nitroaniline	U	0.34	25	µg/L	1	04/07/14 16:17
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	04/07/14 16:17
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	04/07/14 16:17
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	04/07/14 16:17
4-Chloroaniline	U	0.32	10	µg/L	1	04/07/14 16:17
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	04/07/14 16:17
4-Methylphenol	U	0.20	10	µg/L	1	04/07/14 16:17
4-Nitroaniline	U	0.30	25	µg/L	1	04/07/14 16:17
4-Nitrophenol	U	0.51	25	µg/L	1	04/07/14 16:17
Acenaphthene	U	0.11	5.0	µg/L	1	04/07/14 16:17
Acenaphthylene	U	0.12	5.0	µg/L	1	04/07/14 16:17
Acetophenone	U	0.090	5.0	µg/L	1	04/07/14 16:17
Anthracene	U	0.72	5.0	µg/L	1	04/07/14 16:17

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-004
Collection Date: 04/01/14 10:00 AM

Work Order: 1404174
Lab ID: 1404174-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/07/14 16:17
Benzaldehyde	U		0.46	10	µg/L	1	04/07/14 16:17
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/07/14 16:17
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/07/14 16:17
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/07/14 16:17
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/07/14 16:17
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/07/14 16:17
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/07/14 16:17
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/07/14 16:17
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/07/14 16:17
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/07/14 16:17
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/07/14 16:17
Caprolactam	U		4.7	10	µg/L	1	04/07/14 16:17
Carbazole	U		0.16	10	µg/L	1	04/07/14 16:17
Chrysene	U		0.71	1.0	µg/L	1	04/07/14 16:17
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/07/14 16:17
Dibenzofuran	U		0.28	4.0	µg/L	1	04/07/14 16:17
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/07/14 16:17
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/07/14 16:17
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/07/14 16:17
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/07/14 16:17
Fluoranthene	U		0.77	1.0	µg/L	1	04/07/14 16:17
Fluorene	U		0.10	5.0	µg/L	1	04/07/14 16:17
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/07/14 16:17
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/07/14 16:17
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/07/14 16:17
Hexachloroethane	U		0.47	5.0	µg/L	1	04/07/14 16:17
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/07/14 16:17
Isophorone	U		0.30	5.0	µg/L	1	04/07/14 16:17
Naphthalene	U		0.12	5.0	µg/L	1	04/07/14 16:17
Nitrobenzene	U		0.33	3.0	µg/L	1	04/07/14 16:17
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/07/14 16:17
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/07/14 16:17
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/07/14 16:17
Phenanthrene	U		0.86	2.0	µg/L	1	04/07/14 16:17
Phenol	U		0.32	5.0	µg/L	1	04/07/14 16:17
Pyrene	U		0.65	5.0	µg/L	1	04/07/14 16:17
Surr: 2,4,6-Tribromophenol	73.4			32-115	%REC	1	04/07/14 16:17
Surr: 2-Fluorobiphenyl	76.4			32-100	%REC	1	04/07/14 16:17
Surr: 2-Fluorophenol	49.5			22-59	%REC	1	04/07/14 16:17

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-004
Collection Date: 04/01/14 10:00 AM

Work Order: 1404174
Lab ID: 1404174-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	93.2			23-112	%REC	1	04/07/14 16:17
Surr: Nitrobenzene-d5	86.2			31-93	%REC	1	04/07/14 16:17
Surr: Phenol-d6	30.9			13-36	%REC	1	04/07/14 16:17
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: BG	
BatchID: R138302							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 14:15
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/03/14 14:15
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 14:15
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/03/14 14:15
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/03/14 14:15
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 14:15
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/03/14 14:15
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/03/14 14:15
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/03/14 14:15
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/03/14 14:15
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/03/14 14:15
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/03/14 14:15
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/03/14 14:15
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/03/14 14:15
2-Butanone	U		0.64	25	µg/L	1	04/03/14 14:15
2-Hexanone	U		0.19	50	µg/L	1	04/03/14 14:15
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/03/14 14:15
Acetone	3.3	J	3.0	50	µg/L	1	04/03/14 14:15
Benzene	0.36	J	0.14	1.0	µg/L	1	04/03/14 14:15
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/03/14 14:15
Bromoform	U		0.18	1.0	µg/L	1	04/03/14 14:15
Bromomethane	U		0.38	5.0	µg/L	1	04/03/14 14:15
Carbon disulfide	U		0.26	5.0	µg/L	1	04/03/14 14:15
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/03/14 14:15
Chlorobenzene	U		0.12	1.0	µg/L	1	04/03/14 14:15
Chloroethane	U		0.25	5.0	µg/L	1	04/03/14 14:15
Chloroform	U		0.15	1.0	µg/L	1	04/03/14 14:15
Chloromethane	U		0.29	5.0	µg/L	1	04/03/14 14:15
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/03/14 14:15
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/03/14 14:15
Cyclohexane	U		0.20	1.0	µg/L	1	04/03/14 14:15
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/03/14 14:15
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/03/14 14:15
Ethylbenzene	U		0.12	1.0	µg/L	1	04/03/14 14:15

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-004
Collection Date: 04/01/14 10:00 AM

Work Order: 1404174
Lab ID: 1404174-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/03/14 14:15
Methyl acetate	U		0.76	10	µg/L	1	04/03/14 14:15
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/03/14 14:15
Methylcyclohexane	1.1		0.19	1.0	µg/L	1	04/03/14 14:15
Methylene chloride	U		0.75	5.0	µg/L	1	04/03/14 14:15
Styrene	U		0.12	1.0	µg/L	1	04/03/14 14:15
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/03/14 14:15
Toluene	0.62	J	0.13	1.0	µg/L	1	04/03/14 14:15
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 14:15
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/03/14 14:15
Trichloroethene	U		0.16	1.0	µg/L	1	04/03/14 14:15
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/03/14 14:15
Vinyl chloride	U		0.15	1.0	µg/L	1	04/03/14 14:15
Xylenes, Total	1.0	J	0.30	3.0	µg/L	1	04/03/14 14:15
Surr: 1,2-Dichloroethane-d4	101			70-120	%REC	1	04/03/14 14:15
Surr: 4-Bromofluorobenzene	97.2			75-120	%REC	1	04/03/14 14:15
Surr: Dibromofluoromethane	94.4			85-115	%REC	1	04/03/14 14:15
Surr: Toluene-d8	99.4			85-120	%REC	1	04/03/14 14:15
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: 57257							
Cyanide, Amenable	0.0021	J	0.0010	0.0050	mg/L	1	04/07/14 09:56

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-005
Collection Date: 04/01/14 10:45 AM

Work Order: 1404174
Lab ID: 1404174-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7471			Prep: SW7471 / 4/4/14	Analyst: LR
BatchID: <u>57255</u>							
Mercury	0.015	J	0.00078	0.016	mg/Kg-dry	1	04/04/14 18:43
METALS BY ICP-MS							
			SW6020A			Prep: SW3050B / 4/3/14	Analyst: ML
BatchID: <u>57201</u>							
Antimony	0.070	J	0.0070	1.8	mg/Kg-dry	5	04/04/14 06:51
Arsenic	3.0		0.24	0.70	mg/Kg-dry	5	04/04/14 06:51
Barium	19		0.049	1.8	mg/Kg-dry	5	04/04/14 06:51
Beryllium	0.065	J	0.014	0.70	mg/Kg-dry	5	04/04/14 16:34
Cadmium	0.11	J	0.0070	0.70	mg/Kg-dry	5	04/04/14 06:51
Chromium	7.1		0.29	1.8	mg/Kg-dry	5	04/04/14 16:34
Cobalt	2.7		0.0070	1.8	mg/Kg-dry	5	04/04/14 06:51
Copper	4.4		0.34	1.8	mg/Kg-dry	5	04/04/14 06:51
Iron	7,100		5.8	28	mg/Kg-dry	5	04/04/14 06:51
Lead	3.1		0.0070	1.8	mg/Kg-dry	5	04/04/14 16:34
Manganese	120		0.15	1.8	mg/Kg-dry	5	04/04/14 06:51
Nickel	6.4		0.18	1.8	mg/Kg-dry	5	04/04/14 06:51
Selenium	0.29	J	0.22	1.4	mg/Kg-dry	5	04/04/14 06:51
Silver	U		0.0070	0.70	mg/Kg-dry	5	04/04/14 06:51
Thallium	U		0.042	1.8	mg/Kg-dry	5	04/04/14 06:51
Vanadium	11		0.11	1.8	mg/Kg-dry	5	04/04/14 06:51
Zinc	14		0.15	3.5	mg/Kg-dry	5	04/04/14 06:51
BatchID: <u>57201</u>							
Aluminum	3,400		4.4	35	mg/Kg-dry	50	04/04/14 15:35
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270				Analyst: RM
BatchID: <u>57182A</u>							
1,1'-Biphenyl	U		5.4	360	µg/Kg-dry	1	04/07/14 17:46
2,4,5-Trichlorophenol	U		9.0	170	µg/Kg-dry	1	04/07/14 17:46
2,4,6-Trichlorophenol	U		6.1	170	µg/Kg-dry	1	04/07/14 17:46
2,4-Dichlorophenol	U		11	170	µg/Kg-dry	1	04/07/14 17:46
2,4-Dimethylphenol	U		58	360	µg/Kg-dry	1	04/07/14 17:46
2,4-Dinitrophenol	U		33	720	µg/Kg-dry	1	04/07/14 17:46
2,4-Dinitrotoluene	U		12	170	µg/Kg-dry	1	04/07/14 17:46
2,6-Dinitrotoluene	U		19	170	µg/Kg-dry	1	04/07/14 17:46
2-Chloronaphthalene	U		1.7	87	µg/Kg-dry	1	04/07/14 17:46
2-Chlorophenol	U		11	170	µg/Kg-dry	1	04/07/14 17:46
2-Methylnaphthalene	U		3.0	87	µg/Kg-dry	1	04/07/14 17:46
2-Methylphenol	U		15	170	µg/Kg-dry	1	04/07/14 17:46

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-005
Collection Date: 04/01/14 10:45 AM

Work Order: 1404174
Lab ID: 1404174-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		14	720	µg/Kg-dry	1	04/07/14 17:46
2-Nitrophenol	U		12	170	µg/Kg-dry	1	04/07/14 17:46
3,3'-Dichlorobenzidine	U		450	720	µg/Kg-dry	1	04/07/14 17:46
3-Nitroaniline	U		12	720	µg/Kg-dry	1	04/07/14 17:46
4,6-Dinitro-2-methylphenol	U		30	360	µg/Kg-dry	1	04/07/14 17:46
4-Bromophenyl phenyl ether	U		9.8	170	µg/Kg-dry	1	04/07/14 17:46
4-Chloro-3-methylphenol	U		8.4	170	µg/Kg-dry	1	04/07/14 17:46
4-Chloroaniline	U		11	360	µg/Kg-dry	1	04/07/14 17:46
4-Chlorophenyl phenyl ether	U		11	170	µg/Kg-dry	1	04/07/14 17:46
4-Methylphenol	U		17	170	µg/Kg-dry	1	04/07/14 17:46
4-Nitroaniline	U		10	720	µg/Kg-dry	1	04/07/14 17:46
4-Nitrophenol	U		7.2	720	µg/Kg-dry	1	04/07/14 17:46
Acenaphthene	U		1.1	33	µg/Kg-dry	1	04/07/14 17:46
Acenaphthylene	U		1.3	33	µg/Kg-dry	1	04/07/14 17:46
Acetophenone	U		5.4	360	µg/Kg-dry	1	04/07/14 17:46
Anthracene	U		1.4	33	µg/Kg-dry	1	04/07/14 17:46
Atrazine	U		11	54	µg/Kg-dry	1	04/07/14 17:46
Benzaldehyde	U		14	360	µg/Kg-dry	1	04/07/14 17:46
Benzo(a)anthracene	U		1.4	33	µg/Kg-dry	1	04/07/14 17:46
Benzo(a)pyrene	U		2.4	33	µg/Kg-dry	1	04/07/14 17:46
Benzo(b)fluoranthene	U		2.1	33	µg/Kg-dry	1	04/07/14 17:46
Benzo(g,h,i)perylene	U		2.8	33	µg/Kg-dry	1	04/07/14 17:46
Benzo(k)fluoranthene	U		1.5	33	µg/Kg-dry	1	04/07/14 17:46
Bis(2-chloroethoxy)methane	U		11	170	µg/Kg-dry	1	04/07/14 17:46
Bis(2-chloroethyl)ether	U		11	170	µg/Kg-dry	1	04/07/14 17:46
Bis(2-chloroisopropyl)ether	U		15	170	µg/Kg-dry	1	04/07/14 17:46
Bis(2-ethylhexyl)phthalate	U		12	360	µg/Kg-dry	1	04/07/14 17:46
Butyl benzyl phthalate	U		14	170	µg/Kg-dry	1	04/07/14 17:46
Caprolactam	U		16	360	µg/Kg-dry	1	04/07/14 17:46
Carbazole	U		11	170	µg/Kg-dry	1	04/07/14 17:46
Chrysene	U		1.7	33	µg/Kg-dry	1	04/07/14 17:46
Dibenzo(a,h)anthracene	U		2.7	33	µg/Kg-dry	1	04/07/14 17:46
Dibenzofuran	U		11	170	µg/Kg-dry	1	04/07/14 17:46
Diethyl phthalate	U		11	360	µg/Kg-dry	1	04/07/14 17:46
Dimethyl phthalate	U		12	360	µg/Kg-dry	1	04/07/14 17:46
Di-n-butyl phthalate	U		5.2	360	µg/Kg-dry	1	04/07/14 17:46
Di-n-octyl phthalate	U		12	170	µg/Kg-dry	1	04/07/14 17:46
Fluoranthene	U		2.5	33	µg/Kg-dry	1	04/07/14 17:46
Fluorene	U		2.4	33	µg/Kg-dry	1	04/07/14 17:46
Hexachlorobenzene	U		10	170	µg/Kg-dry	1	04/07/14 17:46

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-005
Collection Date: 04/01/14 10:45 AM

Work Order: 1404174
Lab ID: 1404174-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		12	54	µg/Kg-dry	1	04/07/14 17:46
Hexachlorocyclopentadiene	U		11	360	µg/Kg-dry	1	04/07/14 17:46
Hexachloroethane	U		17	170	µg/Kg-dry	1	04/07/14 17:46
Indeno(1,2,3-cd)pyrene	U		2.4	33	µg/Kg-dry	1	04/07/14 17:46
Isophorone	U		12	170	µg/Kg-dry	1	04/07/14 17:46
Naphthalene	U		2.7	33	µg/Kg-dry	1	04/07/14 17:46
Nitrobenzene	U		14	170	µg/Kg-dry	1	04/07/14 17:46
N-Nitrosodi-n-propylamine	U		14	170	µg/Kg-dry	1	04/07/14 17:46
N-Nitrosodiphenylamine	U		64	170	µg/Kg-dry	1	04/07/14 17:46
Pentachlorophenol	U		7.0	22	µg/Kg-dry	1	04/07/14 17:46
Phenanthrene	U		1.4	33	µg/Kg-dry	1	04/07/14 17:46
Phenol	U		12	170	µg/Kg-dry	1	04/07/14 17:46
Pyrene	U		2.4	33	µg/Kg-dry	1	04/07/14 17:46
Surr: 2,4,6-Tribromophenol	60.6			34-140	%REC	1	04/07/14 17:46
Surr: 2-Fluorobiphenyl	66.7			12-100	%REC	1	04/07/14 17:46
Surr: 2-Fluorophenol	80.9			33-117	%REC	1	04/07/14 17:46
Surr: 4-Terphenyl-d14	101			25-137	%REC	1	04/07/14 17:46
Surr: Nitrobenzene-d5	76.3			37-107	%REC	1	04/07/14 17:46
Surr: Phenol-d6	77.7			40-106	%REC	1	04/07/14 17:46

VOLATILE ORGANIC COMPOUNDS

SW8260B

Prep: SW5035 / 4/3/14

Analyst: AK

BatchID: 57183

1,1,1-Trichloroethane	U		15	39	µg/Kg-dry	1	04/03/14 21:24
1,1,2,2-Tetrachloroethane	U		17	39	µg/Kg-dry	1	04/03/14 21:24
1,1,2-Trichloroethane	U		14	39	µg/Kg-dry	1	04/03/14 21:24
1,1,2-Trichlorotrifluoroethane	U		14	39	µg/Kg-dry	1	04/03/14 21:24
1,1-Dichloroethane	U		14	39	µg/Kg-dry	1	04/03/14 21:24
1,1-Dichloroethene	U		16	39	µg/Kg-dry	1	04/03/14 21:24
1,2,4-Trichlorobenzene	U		20	39	µg/Kg-dry	1	04/03/14 21:24
1,2-Dibromo-3-chloropropane	U		19	39	µg/Kg-dry	1	04/03/14 21:24
1,2-Dibromoethane	U		15	39	µg/Kg-dry	1	04/03/14 21:24
1,2-Dichlorobenzene	U		15	39	µg/Kg-dry	1	04/03/14 21:24
1,2-Dichloroethane	U		18	39	µg/Kg-dry	1	04/03/14 21:24
1,2-Dichloropropane	U		13	39	µg/Kg-dry	1	04/03/14 21:24
1,3-Dichlorobenzene	U		15	39	µg/Kg-dry	1	04/03/14 21:24
1,4-Dichlorobenzene	U		15	39	µg/Kg-dry	1	04/03/14 21:24
2-Butanone	U		95	260	µg/Kg-dry	1	04/03/14 21:24
2-Hexanone	U		9.5	39	µg/Kg-dry	1	04/03/14 21:24
4-Methyl-2-pentanone	U		13	39	µg/Kg-dry	1	04/03/14 21:24
Acetone	U		82	130	µg/Kg-dry	1	04/03/14 21:24

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-005
Collection Date: 04/01/14 10:45 AM

Work Order: 1404174
Lab ID: 1404174-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		15	39	µg/Kg-dry	1	04/03/14 21:24
Bromodichloromethane	U		8.6	39	µg/Kg-dry	1	04/03/14 21:24
Bromoform	U		7.6	39	µg/Kg-dry	1	04/03/14 21:24
Bromomethane	U		15	96	µg/Kg-dry	1	04/03/14 21:24
Carbon disulfide	U		19	39	µg/Kg-dry	1	04/03/14 21:24
Carbon tetrachloride	U		11	39	µg/Kg-dry	1	04/03/14 21:24
Chlorobenzene	U		16	39	µg/Kg-dry	1	04/03/14 21:24
Chloroethane	U		82	130	µg/Kg-dry	1	04/03/14 21:24
Chloroform	U		16	39	µg/Kg-dry	1	04/03/14 21:24
Chloromethane	U		21	130	µg/Kg-dry	1	04/03/14 21:24
cis-1,2-Dichloroethene	U		16	39	µg/Kg-dry	1	04/03/14 21:24
cis-1,3-Dichloropropene	U		13	39	µg/Kg-dry	1	04/03/14 21:24
Cyclohexane	U		17	39	µg/Kg-dry	1	04/03/14 21:24
Dibromochloromethane	U		7.1	39	µg/Kg-dry	1	04/03/14 21:24
Dichlorodifluoromethane	U		17	39	µg/Kg-dry	1	04/03/14 21:24
Ethylbenzene	U		14	39	µg/Kg-dry	1	04/03/14 21:24
Isopropylbenzene	U		17	39	µg/Kg-dry	1	04/03/14 21:24
Methyl acetate	U		52	260	µg/Kg-dry	1	04/03/14 21:24
Methyl tert-butyl ether	U		16	39	µg/Kg-dry	1	04/03/14 21:24
Methylcyclohexane	U		18	39	µg/Kg-dry	1	04/03/14 21:24
Methylene chloride	U		15	39	µg/Kg-dry	1	04/03/14 21:24
Styrene	U		14	39	µg/Kg-dry	1	04/03/14 21:24
Tetrachloroethene	U		17	39	µg/Kg-dry	1	04/03/14 21:24
Toluene	U		14	39	µg/Kg-dry	1	04/03/14 21:24
trans-1,2-Dichloroethene	U		12	39	µg/Kg-dry	1	04/03/14 21:24
trans-1,3-Dichloropropene	U		13	39	µg/Kg-dry	1	04/03/14 21:24
Trichloroethene	U		18	39	µg/Kg-dry	1	04/03/14 21:24
Trichlorofluoromethane	U		11	39	µg/Kg-dry	1	04/03/14 21:24
Vinyl chloride	U		17	39	µg/Kg-dry	1	04/03/14 21:24
Xylenes, Total	U		46	120	µg/Kg-dry	1	04/03/14 21:24
Surr: 1,2-Dichloroethane-d4	93.2			70-130	%REC	1	04/03/14 21:24
Surr: 4-Bromofluorobenzene	98.4			70-130	%REC	1	04/03/14 21:24
Surr: Dibromofluoromethane	96.7			70-130	%REC	1	04/03/14 21:24
Surr: Toluene-d8	96.3			70-130	%REC	1	04/03/14 21:24

CYANIDE, TOTAL

SW9012A

Prep: SW9012A / 4/4/14

Analyst: JB

BatchID: 57241

Cyanide, Total	0.036	J	0.025	0.55	mg/Kg-dry	1	04/04/14 15:28

MOISTURE

A2540 G

Analyst: AT

BatchID: R138469

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-005
Collection Date: 04/01/14 10:45 AM

Work Order: 1404174
Lab ID: 1404174-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	9.6		0.025	0.050	% of sample	1	04/04/14 09:57

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-005
Collection Date: 04/01/14 11:10 AM

Work Order: 1404174
Lab ID: 1404174-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470		Prep: SW7470 / 4/4/14		Analyst: LR
<u>BatchID: 57254</u>							
Mercury	0.00015	J	0.00010	0.00020	mg/L	1	04/07/14 15:12
MERCURY BY CVAA (DISSOLVED)			SW7470		Prep: SW7470 / 4/4/14		Analyst: LR
<u>BatchID: 57254</u>							
Mercury		U	0.00010	0.00020	mg/L	1	04/07/14 15:14
METALS BY ICP-MS			SW6020A		Prep: SW3005A / 4/4/14		Analyst: ML
<u>BatchID: 57239</u>							
Antimony	0.00047	J	0.000036	0.0020	mg/L	1	04/05/14 10:00
Arsenic	0.026		0.00058	0.0050	mg/L	1	04/05/14 10:00
Barium	0.16		0.000063	0.10	mg/L	1	04/05/14 10:00
Beryllium	0.0012		0.000082	0.0010	mg/L	1	04/05/14 10:00
Cadmium	0.00058	J	0.000045	0.0010	mg/L	1	04/05/14 10:00
Chromium	0.059		0.00027	0.010	mg/L	1	04/05/14 10:00
Cobalt	0.023		0.000041	0.020	mg/L	1	04/05/14 10:00
Copper	0.051		0.00053	0.0040	mg/L	1	04/05/14 10:00
Iron	56		0.0053	0.20	mg/L	1	04/05/14 10:00
Lead	0.030		0.000051	0.0030	mg/L	1	04/05/14 10:00
Manganese	1.1		0.000054	0.050	mg/L	1	04/05/14 10:00
Nickel	0.055		0.00025	0.020	mg/L	1	04/05/14 10:00
Selenium	0.0029	J	0.00064	0.0050	mg/L	1	04/05/14 10:00
Silver		U	0.000042	0.00020	mg/L	1	04/05/14 10:00
Thallium	0.00057	J	0.000062	0.0020	mg/L	1	04/05/14 10:00
Vanadium	0.099		0.00016	0.0040	mg/L	1	04/05/14 10:00
Zinc	0.16		0.00048	0.050	mg/L	1	04/05/14 10:00
<u>BatchID: 57239</u>							
Aluminum	35		0.0078	0.50	mg/L	10	04/07/14 19:45
METALS BY ICP-MS (DISSOLVED)			SW6020A		Prep: SW3005A / 4/4/14		Analyst: ML
<u>BatchID: 57239</u>							
Aluminum	0.30		0.00078	0.050	mg/L	1	04/07/14 19:51
Antimony	0.00019	J	0.000036	0.0020	mg/L	1	04/05/14 10:06
Arsenic		U	0.00058	0.0050	mg/L	1	04/05/14 10:06
Barium	0.021	J	0.000063	0.10	mg/L	1	04/05/14 10:06
Beryllium		U	0.000082	0.0010	mg/L	1	04/05/14 10:06
Cadmium		U	0.000045	0.0010	mg/L	1	04/05/14 10:06
Chromium		U	0.00027	0.010	mg/L	1	04/05/14 10:06
Cobalt	0.0018	J	0.000041	0.020	mg/L	1	04/05/14 10:06
Copper	0.0012	J	0.00053	0.0040	mg/L	1	04/05/14 10:06

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-005
Collection Date: 04/01/14 11:10 AM

Work Order: 1404174
Lab ID: 1404174-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron	0.49		0.0053	0.20	mg/L	1	04/05/14 10:06
Lead	0.00013	J	0.000051	0.0030	mg/L	1	04/05/14 10:06
Manganese	0.098		0.000054	0.050	mg/L	1	04/05/14 10:06
Nickel	0.0026	J	0.00025	0.020	mg/L	1	04/05/14 10:06
Selenium	0.00073	J	0.00064	0.0050	mg/L	1	04/05/14 10:06
Silver	U		0.000042	0.00020	mg/L	1	04/05/14 10:06
Thallium	U		0.000062	0.0020	mg/L	1	04/05/14 10:06
Vanadium	0.0013	J	0.00016	0.0040	mg/L	1	04/05/14 10:06
Zinc	0.0028	J	0.00048	0.050	mg/L	1	04/05/14 10:06

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Analyst: RM

BatchID: 57221A

1,1'-Biphenyl	U	0.095	10	µg/L	1	04/07/14 16:40
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	04/07/14 16:40
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	04/07/14 16:40
2,4-Dichlorophenol	U	0.22	10	µg/L	1	04/07/14 16:40
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	04/07/14 16:40
2,4-Dinitrophenol	U	0.67	25	µg/L	1	04/07/14 16:40
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	04/07/14 16:40
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	04/07/14 16:40
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	04/07/14 16:40
2-Chlorophenol	U	0.32	10	µg/L	1	04/07/14 16:40
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	04/07/14 16:40
2-Methylphenol	U	0.20	10	µg/L	1	04/07/14 16:40
2-Nitroaniline	U	0.34	25	µg/L	1	04/07/14 16:40
2-Nitrophenol	U	0.28	5.0	µg/L	1	04/07/14 16:40
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	04/07/14 16:40
3-Nitroaniline	U	0.34	25	µg/L	1	04/07/14 16:40
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	04/07/14 16:40
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	04/07/14 16:40
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	04/07/14 16:40
4-Chloroaniline	U	0.32	10	µg/L	1	04/07/14 16:40
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	04/07/14 16:40
4-Methylphenol	U	0.20	10	µg/L	1	04/07/14 16:40
4-Nitroaniline	U	0.30	25	µg/L	1	04/07/14 16:40
4-Nitrophenol	U	0.51	25	µg/L	1	04/07/14 16:40
Acenaphthene	U	0.11	5.0	µg/L	1	04/07/14 16:40
Acenaphthylene	U	0.12	5.0	µg/L	1	04/07/14 16:40
Acetophenone	U	0.090	5.0	µg/L	1	04/07/14 16:40
Anthracene	U	0.72	5.0	µg/L	1	04/07/14 16:40

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-005
Collection Date: 04/01/14 11:10 AM

Work Order: 1404174
Lab ID: 1404174-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/07/14 16:40
Benzaldehyde	U		0.46	10	µg/L	1	04/07/14 16:40
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/07/14 16:40
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/07/14 16:40
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/07/14 16:40
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/07/14 16:40
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/07/14 16:40
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/07/14 16:40
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/07/14 16:40
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/07/14 16:40
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/07/14 16:40
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/07/14 16:40
Caprolactam	U		4.7	10	µg/L	1	04/07/14 16:40
Carbazole	U		0.16	10	µg/L	1	04/07/14 16:40
Chrysene	U		0.71	1.0	µg/L	1	04/07/14 16:40
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/07/14 16:40
Dibenzofuran	U		0.28	4.0	µg/L	1	04/07/14 16:40
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/07/14 16:40
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/07/14 16:40
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/07/14 16:40
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/07/14 16:40
Fluoranthene	U		0.77	1.0	µg/L	1	04/07/14 16:40
Fluorene	U		0.10	5.0	µg/L	1	04/07/14 16:40
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/07/14 16:40
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/07/14 16:40
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/07/14 16:40
Hexachloroethane	U		0.47	5.0	µg/L	1	04/07/14 16:40
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/07/14 16:40
Isophorone	U		0.30	5.0	µg/L	1	04/07/14 16:40
Naphthalene	U		0.12	5.0	µg/L	1	04/07/14 16:40
Nitrobenzene	U		0.33	3.0	µg/L	1	04/07/14 16:40
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/07/14 16:40
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/07/14 16:40
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/07/14 16:40
Phenanthrene	U		0.86	2.0	µg/L	1	04/07/14 16:40
Phenol	U		0.32	5.0	µg/L	1	04/07/14 16:40
Pyrene	U		0.65	5.0	µg/L	1	04/07/14 16:40
Surr: 2,4,6-Tribromophenol	58.0			32-115	%REC	1	04/07/14 16:40
Surr: 2-Fluorobiphenyl	79.8			32-100	%REC	1	04/07/14 16:40
Surr: 2-Fluorophenol	51.6			22-59	%REC	1	04/07/14 16:40

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-005
Collection Date: 04/01/14 11:10 AM

Work Order: 1404174
Lab ID: 1404174-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	101			23-112	%REC	1	04/07/14 16:40
Surr: Nitrobenzene-d5	93.3	S		31-93	%REC	1	04/07/14 16:40
Surr: Phenol-d6	31.7			13-36	%REC	1	04/07/14 16:40
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: BG	
BatchID: R138302							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 14:42
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/03/14 14:42
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 14:42
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/03/14 14:42
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/03/14 14:42
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 14:42
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/03/14 14:42
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/03/14 14:42
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/03/14 14:42
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/03/14 14:42
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/03/14 14:42
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/03/14 14:42
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/03/14 14:42
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/03/14 14:42
2-Butanone	U		0.64	25	µg/L	1	04/03/14 14:42
2-Hexanone	U		0.19	50	µg/L	1	04/03/14 14:42
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/03/14 14:42
Acetone	U		3.0	50	µg/L	1	04/03/14 14:42
Benzene	U		0.14	1.0	µg/L	1	04/03/14 14:42
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/03/14 14:42
Bromoform	U		0.18	1.0	µg/L	1	04/03/14 14:42
Bromomethane	U		0.38	5.0	µg/L	1	04/03/14 14:42
Carbon disulfide	U		0.26	5.0	µg/L	1	04/03/14 14:42
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/03/14 14:42
Chlorobenzene	U		0.12	1.0	µg/L	1	04/03/14 14:42
Chloroethane	U		0.25	5.0	µg/L	1	04/03/14 14:42
Chloroform	U		0.15	1.0	µg/L	1	04/03/14 14:42
Chloromethane	U		0.29	5.0	µg/L	1	04/03/14 14:42
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/03/14 14:42
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/03/14 14:42
Cyclohexane	U		0.20	1.0	µg/L	1	04/03/14 14:42
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/03/14 14:42
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/03/14 14:42
Ethylbenzene	U		0.12	1.0	µg/L	1	04/03/14 14:42

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-005
Collection Date: 04/01/14 11:10 AM

Work Order: 1404174
Lab ID: 1404174-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/03/14 14:42
Methyl acetate	U		0.76	10	µg/L	1	04/03/14 14:42
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/03/14 14:42
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/03/14 14:42
Methylene chloride	U		0.75	5.0	µg/L	1	04/03/14 14:42
Styrene	U		0.12	1.0	µg/L	1	04/03/14 14:42
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/03/14 14:42
Toluene	0.25	J	0.13	1.0	µg/L	1	04/03/14 14:42
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 14:42
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/03/14 14:42
Trichloroethene	U		0.16	1.0	µg/L	1	04/03/14 14:42
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/03/14 14:42
Vinyl chloride	U		0.15	1.0	µg/L	1	04/03/14 14:42
Xylenes, Total	U		0.30	3.0	µg/L	1	04/03/14 14:42
Surr: 1,2-Dichloroethane-d4	98.4			70-120	%REC	1	04/03/14 14:42
Surr: 4-Bromofluorobenzene	95.3			75-120	%REC	1	04/03/14 14:42
Surr: Dibromofluoromethane	96.5			85-115	%REC	1	04/03/14 14:42
Surr: Toluene-d8	98.5			85-120	%REC	1	04/03/14 14:42
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: 57257							
Cyanide, Amenable	0.0013	J	0.0010	0.0050	mg/L	1	04/07/14 09:56

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-006
Collection Date: 04/01/14 01:30 PM

Work Order: 1404174
Lab ID: 1404174-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7471			Prep: SW7471 / 4/4/14	Analyst: LR
<u>BatchID: 57255</u>							
Mercury	0.75		0.0088	0.18	mg/Kg-dry	10	04/04/14 18:51
METALS BY ICP-MS							
			SW6020A			Prep: SW3050B / 4/4/14	Analyst: ML
<u>BatchID: 57215</u>							
Antimony	7.3		0.0094	2.3	mg/Kg-dry	5	04/04/14 19:59
Arsenic	7.7		0.32	0.94	mg/Kg-dry	5	04/04/14 19:59
Barium	320		0.066	2.3	mg/Kg-dry	5	04/04/14 19:59
Beryllium	0.15	J	0.019	0.94	mg/Kg-dry	5	04/04/14 19:59
Cadmium	7.4		0.0094	0.94	mg/Kg-dry	5	04/04/14 19:59
Chromium	45		0.38	2.3	mg/Kg-dry	5	04/04/14 19:59
Cobalt	6.4		0.0094	2.3	mg/Kg-dry	5	04/04/14 19:59
Copper	190		0.46	2.3	mg/Kg-dry	5	04/04/14 19:59
Iron	48,000		7.8	37	mg/Kg-dry	5	04/04/14 19:59
Lead	520		0.0094	2.3	mg/Kg-dry	5	04/04/14 19:59
Manganese	420		0.21	2.3	mg/Kg-dry	5	04/04/14 19:59
Nickel	44		0.23	2.3	mg/Kg-dry	5	04/04/14 19:59
Selenium	0.58	J	0.30	1.9	mg/Kg-dry	5	04/04/14 19:59
Silver	2.0		0.0094	0.94	mg/Kg-dry	5	04/07/14 18:42
Thallium	U		0.056	2.3	mg/Kg-dry	5	04/04/14 19:59
Vanadium	14		0.14	2.3	mg/Kg-dry	5	04/04/14 19:59
<u>BatchID: 57215</u>							
Aluminum	9,100		5.9	47	mg/Kg-dry	50	04/07/14 16:52
Zinc	7,400		2.0	47	mg/Kg-dry	50	04/07/14 16:52
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270			Prep: SW3541 / 4/3/14	Analyst: RM
<u>BatchID: 57182</u>							
1,1'-Biphenyl	47	J	5.7	380	µg/Kg-dry	1	04/07/14 18:08
2,4,5-Trichlorophenol	U		9.6	190	µg/Kg-dry	1	04/07/14 18:08
2,4,6-Trichlorophenol	U		6.5	190	µg/Kg-dry	1	04/07/14 18:08
2,4-Dichlorophenol	U		11	190	µg/Kg-dry	1	04/07/14 18:08
2,4-Dimethylphenol	U		62	380	µg/Kg-dry	1	04/07/14 18:08
2,4-Dinitrophenol	U		35	770	µg/Kg-dry	1	04/07/14 18:08
2,4-Dinitrotoluene	U		12	190	µg/Kg-dry	1	04/07/14 18:08
2,6-Dinitrotoluene	U		20	190	µg/Kg-dry	1	04/07/14 18:08
2-Chloronaphthalene	U		1.8	93	µg/Kg-dry	1	04/07/14 18:08
2-Chlorophenol	U		12	190	µg/Kg-dry	1	04/07/14 18:08
2-Methylnaphthalene	280		3.2	93	µg/Kg-dry	1	04/07/14 18:08
2-Methylphenol	U		16	190	µg/Kg-dry	1	04/07/14 18:08

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-006
Collection Date: 04/01/14 01:30 PM

Work Order: 1404174
Lab ID: 1404174-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		15	770	µg/Kg-dry	1	04/07/14 18:08
2-Nitrophenol	U		13	190	µg/Kg-dry	1	04/07/14 18:08
3,3'-Dichlorobenzidine	U		480	770	µg/Kg-dry	1	04/07/14 18:08
3-Nitroaniline	U		13	770	µg/Kg-dry	1	04/07/14 18:08
4,6-Dinitro-2-methylphenol	U		32	380	µg/Kg-dry	1	04/07/14 18:08
4-Bromophenyl phenyl ether	U		10	190	µg/Kg-dry	1	04/07/14 18:08
4-Chloro-3-methylphenol	U		8.9	190	µg/Kg-dry	1	04/07/14 18:08
4-Chloroaniline	U		12	380	µg/Kg-dry	1	04/07/14 18:08
4-Chlorophenyl phenyl ether	U		11	190	µg/Kg-dry	1	04/07/14 18:08
4-Methylphenol	940		18	190	µg/Kg-dry	1	04/07/14 18:08
4-Nitroaniline	U		11	770	µg/Kg-dry	1	04/07/14 18:08
4-Nitrophenol	U		7.6	770	µg/Kg-dry	1	04/07/14 18:08
Acenaphthene	30	J	1.2	35	µg/Kg-dry	1	04/07/14 18:08
Acenaphthylene	U		1.4	35	µg/Kg-dry	1	04/07/14 18:08
Acetophenone	U		5.8	380	µg/Kg-dry	1	04/07/14 18:08
Anthracene	75		1.5	35	µg/Kg-dry	1	04/07/14 18:08
Atrazine	U		12	58	µg/Kg-dry	1	04/07/14 18:08
Benzaldehyde	U		15	380	µg/Kg-dry	1	04/07/14 18:08
Benzo(a)anthracene	140		1.5	35	µg/Kg-dry	1	04/07/14 18:08
Benzo(a)pyrene	140		2.5	35	µg/Kg-dry	1	04/07/14 18:08
Benzo(b)fluoranthene	200		2.3	35	µg/Kg-dry	1	04/07/14 18:08
Benzo(g,h,i)perylene	190		3.0	35	µg/Kg-dry	1	04/07/14 18:08
Benzo(k)fluoranthene	67		1.6	35	µg/Kg-dry	1	04/07/14 18:08
Bis(2-chloroethoxy)methane	U		12	190	µg/Kg-dry	1	04/07/14 18:08
Bis(2-chloroethyl)ether	U		12	190	µg/Kg-dry	1	04/07/14 18:08
Bis(2-chloroisopropyl)ether	U		16	190	µg/Kg-dry	1	04/07/14 18:08
Butyl benzyl phthalate	800		14	190	µg/Kg-dry	1	04/07/14 18:08
Caprolactam	U		17	380	µg/Kg-dry	1	04/07/14 18:08
Carbazole	56	J	11	190	µg/Kg-dry	1	04/07/14 18:08
Chrysene	210		1.8	35	µg/Kg-dry	1	04/07/14 18:08
Dibenzo(a,h)anthracene	30	J	2.9	35	µg/Kg-dry	1	04/07/14 18:08
Dibenzofuran	U		12	190	µg/Kg-dry	1	04/07/14 18:08
Diethyl phthalate	150	J	12	380	µg/Kg-dry	1	04/07/14 18:08
Dimethyl phthalate	U		13	380	µg/Kg-dry	1	04/07/14 18:08
Di-n-butyl phthalate	820		5.6	380	µg/Kg-dry	1	04/07/14 18:08
Di-n-octyl phthalate	590		12	190	µg/Kg-dry	1	04/07/14 18:08
Fluoranthene	300		2.7	35	µg/Kg-dry	1	04/07/14 18:08
Fluorene	42		2.6	35	µg/Kg-dry	1	04/07/14 18:08
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	04/07/14 18:08
Hexachlorobutadiene	U		13	58	µg/Kg-dry	1	04/07/14 18:08

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-006
Collection Date: 04/01/14 01:30 PM

Work Order: 1404174
Lab ID: 1404174-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	U		12	380	µg/Kg-dry	1	04/07/14 18:08
Hexachloroethane	U		18	190	µg/Kg-dry	1	04/07/14 18:08
Indeno(1,2,3-cd)pyrene	120		2.6	35	µg/Kg-dry	1	04/07/14 18:08
Isophorone	U		13	190	µg/Kg-dry	1	04/07/14 18:08
Naphthalene	240		2.8	35	µg/Kg-dry	1	04/07/14 18:08
Nitrobenzene	U		15	190	µg/Kg-dry	1	04/07/14 18:08
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	04/07/14 18:08
N-Nitrosodiphenylamine	U		69	190	µg/Kg-dry	1	04/07/14 18:08
Pentachlorophenol	U		7.4	23	µg/Kg-dry	1	04/07/14 18:08
Phenanthrene	280		1.5	35	µg/Kg-dry	1	04/07/14 18:08
Phenol	200		13	190	µg/Kg-dry	1	04/07/14 18:08
Pyrene	300		2.6	35	µg/Kg-dry	1	04/07/14 18:08
Surr: 2,4,6-Tribromophenol	54.2			34-140	%REC	1	04/07/14 18:08
Surr: 2-Fluorobiphenyl	53.1			12-100	%REC	1	04/07/14 18:08
Surr: 2-Fluorophenol	64.2			33-117	%REC	1	04/07/14 18:08
Surr: 4-Terphenyl-d14	55.6			25-137	%REC	1	04/07/14 18:08
Surr: Nitrobenzene-d5	63.9			37-107	%REC	1	04/07/14 18:08
Surr: Phenol-d6	65.1			40-106	%REC	1	04/07/14 18:08
BatchID: 57182A							
Bis(2-ethylhexyl)phthalate	240,000		2,500	77,000	µg/Kg-dry	200	04/08/14 17:13
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/3/14		Analyst: AK
BatchID: 57183							
1,1,1-Trichloroethane	U		17	45	µg/Kg-dry	1	04/03/14 21:49
1,1,2,2-Tetrachloroethane	U		20	45	µg/Kg-dry	1	04/03/14 21:49
1,1,2-Trichloroethane	U		16	45	µg/Kg-dry	1	04/03/14 21:49
1,1,2-Trichlorotrifluoroethane	U		17	45	µg/Kg-dry	1	04/03/14 21:49
1,1-Dichloroethane	U		16	45	µg/Kg-dry	1	04/03/14 21:49
1,1-Dichloroethene	U		19	45	µg/Kg-dry	1	04/03/14 21:49
1,2,4-Trichlorobenzene	U		23	45	µg/Kg-dry	1	04/03/14 21:49
1,2-Dibromo-3-chloropropane	U		22	45	µg/Kg-dry	1	04/03/14 21:49
1,2-Dibromoethane	U		18	45	µg/Kg-dry	1	04/03/14 21:49
1,2-Dichlorobenzene	U		18	45	µg/Kg-dry	1	04/03/14 21:49
1,2-Dichloroethane	U		21	45	µg/Kg-dry	1	04/03/14 21:49
1,2-Dichloropropane	U		15	45	µg/Kg-dry	1	04/03/14 21:49
1,3-Dichlorobenzene	U		18	45	µg/Kg-dry	1	04/03/14 21:49
1,4-Dichlorobenzene	U		17	45	µg/Kg-dry	1	04/03/14 21:49
2-Butanone	U		110	300	µg/Kg-dry	1	04/03/14 21:49
2-Hexanone	U		11	45	µg/Kg-dry	1	04/03/14 21:49
4-Methyl-2-pentanone	U		15	45	µg/Kg-dry	1	04/03/14 21:49

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-006
Collection Date: 04/01/14 01:30 PM

Work Order: 1404174
Lab ID: 1404174-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetone	U		95	150	µg/Kg-dry	1	04/03/14 21:49
Benzene	25	J	18	45	µg/Kg-dry	1	04/03/14 21:49
Bromodichloromethane	U		10	45	µg/Kg-dry	1	04/03/14 21:49
Bromoform	U		8.8	45	µg/Kg-dry	1	04/03/14 21:49
Bromomethane	U		17	110	µg/Kg-dry	1	04/03/14 21:49
Carbon disulfide	U		22	45	µg/Kg-dry	1	04/03/14 21:49
Carbon tetrachloride	U		13	45	µg/Kg-dry	1	04/03/14 21:49
Chlorobenzene	U		18	45	µg/Kg-dry	1	04/03/14 21:49
Chloroethane	U		95	150	µg/Kg-dry	1	04/03/14 21:49
Chloroform	U		18	45	µg/Kg-dry	1	04/03/14 21:49
Chloromethane	U		25	150	µg/Kg-dry	1	04/03/14 21:49
cis-1,2-Dichloroethene	U		18	45	µg/Kg-dry	1	04/03/14 21:49
cis-1,3-Dichloropropene	U		15	45	µg/Kg-dry	1	04/03/14 21:49
Cyclohexane	U		20	45	µg/Kg-dry	1	04/03/14 21:49
Dibromochloromethane	U		8.3	45	µg/Kg-dry	1	04/03/14 21:49
Dichlorodifluoromethane	U		20	45	µg/Kg-dry	1	04/03/14 21:49
Ethylbenzene	150		17	45	µg/Kg-dry	1	04/03/14 21:49
Isopropylbenzene	44	J	19	45	µg/Kg-dry	1	04/03/14 21:49
Methyl acetate	110	J	60	300	µg/Kg-dry	1	04/03/14 21:49
Methyl tert-butyl ether	U		19	45	µg/Kg-dry	1	04/03/14 21:49
Methylcyclohexane	U		21	45	µg/Kg-dry	1	04/03/14 21:49
Methylene chloride	U		18	45	µg/Kg-dry	1	04/03/14 21:49
Styrene	U		17	45	µg/Kg-dry	1	04/03/14 21:49
Tetrachloroethene	U		20	45	µg/Kg-dry	1	04/03/14 21:49
Toluene	170		17	45	µg/Kg-dry	1	04/03/14 21:49
trans-1,2-Dichloroethene	U		14	45	µg/Kg-dry	1	04/03/14 21:49
trans-1,3-Dichloropropene	U		15	45	µg/Kg-dry	1	04/03/14 21:49
Trichloroethene	U		21	45	µg/Kg-dry	1	04/03/14 21:49
Trichlorofluoromethane	U		12	45	µg/Kg-dry	1	04/03/14 21:49
Vinyl chloride	U		20	45	µg/Kg-dry	1	04/03/14 21:49
Xylenes, Total	470		53	130	µg/Kg-dry	1	04/03/14 21:49
Surr: 1,2-Dichloroethane-d4	94.4			70-130	%REC	1	04/03/14 21:49
Surr: 4-Bromofluorobenzene	103			70-130	%REC	1	04/03/14 21:49
Surr: Dibromofluoromethane	96.6			70-130	%REC	1	04/03/14 21:49
Surr: Toluene-d8	98.6			70-130	%REC	1	04/03/14 21:49
CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: 57241							
Cyanide, Total	0.39	J	0.027	0.58	mg/Kg-dry	1	04/04/14 15:28
MOISTURE			A2540 G				Analyst: AT

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040114-ACN-006
Collection Date: 04/01/14 01:30 PM

Work Order: 1404174
Lab ID: 1404174-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID: R138469</u>							
Moisture	15		0.025	0.050	% of sample	1	04/04/14 09:57

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-006
Collection Date: 04/01/14 02:15 PM

Work Order: 1404174
Lab ID: 1404174-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/4/14	Analyst: LR
<u>BatchID: 57254</u>							
Mercury	0.0010		0.00010	0.00020	mg/L	1	04/07/14 15:16
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/4/14	Analyst: LR
<u>BatchID: 57254</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/07/14 15:26
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/4/14	Analyst: ML
<u>BatchID: 57239</u>							
Antimony	0.0057		0.000036	0.0020	mg/L	1	04/05/14 10:12
Arsenic	0.029		0.00058	0.0050	mg/L	1	04/05/14 10:12
Beryllium	0.00095	J	0.000082	0.0010	mg/L	1	04/05/14 10:12
Cadmium	0.0084		0.000045	0.0010	mg/L	1	04/05/14 10:12
Chromium	0.082		0.00027	0.010	mg/L	1	04/05/14 10:12
Cobalt	0.019	J	0.000041	0.020	mg/L	1	04/05/14 10:12
Copper	0.13		0.00053	0.0040	mg/L	1	04/05/14 10:12
Iron	85		0.0053	0.20	mg/L	1	04/05/14 10:12
Lead	1.4		0.000051	0.0030	mg/L	1	04/05/14 10:12
Manganese	1.4		0.000054	0.050	mg/L	1	04/05/14 10:12
Nickel	0.075		0.00025	0.020	mg/L	1	04/05/14 10:12
Selenium	0.0025	J	0.00064	0.0050	mg/L	1	04/05/14 10:12
Silver	0.00096		0.000042	0.00020	mg/L	1	04/05/14 10:12
Thallium	0.00037	J	0.000062	0.0020	mg/L	1	04/05/14 10:12
Vanadium	0.075		0.00016	0.0040	mg/L	1	04/05/14 10:12
Zinc	1.4		0.00048	0.050	mg/L	1	04/05/14 10:12
<u>BatchID: 57239</u>							
Aluminum	33		0.0078	0.50	mg/L	10	04/07/14 19:57
Barium	1.6		0.00063	1.0	mg/L	10	04/07/14 19:57
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/4/14	Analyst: ML
<u>BatchID: 57239</u>							
Aluminum	0.043	J	0.00078	0.050	mg/L	1	04/07/14 20:03
Antimony	0.00081	J	0.000036	0.0020	mg/L	1	04/05/14 10:37
Arsenic	0.0043	J	0.00058	0.0050	mg/L	1	04/05/14 10:37
Barium	1.0		0.000063	0.10	mg/L	1	04/05/14 10:37
Beryllium	U		0.000082	0.0010	mg/L	1	04/05/14 10:37
Cadmium	U		0.000045	0.0010	mg/L	1	04/05/14 10:37
Chromium	0.00036	J	0.00027	0.010	mg/L	1	04/05/14 10:37
Cobalt	0.0032	J	0.000041	0.020	mg/L	1	04/05/14 10:37
Copper	U		0.00053	0.0040	mg/L	1	04/05/14 10:37

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-006
Collection Date: 04/01/14 02:15 PM

Work Order: 1404174
Lab ID: 1404174-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron	25		0.0053	0.20	mg/L	1	04/05/14 10:37
Lead	0.00043	J	0.000051	0.0030	mg/L	1	04/05/14 10:37
Manganese	0.55		0.000054	0.050	mg/L	1	04/05/14 10:37
Nickel	0.010	J	0.00025	0.020	mg/L	1	04/05/14 10:37
Selenium	U		0.00064	0.0050	mg/L	1	04/05/14 10:37
Silver	U		0.000042	0.00020	mg/L	1	04/05/14 10:37
Thallium	U		0.000062	0.0020	mg/L	1	04/05/14 10:37
Vanadium	0.0022	J	0.00016	0.0040	mg/L	1	04/05/14 10:37
Zinc	0.016	J	0.00048	0.050	mg/L	1	04/05/14 10:37
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Analyst: RM	
BatchID: 57221A							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/07/14 17:02
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/07/14 17:02
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/07/14 17:02
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/07/14 17:02
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/07/14 17:02
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/07/14 17:02
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/07/14 17:02
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/07/14 17:02
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/07/14 17:02
2-Chlorophenol	U		0.32	10	µg/L	1	04/07/14 17:02
2-Methylnaphthalene	2.4	J	0.13	5.0	µg/L	1	04/07/14 17:02
2-Methylphenol	U		0.20	10	µg/L	1	04/07/14 17:02
2-Nitroaniline	U		0.34	25	µg/L	1	04/07/14 17:02
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/07/14 17:02
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/07/14 17:02
3-Nitroaniline	U		0.34	25	µg/L	1	04/07/14 17:02
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/07/14 17:02
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/07/14 17:02
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/07/14 17:02
4-Chloroaniline	U		0.32	10	µg/L	1	04/07/14 17:02
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/07/14 17:02
4-Methylphenol	1.6	J	0.20	10	µg/L	1	04/07/14 17:02
4-Nitroaniline	U		0.30	25	µg/L	1	04/07/14 17:02
4-Nitrophenol	U		0.51	25	µg/L	1	04/07/14 17:02
Acenaphthene	1.7	J	0.11	5.0	µg/L	1	04/07/14 17:02
Acenaphthylene	U		0.12	5.0	µg/L	1	04/07/14 17:02
Acetophenone	U		0.090	5.0	µg/L	1	04/07/14 17:02
Anthracene	U		0.72	5.0	µg/L	1	04/07/14 17:02

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-006
Collection Date: 04/01/14 02:15 PM

Work Order: 1404174
Lab ID: 1404174-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/07/14 17:02
Benzaldehyde	U		0.46	10	µg/L	1	04/07/14 17:02
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/07/14 17:02
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/07/14 17:02
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/07/14 17:02
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/07/14 17:02
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/07/14 17:02
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/07/14 17:02
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/07/14 17:02
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/07/14 17:02
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/07/14 17:02
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/07/14 17:02
Caprolactam	U		4.7	10	µg/L	1	04/07/14 17:02
Carbazole	1.9	J	0.16	10	µg/L	1	04/07/14 17:02
Chrysene	U		0.71	1.0	µg/L	1	04/07/14 17:02
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/07/14 17:02
Dibenzofuran	U		0.28	4.0	µg/L	1	04/07/14 17:02
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/07/14 17:02
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/07/14 17:02
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/07/14 17:02
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/07/14 17:02
Fluoranthene	U		0.77	1.0	µg/L	1	04/07/14 17:02
Fluorene	1.3	J	0.10	5.0	µg/L	1	04/07/14 17:02
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/07/14 17:02
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/07/14 17:02
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/07/14 17:02
Hexachloroethane	U		0.47	5.0	µg/L	1	04/07/14 17:02
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/07/14 17:02
Isophorone	U		0.30	5.0	µg/L	1	04/07/14 17:02
Naphthalene	1.9	J	0.12	5.0	µg/L	1	04/07/14 17:02
Nitrobenzene	U		0.33	3.0	µg/L	1	04/07/14 17:02
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/07/14 17:02
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/07/14 17:02
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/07/14 17:02
Phenanthrene	1.9	J	0.86	2.0	µg/L	1	04/07/14 17:02
Phenol	U		0.32	5.0	µg/L	1	04/07/14 17:02
Pyrene	U		0.65	5.0	µg/L	1	04/07/14 17:02
Surr: 2,4,6-Tribromophenol	86.8			32-115	%REC	1	04/07/14 17:02
Surr: 2-Fluorobiphenyl	80.3			32-100	%REC	1	04/07/14 17:02
Surr: 2-Fluorophenol	50.3			22-59	%REC	1	04/07/14 17:02

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-006
Collection Date: 04/01/14 02:15 PM

Work Order: 1404174
Lab ID: 1404174-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	86.4			23-112	%REC	1	04/07/14 17:02
Surr: Nitrobenzene-d5	86.9			31-93	%REC	1	04/07/14 17:02
Surr: Phenol-d6	32.9			13-36	%REC	1	04/07/14 17:02
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: BG	
BatchID: R138302							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 15:09
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/03/14 15:09
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 15:09
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/03/14 15:09
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/03/14 15:09
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 15:09
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/03/14 15:09
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/03/14 15:09
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/03/14 15:09
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/03/14 15:09
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/03/14 15:09
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/03/14 15:09
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/03/14 15:09
1,4-Dichlorobenzene	1.5		0.15	1.0	µg/L	1	04/03/14 15:09
2-Butanone	U		0.64	25	µg/L	1	04/03/14 15:09
2-Hexanone	U		0.19	50	µg/L	1	04/03/14 15:09
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/03/14 15:09
Acetone	3.3	J	3.0	50	µg/L	1	04/03/14 15:09
Benzene	6.1		0.14	1.0	µg/L	1	04/03/14 15:09
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/03/14 15:09
Bromoform	U		0.18	1.0	µg/L	1	04/03/14 15:09
Bromomethane	U		0.38	5.0	µg/L	1	04/03/14 15:09
Carbon disulfide	U		0.26	5.0	µg/L	1	04/03/14 15:09
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/03/14 15:09
Chlorobenzene	2.0		0.12	1.0	µg/L	1	04/03/14 15:09
Chloroethane	U		0.25	5.0	µg/L	1	04/03/14 15:09
Chloroform	U		0.15	1.0	µg/L	1	04/03/14 15:09
Chloromethane	U		0.29	5.0	µg/L	1	04/03/14 15:09
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/03/14 15:09
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/03/14 15:09
Cyclohexane	1.5		0.20	1.0	µg/L	1	04/03/14 15:09
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/03/14 15:09
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/03/14 15:09
Ethylbenzene	0.18	J	0.12	1.0	µg/L	1	04/03/14 15:09

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040114-ACN-006
Collection Date: 04/01/14 02:15 PM

Work Order: 1404174
Lab ID: 1404174-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	1.4	J	0.11	5.0	µg/L	1	04/03/14 15:09
Methyl acetate	U		0.76	10	µg/L	1	04/03/14 15:09
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/03/14 15:09
Methylcyclohexane	1.1		0.19	1.0	µg/L	1	04/03/14 15:09
Methylene chloride	U		0.75	5.0	µg/L	1	04/03/14 15:09
Styrene	U		0.12	1.0	µg/L	1	04/03/14 15:09
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/03/14 15:09
Toluene	0.25	J	0.13	1.0	µg/L	1	04/03/14 15:09
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 15:09
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/03/14 15:09
Trichloroethene	U		0.16	1.0	µg/L	1	04/03/14 15:09
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/03/14 15:09
Vinyl chloride	U		0.15	1.0	µg/L	1	04/03/14 15:09
Xylenes, Total	1.9	J	0.30	3.0	µg/L	1	04/03/14 15:09
Surr: 1,2-Dichloroethane-d4	100			70-120	%REC	1	04/03/14 15:09
Surr: 4-Bromofluorobenzene	97.2			75-120	%REC	1	04/03/14 15:09
Surr: Dibromofluoromethane	99.0			85-115	%REC	1	04/03/14 15:09
Surr: Toluene-d8	98.6			85-120	%REC	1	04/03/14 15:09
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/4/14		Analyst: JB
BatchID: 57257							
Cyanide, Amenable	0.0024	J	0.0010	0.0050	mg/L	1	04/07/14 09:56

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 04/01/14

Work Order: 1404174
Lab ID: 1404174-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: BG
<u>BatchID: R138302</u>							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 13:49
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/03/14 13:49
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/03/14 13:49
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/03/14 13:49
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/03/14 13:49
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 13:49
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/03/14 13:49
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/03/14 13:49
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/03/14 13:49
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/03/14 13:49
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/03/14 13:49
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/03/14 13:49
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/03/14 13:49
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/03/14 13:49
2-Butanone	U		0.64	25	µg/L	1	04/03/14 13:49
2-Hexanone	U		0.19	50	µg/L	1	04/03/14 13:49
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/03/14 13:49
Acetone	U		3.0	50	µg/L	1	04/03/14 13:49
Benzene	U		0.14	1.0	µg/L	1	04/03/14 13:49
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/03/14 13:49
Bromoform	U		0.18	1.0	µg/L	1	04/03/14 13:49
Bromomethane	U		0.38	5.0	µg/L	1	04/03/14 13:49
Carbon disulfide	U		0.26	5.0	µg/L	1	04/03/14 13:49
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/03/14 13:49
Chlorobenzene	U		0.12	1.0	µg/L	1	04/03/14 13:49
Chloroethane	U		0.25	5.0	µg/L	1	04/03/14 13:49
Chloroform	U		0.15	1.0	µg/L	1	04/03/14 13:49
Chloromethane	U		0.29	5.0	µg/L	1	04/03/14 13:49
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/03/14 13:49
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/03/14 13:49
Cyclohexane	U		0.20	1.0	µg/L	1	04/03/14 13:49
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/03/14 13:49
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/03/14 13:49
Ethylbenzene	U		0.12	1.0	µg/L	1	04/03/14 13:49
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/03/14 13:49
Methyl acetate	U		0.76	10	µg/L	1	04/03/14 13:49
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/03/14 13:49

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

ALS Group USA, Corp

Date: 09-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 04/01/14

Work Order: 1404174
Lab ID: 1404174-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/03/14 13:49
Methylene chloride	1.7	J	0.75	5.0	µg/L	1	04/03/14 13:49
Styrene	U		0.12	1.0	µg/L	1	04/03/14 13:49
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/03/14 13:49
Toluene	U		0.13	1.0	µg/L	1	04/03/14 13:49
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/03/14 13:49
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/03/14 13:49
Trichloroethene	U		0.16	1.0	µg/L	1	04/03/14 13:49
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/03/14 13:49
Vinyl chloride	U		0.15	1.0	µg/L	1	04/03/14 13:49
Xylenes, Total	U		0.30	3.0	µg/L	1	04/03/14 13:49
Surr: 1,2-Dichloroethane-d4	102			70-120	%REC	1	04/03/14 13:49
Surr: 4-Bromofluorobenzene	96.4			75-120	%REC	1	04/03/14 13:49
Surr: Dibromofluoromethane	96.0			85-115	%REC	1	04/03/14 13:49
Surr: Toluene-d8	99.2			85-120	%REC	1	04/03/14 13:49

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

Client: The Mannik & Smith Group, Inc.

Work Order: 1404174

Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57254

Instrument ID HG1

Method: SW7470

MBLK		Sample ID: MBLK-57254-57254				Units: mg/L		Analysis Date: 04/07/14 02:33 PM		
Client ID:		Run ID: HG1_140407A				SeqNo: 2701501		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS		Sample ID: LCS-57254-57254				Units: mg/L		Analysis Date: 04/07/14 02:35 PM		
Client ID:		Run ID: HG1_140407A				SeqNo: 2701502		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00193 0.00020 0.002 0 96.5 80-120 0

MS		Sample ID: 1404057-01CMS				Units: mg/L		Analysis Date: 04/07/14 02:47 PM		
Client ID:		Run ID: HG1_140407A				SeqNo: 2701509		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002061 0.00020 0.002 -0.000023 104 75-125 0

MSD		Sample ID: 1404057-01CMSD				Units: mg/L		Analysis Date: 04/07/14 02:56 PM		
Client ID:		Run ID: HG1_140407A				SeqNo: 2701518		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002032 0.00020 0.002 -0.000023 103 75-125 0.002061 1.42 20

The following samples were analyzed in this batch:

1404174-02D	1404174-02E	1404174-04D
1404174-04E	1404174-06D	1404174-06E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57255** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-57255-57255				Units: mg/Kg		Analysis Date: 04/04/14 06:25 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2700295		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.020

LCS		Sample ID: LCS-57255-57255				Units: mg/Kg		Analysis Date: 04/04/14 06:27 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2700296		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1799 0.020 0.1665 0 108 80-120 0

MS		Sample ID: 1404202-01BMS				Units: mg/Kg		Analysis Date: 04/04/14 06:31 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2700298		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1654 0.015 0.1236 0.03233 108 75-125 0

MSD		Sample ID: 1404202-01BMSD				Units: mg/Kg		Analysis Date: 04/04/14 06:34 PM		
Client ID:		Run ID: HG1_140404A				SeqNo: 2700299		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1627 0.014 0.1173 0.03233 111 75-125 0.1654 1.67 35

The following samples were analyzed in this batch:

1404174-01B	1404174-03B	1404174-05B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57201** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57201-57201				Units: mg/Kg		Analysis Date: 04/04/14 03:32 AM		
Client ID:		Run ID: ICPMS1_140403A				SeqNo: 2699209		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.50								
Antimony	U	0.25								
Arsenic	U	0.25								
Barium	U	0.25								
Beryllium	U	0.10								
Cadmium	U	0.10								
Chromium	U	0.25								
Cobalt	U	0.25								
Copper	U	0.25								
Iron	U	4.0								
Lead	U	0.25								
Manganese	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Thallium	U	0.25								
Vanadium	U	0.25								
Zinc	U	0.50								

LCS		Sample ID: LCS-57201-57201				Units: mg/Kg		Analysis Date: 04/04/14 03:56 AM		
Client ID:		Run ID: ICPMS1_140403A				SeqNo: 2699213		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	4.656	0.25	5	0	93.1	80-120	0			
Arsenic	4.518	0.25	5	0	90.4	80-120	0			
Barium	4.634	0.25	5	0	92.7	80-120	0			
Beryllium	4.479	0.10	5	0	89.6	80-120	0			
Cadmium	4.649	0.10	5	0	93	80-120	0			
Chromium	4.693	0.25	5	0	93.9	80-120	0			
Cobalt	4.635	0.25	5	0	92.7	80-120	0			
Copper	4.668	0.25	5	0	93.4	80-120	0			
Iron	481.8	4.0	500	0	96.4	80-120	0			
Lead	4.709	0.25	5	0	94.2	80-120	0			
Manganese	4.64	0.25	5	0	92.8	80-120	0			
Nickel	4.633	0.25	5	0	92.7	80-120	0			
Selenium	4.29	0.25	5	0	85.8	80-120	0			
Silver	4.54	0.25	5	0	90.8	80-120	0			
Thallium	4.542	0.25	5	0	90.8	80-120	0			
Vanadium	4.732	0.25	5	0	94.6	80-120	0			
Zinc	4.49	0.50	5	0	89.8	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57201** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57201-57201				Units: mg/Kg		Analysis Date: 04/04/14 02:52 PM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2699914		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Aluminum	4.584	0.50	5	0	91.7	80-120	0			

MS		Sample ID: 1404029-05BMS				Units: mg/Kg		Analysis Date: 04/04/14 05:57 AM		
Client ID:		Run ID: ICPMS1_140403A				SeqNo: 2699235		Prep Date: 04/03/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Aluminum	1422	0.69	6.944	1050	5340	75-125	0			SO
Antimony	6.043	0.35	6.944	0.05786	86.2	75-125	0			
Arsenic	6.754	0.35	6.944	0.7282	86.8	75-125	0			
Barium	11.57	0.35	6.944	6.509	72.9	75-125	0			S
Beryllium	5.159	0.14	6.944	0.1285	72.4	75-125	0			S
Cadmium	6.349	0.14	6.944	0.009973	91.3	75-125	0			
Chromium	8	0.35	6.944	2.247	82.8	75-125	0			
Cobalt	6.651	0.35	6.944	0.5996	87.1	75-125	0			
Copper	7.34	0.35	6.944	1.964	77.4	75-125	0			
Iron	2530	5.6	694.4	2604	-10.7	75-125	0			S
Lead	7.424	0.35	6.944	1.546	84.6	75-125	0			
Manganese	24.94	0.35	6.944	20.93	57.9	75-125	0			S
Nickel	7.486	0.35	6.944	1.518	85.9	75-125	0			
Selenium	5.836	0.35	6.944	0.3781	78.6	75-125	0			
Silver	5.877	0.35	6.944	0.005943	84.5	75-125	0			
Thallium	6.218	0.35	6.944	0.005498	89.5	75-125	0			
Vanadium	13.8	0.35	6.944	5.5	120	75-125	0			
Zinc	9.146	0.69	6.944	3.225	85.3	75-125	0			

MS		Sample ID: 1404029-05BMS				Units: mg/Kg		Analysis Date: 04/04/14 03:11 PM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2699917		Prep Date: 04/03/14		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Aluminum	1538	6.9	6.944	1126	5930	75-125	0			SO

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57201** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1404029-05BMSD			Units: mg/Kg		Analysis Date: 04/04/14 06:03 AM		
Client ID:			Run ID: ICPMS1_140403A			SeqNo: 2699237		Prep Date: 04/03/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	1632	0.68	6.849	1050	8490	75-125	1422	13.8	25	SO	
Antimony	6.029	0.34	6.849	0.05786	87.2	75-125	6.043	0.237	25		
Arsenic	6.395	0.34	6.849	0.7282	82.7	75-125	6.754	5.47	25		
Barium	12.45	0.34	6.849	6.509	86.7	75-125	11.57	7.29	25		
Beryllium	5.07	0.14	6.849	0.1285	72.1	75-125	5.159	1.74	25	S	
Cadmium	6.349	0.14	6.849	0.009973	92.5	75-125	6.349	0.0003	25		
Chromium	8.329	0.34	6.849	2.247	88.8	75-125	8	4.03	25		
Cobalt	6.737	0.34	6.849	0.5996	89.6	75-125	6.651	1.28	25		
Copper	7.671	0.34	6.849	1.964	83.3	75-125	7.34	4.41	25		
Iron	2770	5.5	684.9	2604	24.2	75-125	2530	9.06	25	S	
Lead	7.534	0.34	6.849	1.546	87.4	75-125	7.424	1.48	25		
Manganese	27.61	0.34	6.849	20.93	97.6	75-125	24.94	10.1	25		
Nickel	7.712	0.34	6.849	1.518	90.4	75-125	7.486	2.98	25		
Selenium	5.964	0.34	6.849	0.3781	81.6	75-125	5.836	2.17	25		
Silver	5.878	0.34	6.849	0.005943	85.7	75-125	5.877	0.017	25		
Thallium	6.264	0.34	6.849	0.005498	91.4	75-125	6.218	0.742	25		
Vanadium	10.82	0.34	6.849	5.5	77.7	75-125	13.8	24.2	25		
Zinc	9.74	0.68	6.849	3.225	95.1	75-125	9.146	6.29	25		

MSD				Sample ID: 1404029-05BMSD				Units: mg/Kg			Analysis Date: 04/04/14 03:17 PM			
Client ID:				Run ID: ICPMS1_140404A				SeqNo: 2699918			Prep Date: 04/03/14		DF: 10	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum				1727	6.8	6.849	1126	8780	75-125	1538	11.6	25	SO	

The following samples were analyzed in this batch:

1404174-01B 1404174-03B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57215** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57215-57215				Units: mg/Kg		Analysis Date: 04/04/14 04:40 PM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2700801		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.25								
Arsenic	U	0.25								
Barium	0.008145	0.25								J
Cadmium	U	0.10								
Chromium	U	0.25								
Cobalt	U	0.25								
Copper	U	0.25								
Iron	1.182	4.0								J
Lead	0.0179	0.25								J
Manganese	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Thallium	U	0.25								
Vanadium	0.01526	0.25								J
Zinc	U	0.50								

MBLK		Sample ID: MBLK-57215-57215					Units: mg/Kg		Analysis Date: 04/07/14 03:21 PM		
Client ID:			Run ID: ICPMS1_140407A			SeqNo: 2701675		Prep Date: 04/04/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1168	0.50								J	
Beryllium	U	0.10									

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57215** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57215-57215				Units: mg/Kg		Analysis Date: 04/04/14 04:46 PM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2700802		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	4.571	0.25	5	0	91.4	80-120	0			
Arsenic	4.504	0.25	5	0	90.1	80-120	0			
Barium	4.582	0.25	5	0	91.6	80-120	0			
Cadmium	4.588	0.10	5	0	91.8	80-120	0			
Chromium	4.66	0.25	5	0	93.2	80-120	0			
Cobalt	4.757	0.25	5	0	95.1	80-120	0			
Copper	4.787	0.25	5	0	95.7	80-120	0			
Iron	480.7	4.0	500	0	96.1	80-120	0			
Lead	4.64	0.25	5	0	92.8	80-120	0			
Manganese	4.624	0.25	5	0	92.5	80-120	0			
Nickel	4.758	0.25	5	0	95.2	80-120	0			
Selenium	4.266	0.25	5	0	85.3	80-120	0			
Thallium	4.437	0.25	5	0	88.7	80-120	0			
Vanadium	4.82	0.25	5	0	96.4	80-120	0			
Zinc	4.644	0.50	5	0	92.9	80-120	0			

LCS		Sample ID: LCS-57215-57215				Units: mg/Kg		Analysis Date: 04/07/14 03:27 PM		
Client ID:		Run ID: ICPMS1_140407A				SeqNo: 2701676		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	4.862	0.50	5	0	97.2	80-120	0			
Beryllium	4.617	0.10	5	0	92.3	80-120	0			
Silver	4.432	0.25	5	0	88.6	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57215** Instrument ID **ICPMS1** Method: **SW6020A**

MS		Sample ID: 1404130-05CMS				Units: mg/Kg		Analysis Date: 04/04/14 05:43 PM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2700811		Prep Date: 04/04/14		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	2.134	1.6	6.596	0.09381	30.9	75-125	0			S
Arsenic	9.743	1.6	6.596	3.319	97.4	75-125	0			
Barium	144.6	1.6	6.596	119.2	385	75-125	0			SO
Cadmium	6.534	0.66	6.596	0.095	97.6	75-125	0			
Chromium	23.51	1.6	6.596	13.72	148	75-125	0			S
Cobalt	9.594	1.6	6.596	3.513	92.2	75-125	0			
Copper	20.97	1.6	6.596	12.96	121	75-125	0			
Iron	17390	26	659.6	14270	473	75-125	0			SO
Lead	14.08	1.6	6.596	8.445	85.4	75-125	0			
Manganese	124.3	1.6	6.596	143.7	-295	75-125	0			SO
Nickel	22.62	1.6	6.596	14.03	130	75-125	0			S
Selenium	6.88	1.6	6.596	1.061	88.2	75-125	0			
Thallium	6.207	1.6	6.596	0.05839	93.2	75-125	0			
Vanadium	29.02	1.6	6.596	17.59	173	75-125	0			S
Zinc	57.35	3.3	6.596	44.94	188	75-125	0			SO

MS		Sample ID: 1404130-05CMS				Units: mg/Kg		Analysis Date: 04/07/14 03:46 PM		
Client ID:		Run ID: ICPMS1_140407A				SeqNo: 2701679		Prep Date: 04/04/14		DF: 50
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	16610	33	6.596	13090	53400	75-125	0			SO
Beryllium	5.966	6.6	6.596	-0.3529	95.8	75-125	0			J
Silver	5.419	16	6.596	-0.1085	83.8	75-125	0			J

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57215** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1404130-05CMSD		Units: mg/Kg		Analysis Date: 04/04/14 05:50 PM		
Client ID:			Run ID: ICPMS1_140404A			SeqNo: 2700812		Prep Date: 04/04/14		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	2.136	1.6	6.274	0.09381	32.5	75-125	2.134	0.0743	25	S
Arsenic	9.297	1.6	6.274	3.319	95.3	75-125	9.743	4.68	25	
Barium	173.9	1.6	6.274	119.2	872	75-125	144.6	18.4	25	SO
Cadmium	5.932	0.63	6.274	0.095	93	75-125	6.534	9.66	25	
Chromium	21.83	1.6	6.274	13.72	129	75-125	23.51	7.4	25	S
Cobalt	9.134	1.6	6.274	3.513	89.6	75-125	9.594	4.91	25	
Copper	20.33	1.6	6.274	12.96	117	75-125	20.97	3.07	25	
Iron	16890	25	627.4	14270	417	75-125	17390	2.95	25	SO
Lead	13.25	1.6	6.274	8.445	76.5	75-125	14.08	6.1	25	
Manganese	127	1.6	6.274	143.7	-266	75-125	124.3	2.17	25	SO
Nickel	21.2	1.6	6.274	14.03	114	75-125	22.62	6.5	25	
Selenium	5.8	1.6	6.274	1.061	75.5	75-125	6.88	17	25	
Thallium	5.684	1.6	6.274	0.05839	89.7	75-125	6.207	8.8	25	
Vanadium	27.02	1.6	6.274	17.59	150	75-125	29.02	7.14	25	S
Zinc	55.43	3.1	6.274	44.94	167	75-125	57.35	3.42	25	SO

MSD					Sample ID: 1404130-05CMSD			Units: mg/Kg		Analysis Date: 04/07/14 03:52 PM	
Client ID:			Run ID: ICPMS1_140407A			SeqNo: 2701680		Prep Date: 04/04/14		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	15330	31	6.274	13090	35700	75-125	16610	8.02	25	SO	
Beryllium	5.565	6.3	6.274	-0.3529	94.3	75-125	5.966	0	25	J	
Silver	4.868	16	6.274	-0.1085	79.3	75-125	5.419	0	25	J	

The following samples were analyzed in this batch: 1404174-05B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57239** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57239-57239				Units: mg/L		Analysis Date: 04/05/14 06:00 AM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2700957		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.002477	0.010								J
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	U	0.0050								
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	0.0002293	0.0050								J
Zinc	U	0.010								

LCS		Sample ID: LCS-57239-57239				Units: mg/L		Analysis Date: 04/05/14 06:25 AM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2700961		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09262	0.0050	0.1	0	92.6	80-120	0			
Arsenic	0.09126	0.0050	0.1	0	91.3	80-120	0			
Barium	0.0878	0.0050	0.1	0	87.8	80-120	0			
Cadmium	0.09024	0.0020	0.1	0	90.2	80-120	0			
Chromium	0.08981	0.0050	0.1	0	89.8	80-120	0			
Cobalt	0.09004	0.0050	0.1	0	90	80-120	0			
Copper	0.09272	0.0050	0.1	0	92.7	80-120	0			
Iron	9.266	0.080	10	0	92.7	80-120	0			
Lead	0.08749	0.0050	0.1	0	87.5	80-120	0			
Manganese	0.08791	0.0050	0.1	0	87.9	80-120	0			
Nickel	0.09115	0.0050	0.1	0	91.2	80-120	0			
Selenium	0.08469	0.0050	0.1	0	84.7	80-120	0			
Silver	0.08825	0.0050	0.1	0	88.2	80-120	0			
Thallium	0.08408	0.0050	0.1	0	84.1	80-120	0			
Vanadium	0.09322	0.0050	0.1	0	93.2	80-120	0			
Zinc	0.09231	0.010	0.1	0	92.3	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57239** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57239-57239				Units: mg/L		Analysis Date: 04/07/14 06:48 PM		
Client ID:		Run ID: ICPMS1_140407A				SeqNo: 2702152		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Beryllium 0.09483 0.0020 0.1 0 94.8 80-120 0

MS		Sample ID: 1404102-01EMS				Units: mg/L		Analysis Date: 04/05/14 06:51 AM		
Client ID:		Run ID: ICPMS1_140404A				SeqNo: 2700965		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Antimony	0.0923	0.0050	0.1	0.00005685	92.2	75-125	0			
Arsenic	0.09424	0.0050	0.1	0.001152	93.1	75-125	0			
Barium	0.1226	0.0050	0.1	0.03106	91.5	75-125	0			
Cadmium	0.09092	0.0020	0.1	0.0002873	90.6	75-125	0			
Chromium	0.09172	0.0050	0.1	-0.00001191	91.7	75-125	0			
Cobalt	0.09123	0.0050	0.1	0.0001217	91.1	75-125	0			
Copper	0.09529	0.0050	0.1	0.003528	91.8	75-125	0			
Iron	9.48	0.080	10	0.2345	92.5	75-125	0			
Lead	0.09795	0.0050	0.1	0.007539	90.4	75-125	0			
Manganese	0.1351	0.0050	0.1	0.04588	89.2	75-125	0			
Nickel	0.09109	0.0050	0.1	0.0005118	90.6	75-125	0			
Selenium	0.08983	0.0050	0.1	0.005096	84.7	75-125	0			
Silver	0.08362	0.0050	0.1	-6.149E-06	83.6	75-125	0			
Thallium	0.08734	0.0050	0.1	0.0000158	87.3	75-125	0			
Vanadium	0.09747	0.0050	0.1	0.001093	96.4	75-125	0			
Zinc	0.9123	0.010	0.1	0.8248	87.5	75-125	0			O

MS		Sample ID: 1404102-01EMS				Units: mg/L		Analysis Date: 04/07/14 07:01 PM		
Client ID:		Run ID: ICPMS1_140407A				SeqNo: 2702154		Prep Date: 04/04/14		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Aluminum 0.1928 0.050 0.1 0.1159 77 75-125 0

Beryllium 0.0909 0.010 0.1 -0.001461 92.4 75-125 0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57239** Instrument ID **ICPMS1** Method: **SW6020A**

MSD					Sample ID: 1404102-01EMSD		Units: mg/L		Analysis Date: 04/05/14 06:57 AM	
Client ID:			Run ID: ICPMS1_140404A			SeqNo: 2700966		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09275	0.0050	0.1	0.00005685	92.7	75-125	0.0923	0.486	20	
Arsenic	0.09651	0.0050	0.1	0.001152	95.4	75-125	0.09424	2.38	20	
Barium	0.1236	0.0050	0.1	0.03106	92.5	75-125	0.1226	0.812	20	
Cadmium	0.09109	0.0020	0.1	0.0002873	90.8	75-125	0.09092	0.187	20	
Chromium	0.09316	0.0050	0.1	-0.00001191	93.2	75-125	0.09172	1.56	20	
Cobalt	0.09219	0.0050	0.1	0.0001217	92.1	75-125	0.09123	1.05	20	
Copper	0.0961	0.0050	0.1	0.003528	92.6	75-125	0.09529	0.846	20	
Iron	9.611	0.080	10	0.2345	93.8	75-125	9.48	1.37	20	
Lead	0.09931	0.0050	0.1	0.007539	91.8	75-125	0.09795	1.38	20	
Manganese	0.137	0.0050	0.1	0.04588	91.1	75-125	0.1351	1.4	20	
Nickel	0.09148	0.0050	0.1	0.0005118	91	75-125	0.09109	0.427	20	
Selenium	0.09049	0.0050	0.1	0.005096	85.4	75-125	0.08983	0.732	20	
Silver	0.08393	0.0050	0.1	-6.149E-06	83.9	75-125	0.08362	0.37	20	
Thallium	0.0882	0.0050	0.1	0.0000158	88.2	75-125	0.08734	0.98	20	
Vanadium	0.09845	0.0050	0.1	0.001093	97.4	75-125	0.09747	1	20	
Zinc	0.9152	0.010	0.1	0.8248	90.4	75-125	0.9123	0.317	20	O

MSD				Sample ID: 1404102-01EMSD				Units: mg/L			Analysis Date: 04/07/14 07:07 PM			
Client ID:				Run ID: ICPMS1_140407A				SeqNo: 2702155			Prep Date: 04/04/14		DF: 5	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Aluminum		0.1892	0.050	0.1	0.1159	73.2	75-125	0.1928	1.94	20	S			
Beryllium		0.0957	0.010	0.1	-0.001461	97.2	75-125	0.0909	5.14	20				

The following samples were analyzed in this batch:

1404174-02D	1404174-02E	1404174-04D
1404174-04E	1404174-06D	1404174-06E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57182A** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57182-57182A				Units: µg/Kg		Analysis Date: 04/04/14 10:22 AM		
Client ID:		Run ID: SVMS8_140404A				SeqNo: 2700278		Prep Date: 04/03/14		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	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
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	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57182A	Instrument ID SVMS8	Method: SW8270					
Chrysene	U	6.7					
Dibenzo(a,h)anthracene	U	6.7					
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	6.7					
Fluorene	U	6.7					
Hexachlorobenzene	U	160					
Hexachlorobutadiene	U	160					
Hexachlorocyclopentadiene	U	330					
Hexachloroethane	U	160					
Indeno(1,2,3-cd)pyrene	U	6.7					
Isophorone	U	160					
Naphthalene	U	6.7					
Nitrobenzene	U	160					
N-Nitrosodi-n-propylamine	U	160					
N-Nitrosodiphenylamine	U	160					
Pentachlorophenol	U	330					
Phenanthrene	U	6.7					
Phenol	U	160					
Pyrene	U	6.7					
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1085</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>65.1</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1271</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>76.3</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1546</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>92.8</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1764</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>106</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1396</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>83.7</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1538</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>92.3</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57182A** Instrument ID **SVMS8** Method: **SW8270**

LCS				Sample ID: SLCSS1-57182-57182A			Units: µg/Kg		Analysis Date: 04/04/14 10:42 AM	
Client ID:				Run ID: SVMS8_140404A			SeqNo: 2700279		Prep Date: 04/03/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	527	160	666.7	0	79	50-110	0			
2,4,6-Trichlorophenol	524.3	160	666.7	0	78.6	45-110	0			
2,4-Dichlorophenol	499.7	160	666.7	0	74.9	45-110	0			
2,4-Dimethylphenol	261.7	330	666.7	0	39.2	30-105	0			J
2,4-Dinitrophenol	459.7	660	666.7	0	68.9	15-130	0			J
2,4-Dinitrotoluene	524.3	160	666.7	0	78.6	50-115	0			
2,6-Dinitrotoluene	530.3	160	666.7	0	79.5	50-110	0			
2-Chloronaphthalene	516	6.7	666.7	0	77.4	45-105	0			
2-Chlorophenol	573.7	160	666.7	0	86	45-105	0			
2-Methylnaphthalene	498.7	6.7	666.7	0	74.8	45-105	0			
2-Methylphenol	547	160	666.7	0	82	40-105	0			
2-Nitroaniline	564	660	666.7	0	84.6	45-120	0			J
2-Nitrophenol	492	160	666.7	0	73.8	40-110	0			
3-Nitroaniline	352	660	666.7	0	52.8	25-150	0			J
4-Bromophenyl phenyl ether	574.3	160	666.7	0	86.1	45-115	0			
4-Chloro-3-methylphenol	548	160	666.7	0	82.2	45-115	0			
4-Chloroaniline	386.7	660	666.7	0	58	15-110	0			J
4-Chlorophenyl phenyl ether	516.3	160	666.7	0	77.4	45-110	0			
4-Methylphenol	535	160	666.7	0	80.2	40-105	0			
4-Nitroaniline	283.7	660	666.7	0	42.5	35-150	0			J
4-Nitrophenol	562	660	666.7	0	84.3	15-140	0			J
Acenaphthene	487.3	6.7	666.7	0	73.1	45-110	0			
Acenaphthylene	547	6.7	666.7	0	82	45-105	0			
Anthracene	597	6.7	666.7	0	89.5	55-105	0			
Benzo(a)anthracene	558.3	6.7	666.7	0	83.7	50-110	0			
Benzo(a)pyrene	577	6.7	666.7	0	86.5	50-110	0			
Benzo(b)fluoranthene	586.3	6.7	666.7	0	87.9	45-115	0			
Benzo(g,h,i)perylene	553	6.7	666.7	0	82.9	40-125	0			
Benzo(k)fluoranthene	624	6.7	666.7	0	93.6	45-115	0			
Bis(2-chloroethoxy)methane	525	160	666.7	0	78.7	45-110	0			
Bis(2-chloroethyl)ether	565	160	666.7	0	84.7	40-105	0			
Bis(2-chloroisopropyl)ether	583.7	160	666.7	0	87.5	20-115	0			
Bis(2-ethylhexyl)phthalate	546	330	666.7	0	81.9	45-125	0			
Butyl benzyl phthalate	578	160	666.7	0	86.7	50-125	0			
Carbazole	582.7	160	666.7	0	87.4	50-150	0			
Chrysene	593.7	6.7	666.7	0	89	55-110	0			
Dibenzo(a,h)anthracene	551	6.7	666.7	0	82.6	40-125	0			
Dibenzofuran	503.3	160	666.7	0	75.5	50-105	0			
Diethyl phthalate	567.3	330	666.7	0	85.1	50-115	0			
Dimethyl phthalate	555	330	666.7	0	83.2	50-110	0			
Di-n-butyl phthalate	574	330	666.7	0	86.1	55-110	0			
Di-n-octyl phthalate	551	160	666.7	0	82.6	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57182A		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	571.7	6.7	666.7	0	85.7	55-115	0
Fluorene	527.3	6.7	666.7	0	79.1	50-110	0
Hexachlorobenzene	541.7	160	666.7	0	81.2	45-120	0
Hexachlorobutadiene	469.3	160	666.7	0	70.4	40-115	0
Hexachlorocyclopentadiene	499.3	330	666.7	0	74.9	40-115	0
Hexachloroethane	492.3	160	666.7	0	73.8	35-110	0
Indeno(1,2,3-cd)pyrene	593	6.7	666.7	0	88.9	40-120	0
Isophorone	530.7	160	666.7	0	79.6	45-110	0
Naphthalene	483	6.7	666.7	0	72.4	40-105	0
Nitrobenzene	530	160	666.7	0	79.5	40-115	0
N-Nitrosodi-n-propylamine	539.7	160	666.7	0	80.9	40-115	0
N-Nitrosodiphenylamine	578.3	160	666.7	0	86.7	50-115	0
Pentachlorophenol	486.7	330	666.7	0	73	25-120	0
Phenanthrene	558	6.7	666.7	0	83.7	50-110	0
Phenol	579	160	666.7	0	86.8	40-100	0
Pyrene	690.7	6.7	666.7	0	104	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1357</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>81.4</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1240</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>74.4</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1522</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>91.3</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1820</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>109</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1465</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>87.9</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1522</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>91.3</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57182A** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 14031398-07C MS			Units: µg/Kg		Analysis Date: 04/04/14 12:24 PM	
Client ID:				Run ID: SVMS8_140404A			SeqNo: 2700282		Prep Date: 04/03/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1050	310	1293	0	81.2	50-110	0			
2,4,6-Trichlorophenol	1062	310	1293	0	82.1	45-110	0			
2,4-Dichlorophenol	1007	310	1293	0	77.9	45-110	0			
2,4-Dimethylphenol	1057	640	1293	0	81.7	30-105	0			
2,4-Dinitrophenol	270.9	1,300	1293	0	20.9	15-130	0			J
2,4-Dinitrotoluene	947.2	310	1293	0	73.2	50-115	0			
2,6-Dinitrotoluene	983.4	310	1293	0	76	50-110	0			
2-Chloronaphthalene	1022	13	1293	0	79	45-105	0			
2-Chlorophenol	1082	310	1293	0	83.7	45-105	0			
2-Methylnaphthalene	955.6	13	1293	0	73.9	45-105	0			
2-Methylphenol	1106	310	1293	0	85.5	40-105	0			
2-Nitroaniline	1053	1,300	1293	0	81.4	45-120	0			J
2-Nitrophenol	978.9	310	1293	0	75.7	40-110	0			
3-Nitroaniline	734.5	1,300	1293	0	56.8	25-110	0			J
4-Bromophenyl phenyl ether	1117	310	1293	0	86.3	45-115	0			
4-Chloro-3-methylphenol	1046	310	1293	0	80.9	45-115	0			
4-Chloroaniline	763.6	1,300	1293	0	59	15-110	0			J
4-Chlorophenyl phenyl ether	1007	310	1293	0	77.9	45-110	0			
4-Methylphenol	1080	310	1293	0	83.5	40-105	0			
4-Nitroaniline	514	1,300	1293	0	39.7	35-150	0			J
4-Nitrophenol	642	1,300	1293	0	49.6	15-140	0			J
Acenaphthene	903.9	13	1293	0	69.9	45-110	0			
Acenaphthylene	1082	13	1293	0	83.7	45-105	0			
Anthracene	1122	13	1293	0	86.7	55-105	0			
Benzo(a)anthracene	1098	13	1293	0	84.9	50-110	0			
Benzo(a)pyrene	1133	13	1293	0	87.6	50-110	0			
Benzo(b)fluoranthene	1267	13	1293	0	98	45-115	0			
Benzo(g,h,i)perylene	962.7	13	1293	0	74.4	40-125	0			
Benzo(k)fluoranthene	1245	13	1293	0	96.3	45-115	0			
Bis(2-chloroethoxy)methane	1008	310	1293	0	77.9	45-110	0			
Bis(2-chloroethyl)ether	1067	310	1293	0	82.5	40-105	0			
Bis(2-chloroisopropyl)ether	1096	310	1293	0	84.7	20-115	0			
Bis(2-ethylhexyl)phthalate	1171	640	1293	0	90.5	45-125	0			
Butyl benzyl phthalate	1203	310	1293	0	93	50-125	0			
Carbazole	1029	310	1293	0	79.6	50-150	0			
Chrysene	1102	13	1293	0	85.2	55-110	0			
Dibenzo(a,h)anthracene	873.5	13	1293	0	67.5	40-125	0			
Dibenzofuran	990.5	310	1293	0	76.6	50-105	0			
Diethyl phthalate	1042	640	1293	0	80.6	50-115	0			
Dimethyl phthalate	1022	640	1293	0	79	50-110	0			
Di-n-butyl phthalate	1097	640	1293	0	84.8	55-110	0			
Di-n-octyl phthalate	1375	310	1293	0	106	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57182A		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	1036	13	1293	0	80.1	55-115	0
Fluorene	998.3	13	1293	0	77.2	50-110	0
Hexachlorobenzene	1048	310	1293	0	81	45-120	0
Hexachlorobutadiene	922	310	1293	0	71.3	40-115	0
Hexachlorocyclopentadiene	1082	640	1293	0	83.6	40-115	0
Hexachloroethane	956.2	310	1293	0	73.9	35-110	0
Indeno(1,2,3-cd)pyrene	1056	13	1293	0	81.7	40-120	0
Isophorone	1022	310	1293	0	79	45-110	0
Naphthalene	933	13	1293	0	72.1	40-105	0
Nitrobenzene	1041	310	1293	0	80.5	40-115	0
N-Nitrosodi-n-propylamine	1042	310	1293	0	80.6	40-115	0
N-Nitrosodiphenylamine	1136	310	1293	0	87.8	50-115	0
Pentachlorophenol	879.9	640	1293	0	68	25-120	0
Phenanthrene	1045	13	1293	0	80.8	50-110	0
Phenol	1091	310	1293	0	84.4	40-100	0
Pyrene	1550	13	1293	0	120	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2692</i>	<i>0</i>	<i>3233</i>	<i>0</i>	<i>83.3</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2491</i>	<i>0</i>	<i>3233</i>	<i>0</i>	<i>77.1</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>2973</i>	<i>0</i>	<i>3233</i>	<i>0</i>	<i>92</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3957</i>	<i>0</i>	<i>3233</i>	<i>0</i>	<i>122</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2875</i>	<i>0</i>	<i>3233</i>	<i>0</i>	<i>88.9</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>2903</i>	<i>0</i>	<i>3233</i>	<i>0</i>	<i>89.8</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57182A** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 14031398-07C MSD				Units: µg/Kg		Analysis Date: 04/04/14 12:45 PM	
Client ID:		Run ID: SVMS8_140404A			SeqNo: 2700283		Prep Date: 04/03/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	954.2	310	1298	0	73.5	50-110	1050	9.56	30		
2,4,6-Trichlorophenol	1039	310	1298	0	80	45-110	1062	2.2	30		
2,4-Dichlorophenol	1029	310	1298	0	79.3	45-110	1007	2.18	30		
2,4-Dimethylphenol	1142	640	1298	0	87.9	30-105	1057	7.7	30		
2,4-Dinitrophenol	U	1,300	1298	0	0	15-130	270.9	0	30	S	
2,4-Dinitrotoluene	869.1	310	1298	0	66.9	50-115	947.2	8.59	30		
2,6-Dinitrotoluene	1007	310	1298	0	77.5	50-110	983.4	2.35	30		
2-Chloronaphthalene	1113	13	1298	0	85.7	45-105	1022	8.47	30		
2-Chlorophenol	1164	310	1298	0	89.6	45-105	1082	7.26	30		
2-Methylnaphthalene	1038	13	1298	0	79.9	45-105	955.6	8.26	30		
2-Methylphenol	1153	310	1298	0	88.8	40-105	1106	4.18	30		
2-Nitroaniline	1017	1,300	1298	0	78.3	45-120	1053	0	30	J	
2-Nitrophenol	854.2	310	1298	0	65.8	40-110	978.9	13.6	30		
3-Nitroaniline	436.2	1,300	1298	0	33.6	25-110	734.5	0	30	J	
4-Bromophenyl phenyl ether	1222	310	1298	0	94.1	45-115	1117	9.04	30		
4-Chloro-3-methylphenol	1007	310	1298	0	77.6	45-115	1046	3.77	30		
4-Chloroaniline	738	1,300	1298	0	56.8	15-110	763.6	0	30	J	
4-Chlorophenyl phenyl ether	1088	310	1298	0	83.8	45-110	1007	7.69	30		
4-Methylphenol	1107	310	1298	0	85.3	40-105	1080	2.47	30		
4-Nitroaniline	288.8	1,300	1298	0	22.2	35-150	514	0	30	JS	
4-Nitrophenol	192.1	1,300	1298	0	14.8	15-140	642	0	30	JS	
Acenaphthene	950.3	13	1298	0	73.2	45-110	903.9	5.01	30		
Acenaphthylene	1124	13	1298	0	86.5	45-105	1082	3.74	30		
Anthracene	1140	13	1298	0	87.8	55-105	1122	1.6	30		
Benzo(a)anthracene	1129	13	1298	0	87	50-110	1098	2.78	30		
Benzo(a)pyrene	1221	13	1298	0	94	50-110	1133	7.44	30		
Benzo(b)fluoranthene	1325	13	1298	0	102	45-115	1267	4.49	30		
Benzo(g,h,i)perylene	1203	13	1298	0	92.7	40-125	962.7	22.2	30		
Benzo(k)fluoranthene	1293	13	1298	0	99.6	45-115	1245	3.76	30		
Bis(2-chloroethoxy)methane	1072	310	1298	0	82.5	45-110	1008	6.13	30		
Bis(2-chloroethyl)ether	1175	310	1298	0	90.5	40-105	1067	9.64	30		
Bis(2-chloroisopropyl)ether	1148	310	1298	0	88.4	20-115	1096	4.61	30		
Bis(2-ethylhexyl)phthalate	977.5	640	1298	0	75.3	45-125	1171	18	30		
Butyl benzyl phthalate	707.5	310	1298	0	54.5	50-125	1203	51.9	30	R	
Carbazole	917.8	310	1298	0	70.7	50-150	1029	11.4	30		
Chrysene	1135	13	1298	0	87.4	55-110	1102	2.94	30		
Dibenzo(a,h)anthracene	958.1	13	1298	0	73.8	40-125	873.5	9.24	30		
Dibenzofuran	1053	310	1298	0	81.1	50-105	990.5	6.16	30		
Diethyl phthalate	915.9	640	1298	0	70.5	50-115	1042	12.9	30		
Dimethyl phthalate	914.6	640	1298	0	70.4	50-110	1022	11	30		
Di-n-butyl phthalate	867.8	640	1298	0	66.8	55-110	1097	23.3	30		
Di-n-octyl phthalate	1050	310	1298	0	80.9	40-130	1375	26.7	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57182A		Instrument ID SVMS8		Method: SW8270					
Fluoranthene	968.5	13	1298	0	74.6	55-115	1036	6.78	30
Fluorene	1062	13	1298	0	81.8	50-110	998.3	6.18	30
Hexachlorobenzene	1153	310	1298	0	88.8	45-120	1048	9.52	30
Hexachlorobutadiene	1000	310	1298	0	77	40-115	922	8.15	30
Hexachlorocyclopentadiene	1113	640	1298	0	85.7	40-115	1082	2.87	30
Hexachloroethane	1011	310	1298	0	77.8	35-110	956.2	5.53	30
Indeno(1,2,3-cd)pyrene	1262	13	1298	0	97.2	40-120	1056	17.8	30
Isophorone	1058	310	1298	0	81.5	45-110	1022	3.51	30
Naphthalene	1015	13	1298	0	78.2	40-105	933	8.44	30
Nitrobenzene	1114	310	1298	0	85.8	40-115	1041	6.77	30
N-Nitrosodi-n-propylamine	1068	310	1298	0	82.2	40-115	1042	2.42	30
N-Nitrosodiphenylamine	1203	310	1298	0	92.7	50-115	1136	5.77	30
Pentachlorophenol	565.4	640	1298	0	43.5	25-120	879.9	0	30 J
Phenanthrene	1102	13	1298	0	84.9	50-110	1045	5.34	30
Phenol	1096	310	1298	0	84.4	40-100	1091	0.454	30
Pyrene	1865	13	1298	0	144	45-125	1550	18.4	30 S
<i>Surr: 2,4,6-Tribromophenol</i>	2349	0	3246	0	72.4	34-140	2692	13.6	40
<i>Surr: 2-Fluorobiphenyl</i>	2735	0	3246	0	84.3	12-100	2491	9.32	40
<i>Surr: 2-Fluorophenol</i>	3080	0	3246	0	94.9	33-117	2973	3.52	40
<i>Surr: 4-Terphenyl-d14</i>	4524	0	3246	0	139	25-137	3957	13.4	40 S
<i>Surr: Nitrobenzene-d5</i>	3072	0	3246	0	94.6	37-107	2875	6.63	40
<i>Surr: Phenol-d6</i>	2966	0	3246	0	91.4	40-106	2903	2.16	40

The following samples were analyzed in this batch: | 1404174-01B | 1404174-03B | 1404174-05B |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57221A** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKW1-57221-57221A				Units: µg/L		Analysis Date: 04/07/14 02:26 PM		
Client ID:		Run ID: SVMS8_140407A				SeqNo: 2703006		Prep Date: 04/04/14		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	1.0								
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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57221A		Instrument ID SVMS8		Method: SW8270				
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>	31.22	0	50	0	62.4	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	37.97	0	50	0	75.9	32-100	0	
<i>Surr: 2-Fluorophenol</i>	23.88	0	50	0	47.8	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	51.82	0	50	0	104	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	43.66	0	50	0	87.3	31-93	0	
<i>Surr: Phenol-d6</i>	13.79	0	50	0	27.6	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57221A** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-57221-57221A				Units: µg/L		Analysis Date: 04/07/14 02:48 PM		
Client ID:		Run ID: SVMS8_140407A				SeqNo: 2703007		Prep Date: 04/04/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	13.79	5.0	20	0	69	50-110	0			
2,4,6-Trichlorophenol	13.74	5.0	20	0	68.7	50-115	0			
2,4-Dichlorophenol	13.29	10	20	0	66.4	50-105	0			
2,4-Dimethylphenol	13.11	5.0	20	0	65.6	30-110	0			
2,4-Dinitrophenol	9.23	5.0	20	0	46.2	15-140	0			
2,4-Dinitrotoluene	13.81	5.0	20	0	69	50-120	0			
2,6-Dinitrotoluene	14.28	5.0	20	0	71.4	50-115	0			
2-Chloronaphthalene	14.88	5.0	20	0	74.4	50-105	0			
2-Chlorophenol	13.36	5.0	20	0	66.8	35-105	0			
2-Methylnaphthalene	14.14	5.0	20	0	70.7	45-105	0			
2-Methylphenol	11.27	5.0	20	0	56.4	40-110	0			
2-Nitroaniline	15.54	20	20	0	77.7	50-115	0			J
2-Nitrophenol	13.25	5.0	20	0	66.2	40-115	0			
3-Nitroaniline	13.38	20	20	0	66.9	20-125	0			J
4,6-Dinitro-2-methylphenol	13.22	20	20	0	66.1	40-130	0			J
4-Bromophenyl phenyl ether	16.44	5.0	20	0	82.2	50-115	0			
4-Chloro-3-methylphenol	13.36	5.0	20	0	66.8	45-110	0			
4-Chloroaniline	14.16	20	20	0	70.8	15-110	0			J
4-Chlorophenyl phenyl ether	13.78	5.0	20	0	68.9	50-110	0			
4-Methylphenol	9.91	5.0	20	0	49.6	30-110	0			
4-Nitroaniline	13	20	20	0	65	35-150	0			J
4-Nitrophenol	4.76	20	20	0	23.8	1-58	0			J
Acenaphthene	14.55	5.0	20	0	72.8	45-110	0			
Acenaphthylene	15.82	5.0	20	0	79.1	50-105	0			
Anthracene	17.47	5.0	20	0	87.4	55-110	0			
Benzo(a)anthracene	15.56	5.0	20	0	77.8	55-110	0			
Benzo(a)pyrene	16.14	5.0	20	0	80.7	55-110	0			
Benzo(b)fluoranthene	16.48	5.0	20	0	82.4	45-120	0			
Benzo(g,h,i)perylene	17.99	5.0	20	0	90	40-125	0			
Benzo(k)fluoranthene	17.48	5.0	20	0	87.4	45-125	0			
Bis(2-chloroethoxy)methane	15.63	5.0	20	0	78.2	45-105	0			
Bis(2-chloroethyl)ether	16.09	5.0	20	0	80.4	35-110	0			
Bis(2-chloroisopropyl)ether	17.87	5.0	20	0	89.4	25-130	0			
Bis(2-ethylhexyl)phthalate	13.73	5.0	20	0	68.6	40-125	0			
Butyl benzyl phthalate	14.27	5.0	20	0	71.4	45-115	0			
Carbazole	17.16	10	20	0	85.8	50-150	0			
Chrysene	17.44	5.0	20	0	87.2	55-110	0			
Dibenzo(a,h)anthracene	15.54	5.0	20	0	77.7	40-125	0			
Dibenzofuran	14.53	5.0	20	0	72.6	55-105	0			
Diethyl phthalate	15.45	20	20	0	77.2	40-120	0			J
Dimethyl phthalate	15.48	20	20	0	77.4	25-125	0			J
Di-n-butyl phthalate	15.84	5.0	20	0	79.2	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57221A		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	12.92	5.0	20	0	64.6	35-135	0	
Fluoranthene	16.06	5.0	20	0	80.3	55-115	0	
Fluorene	14.72	5.0	20	0	73.6	50-110	0	
Hexachlorobenzene	15.89	5.0	20	0	79.4	50-110	0	
Hexachlorobutadiene	12.64	5.0	20	0	63.2	25-105	0	
Hexachlorocyclopentadiene	9.13	20	20	0	45.6	25-105	0	J
Hexachloroethane	13.63	5.0	20	0	68.2	30-95	0	
Indeno(1,2,3-cd)pyrene	13.14	5.0	20	0	65.7	45-125	0	
Isophorone	16.13	5.0	20	0	80.6	50-110	0	
Naphthalene	14.03	5.0	20	0	70.2	40-100	0	
Nitrobenzene	15.98	5.0	20	0	79.9	45-110	0	
N-Nitrosodi-n-propylamine	15.53	5.0	20	0	77.6	35-130	0	
N-Nitrosodiphenylamine	17.57	5.0	20	0	87.8	50-110	0	
Pentachlorophenol	11.19	20	20	0	56	40-115	0	J
Phenanthrene	16.42	5.0	20	0	82.1	50-115	0	
Phenol	5.54	5.0	20	0	27.7	12-43	0	
Pyrene	19.28	5.0	20	0	96.4	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>36.8</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>73.6</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>36.34</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>72.7</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>22.06</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>44.1</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>48.89</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>97.8</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>45.63</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>91.3</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>14.43</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>28.9</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57221A** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 14031398-23B MS			Units: µg/L		Analysis Date: 04/07/14 03:10 PM	
Client ID:				Run ID: SVMS8_140407A			SeqNo: 2703008		Prep Date: 04/04/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	145.8	50	200	0	72.9	50-110	0			
2,4,6-Trichlorophenol	155.7	50	200	0	77.8	50-115	0			
2,4-Dichlorophenol	135.6	100	200	0	67.8	50-105	0			
2,4-Dimethylphenol	140.3	50	200	0	70.2	30-110	0			
2,4-Dinitrophenol	105.8	50	200	0	52.9	15-140	0			
2,4-Dinitrotoluene	144.1	50	200	0	72	50-120	0			
2,6-Dinitrotoluene	145.2	50	200	0	72.6	50-115	0			
2-Chloronaphthalene	160.1	50	200	0	80	50-105	0			
2-Chlorophenol	146.8	50	200	0	73.4	35-105	0			
2-Methylnaphthalene	143.9	50	200	0	72	45-105	0			
2-Methylphenol	124.1	50	200	0	62	40-110	0			
2-Nitroaniline	173	200	200	0	86.5	50-115	0			J
2-Nitrophenol	137.6	50	200	0	68.8	40-115	0			
3-Nitroaniline	149	200	200	0	74.5	20-125	0			J
4,6-Dinitro-2-methylphenol	140.9	200	200	0	70.4	40-130	0			J
4-Bromophenyl phenyl ether	167.9	50	200	0	84	50-115	0			
4-Chloro-3-methylphenol	141.6	50	200	0	70.8	45-110	0			
4-Chloroaniline	157.4	200	200	0	78.7	15-110	0			J
4-Chlorophenyl phenyl ether	147.4	50	200	0	73.7	50-110	0			
4-Methylphenol	104.6	50	200	0	52.3	30-110	0			
4-Nitroaniline	136.2	200	200	0	68.1	35-150	0			J
4-Nitrophenol	49.1	200	200	0	24.6	1-58	0			J
Acenaphthene	152.2	50	200	0	76.1	45-110	0			
Acenaphthylene	171	50	200	0	85.5	50-105	0			
Anthracene	181.3	50	200	0	90.6	55-110	0			
Benzo(a)anthracene	159.7	50	200	0	79.8	55-110	0			
Benzo(a)pyrene	168.3	50	200	0	84.2	55-110	0			
Benzo(b)fluoranthene	173.3	50	200	0	86.6	45-120	0			
Benzo(g,h,i)perylene	186.2	50	200	0	93.1	40-125	0			
Benzo(k)fluoranthene	176.3	50	200	0	88.2	45-125	0			
Bis(2-chloroethoxy)methane	155.7	50	200	0	77.8	45-105	0			
Bis(2-chloroethyl)ether	167.8	50	200	0	83.9	35-110	0			
Bis(2-chloroisopropyl)ether	182.3	50	200	0	91.2	25-130	0			
Bis(2-ethylhexyl)phthalate	144.3	50	200	0	72.2	40-125	0			
Butyl benzyl phthalate	151.9	50	200	0	76	45-115	0			
Carbazole	179.7	100	200	0	89.8	50-150	0			
Chrysene	178.6	50	200	0	89.3	55-110	0			
Dibenzo(a,h)anthracene	161.9	50	200	0	81	40-125	0			
Dibenzofuran	155.7	50	200	0	77.8	55-105	0			
Diethyl phthalate	162.6	200	200	0	81.3	40-120	0			J
Dimethyl phthalate	162.4	200	200	0	81.2	25-125	0			J
Di-n-butyl phthalate	164.9	50	200	0	82.4	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57221A		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	135.5	50	200	0	67.8	35-135	0	
Fluoranthene	166.5	50	200	0	83.2	55-115	0	
Fluorene	156.9	50	200	0	78.4	50-110	0	
Hexachlorobenzene	162.3	50	200	0	81.2	50-110	0	
Hexachlorobutadiene	128.6	50	200	0	64.3	25-105	0	
Hexachlorocyclopentadiene	103.1	200	200	0	51.6	25-105	0	J
Hexachloroethane	145.6	50	200	0	72.8	30-95	0	
Indeno(1,2,3-cd)pyrene	138.3	50	200	0	69.2	45-125	0	
Isophorone	164.1	50	200	0	82	50-110	0	
Naphthalene	141.3	50	200	0	70.6	40-100	0	
Nitrobenzene	162.3	50	200	0	81.2	45-110	0	
N-Nitrosodi-n-propylamine	159.6	50	200	0	79.8	35-130	0	
N-Nitrosodiphenylamine	182	50	200	0	91	50-110	0	
Pentachlorophenol	120.2	200	200	0	60.1	40-115	0	J
Phenanthrene	170.2	50	200	0	85.1	50-115	0	
Phenol	53.1	50	200	0	26.6	12-43	0	
Pyrene	199.1	50	200	0	99.6	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	389.9	0	500	0	78	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	380.3	0	500	0	76.1	32-100	0	
<i>Surr: 2-Fluorophenol</i>	223	0	500	0	44.6	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	517.9	0	500	0	104	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	471.6	0	500	0	94.3	31-93	0	S
<i>Surr: Phenol-d6</i>	134.8	0	500	0	27	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57221A** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 14031398-23B MSD				Units: µg/L		Analysis Date: 04/07/14 03:32 PM	
Client ID:			Run ID: SVMS8_140407A			SeqNo: 2703009		Prep Date: 04/04/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	140.8	50	200	0	70.4	50-110	145.8	3.49	30		
2,4,6-Trichlorophenol	145.6	50	200	0	72.8	50-115	155.7	6.7	30		
2,4-Dichlorophenol	137.1	100	200	0	68.6	50-105	135.6	1.1	30		
2,4-Dimethylphenol	137.9	50	200	0	69	30-110	140.3	1.73	30		
2,4-Dinitrophenol	105.3	50	200	0	52.6	15-140	105.8	0.474	30		
2,4-Dinitrotoluene	137	50	200	0	68.5	50-120	144.1	5.05	30		
2,6-Dinitrotoluene	141.1	50	200	0	70.6	50-115	145.2	2.86	30		
2-Chloronaphthalene	158.2	50	200	0	79.1	50-105	160.1	1.19	30		
2-Chlorophenol	147.7	50	200	0	73.8	35-105	146.8	0.611	30		
2-Methylnaphthalene	142.3	50	200	0	71.2	45-105	143.9	1.12	30		
2-Methylphenol	129.1	50	200	0	64.6	40-110	124.1	3.95	30		
2-Nitroaniline	162	200	200	0	81	50-115	173	0	30	J	
2-Nitrophenol	145.2	50	200	0	72.6	40-115	137.6	5.37	30		
3-Nitroaniline	145	200	200	0	72.5	20-125	149	0	30	J	
4,6-Dinitro-2-methylphenol	131.9	200	200	0	66	40-130	140.9	0	30	J	
4-Bromophenyl phenyl ether	159.2	50	200	0	79.6	50-115	167.9	5.32	30		
4-Chloro-3-methylphenol	139.8	50	200	0	69.9	45-110	141.6	1.28	30		
4-Chloroaniline	152.6	200	200	0	76.3	15-110	157.4	0	30	J	
4-Chlorophenyl phenyl ether	140.4	50	200	0	70.2	50-110	147.4	4.86	30		
4-Methylphenol	109.6	50	200	0	54.8	30-110	104.6	4.67	30		
4-Nitroaniline	132.8	200	200	0	66.4	35-150	136.2	0	30	J	
4-Nitrophenol	46.4	200	200	0	23.2	1-58	49.1	0	0	J	
Acenaphthene	146.3	50	200	0	73.2	45-110	152.2	3.95	30		
Acenaphthylene	163.6	50	200	0	81.8	50-105	171	4.42	30		
Anthracene	169.2	50	200	0	84.6	55-110	181.3	6.9	30		
Benzo(a)anthracene	151.5	50	200	0	75.8	55-110	159.7	5.27	30		
Benzo(a)pyrene	160.2	50	200	0	80.1	55-110	168.3	4.93	30		
Benzo(b)fluoranthene	165.3	50	200	0	82.6	45-120	173.3	4.73	30		
Benzo(g,h,i)perylene	176	50	200	0	88	40-125	186.2	5.63	30		
Benzo(k)fluoranthene	169.4	50	200	0	84.7	45-125	176.3	3.99	30		
Bis(2-chloroethoxy)methane	161.1	50	200	0	80.6	45-105	155.7	3.41	30		
Bis(2-chloroethyl)ether	168.2	50	200	0	84.1	35-110	167.8	0.238	30		
Bis(2-chloroisopropyl)ether	183.4	50	200	0	91.7	25-130	182.3	0.602	30		
Bis(2-ethylhexyl)phthalate	142.6	50	200	0	71.3	40-125	144.3	1.19	30		
Butyl benzyl phthalate	145.1	50	200	0	72.6	45-115	151.9	4.58	30		
Carbazole	166.1	100	200	0	83	50-150	179.7	7.87	30		
Chrysene	168.1	50	200	0	84	55-110	178.6	6.06	30		
Dibenzo(a,h)anthracene	168.9	50	200	0	84.4	40-125	161.9	4.23	30		
Dibenzofuran	145.7	50	200	0	72.8	55-105	155.7	6.64	30		
Diethyl phthalate	152.5	200	200	0	76.2	40-120	162.6	0	30	J	
Dimethyl phthalate	151.5	200	200	0	75.8	25-125	162.4	0	30	J	
Di-n-butyl phthalate	158	50	200	0	79	55-115	164.9	4.27	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57221A		Instrument ID SVMS8		Method: SW8270					
Di-n-octyl phthalate	133.7	50	200	0	66.8	35-135	135.5	1.34	30
Fluoranthene	155.2	50	200	0	77.6	55-115	166.5	7.03	30
Fluorene	148.1	50	200	0	74	50-110	156.9	5.77	30
Hexachlorobenzene	156	50	200	0	78	50-110	162.3	3.96	30
Hexachlorobutadiene	133.4	50	200	0	66.7	25-105	128.6	3.66	30
Hexachlorocyclopentadiene	111.3	200	200	0	55.6	25-105	103.1	0	30 J
Hexachloroethane	146.1	50	200	0	73	30-95	145.6	0.343	30
Indeno(1,2,3-cd)pyrene	132.3	50	200	0	66.2	45-125	138.3	4.43	30
Isophorone	162	50	200	0	81	50-110	164.1	1.29	30
Naphthalene	146.2	50	200	0	73.1	40-100	141.3	3.41	30
Nitrobenzene	155.7	50	200	0	77.8	45-110	162.3	4.15	30
N-Nitrosodi-n-propylamine	160	50	200	0	80	35-130	159.6	0.25	30
N-Nitrosodiphenylamine	168.7	50	200	0	84.4	50-110	182	7.58	30
Pentachlorophenol	118.2	200	200	0	59.1	40-115	120.2	0	30 J
Phenanthrene	160.5	50	200	0	80.2	50-115	170.2	5.87	30
Phenol	55.5	50	200	0	27.8	12-43	53.1	4.42	30
Pyrene	187.4	50	200	0	93.7	50-130	199.1	6.05	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>354.7</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>70.9</i>	<i>38-115</i>	<i>389.9</i>	<i>9.45</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>361.3</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>72.3</i>	<i>32-100</i>	<i>380.3</i>	<i>5.12</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>232.7</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>46.5</i>	<i>22-59</i>	<i>223</i>	<i>4.26</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>481.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>96.3</i>	<i>23-112</i>	<i>517.9</i>	<i>7.31</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>456.3</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>91.3</i>	<i>31-93</i>	<i>471.6</i>	<i>3.3</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>137.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>27.5</i>	<i>13-36</i>	<i>134.8</i>	<i>1.98</i>	<i>40</i>

The following samples were analyzed in this batch:

1404174-02B	1404174-04B	1404174-06B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57183** Instrument ID **VMS5** Method: **SW8260B**

MBLK		Sample ID: MBLK-57183-57183				Units: µg/Kg		Analysis Date: 04/03/14 02:56 PM		
Client ID:		Run ID: VMS5_140403A				SeqNo: 2699035		Prep Date: 04/03/14		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	90	100								J
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	1220	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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57183	Instrument ID VMS5	Method: SW8260B					
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>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>947.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</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>1034</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57183** Instrument ID **VMS5** Method: **SW8260B**

LCS Sample ID: LCS-57183-57183				Units: µg/Kg			Analysis Date: 04/03/14 12:45 PM			
Client ID:		Run ID: VMS5_140403A		SeqNo: 2699033		Prep Date: 04/03/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	950	30	1000	0	95	70-135	0			
1,1,2,2-Tetrachloroethane	982	30	1000	0	98.2	55-130	0			
1,1,2-Trichloroethane	949	30	1000	0	94.9	60-125	0			
1,1-Dichloroethane	977.5	30	1000	0	97.8	75-125	0			
1,1-Dichloroethene	1054	30	1000	0	105	65-135	0			
1,2,4-Trichlorobenzene	921	30	1000	0	92.1	65-130	0			
1,2-Dibromo-3-chloropropane	792.5	30	1000	0	79.2	40-135	0			
1,2-Dibromoethane	1058	30	1000	0	106	75-125	0			
1,2-Dichlorobenzene	932	30	1000	0	93.2	75-120	0			
1,2-Dichloroethane	911.5	30	1000	0	91.2	70-135	0			
1,2-Dichloropropane	925.5	30	1000	0	92.6	70-120	0			
1,3-Dichlorobenzene	963.5	30	1000	0	96.4	70-125	0			
1,4-Dichlorobenzene	938.5	30	1000	0	93.8	70-125	0			
2-Butanone	1074	200	1000	0	107	30-160	0			
2-Hexanone	1038	30	1000	0	104	45-145	0			
4-Methyl-2-pentanone	1358	30	1000	0	136	96-168	0			
Acetone	1159	100	1000	0	116	20-160	0			
Benzene	970	30	1000	0	97	75-125	0			
Bromodichloromethane	923.5	30	1000	0	92.4	70-130	0			
Bromoform	739.5	30	1000	0	74	55-135	0			
Bromomethane	1624	75	1000	0	162	30-160	0			S
Carbon disulfide	1084	30	1000	0	108	45-160	0			
Carbon tetrachloride	929	30	1000	0	92.9	65-135	0			
Chlorobenzene	944	30	1000	0	94.4	75-125	0			
Chloroethane	1168	100	1000	0	117	40-155	0			
Chloroform	932	30	1000	0	93.2	70-125	0			
Chloromethane	1055	100	1000	0	106	50-130	0			
cis-1,2-Dichloroethene	960	30	1000	0	96	65-125	0			
cis-1,3-Dichloropropene	966.5	30	1000	0	96.6	70-125	0			
Dibromochloromethane	740.5	30	1000	0	74	65-135	0			
Dichlorodifluoromethane	847.5	30	1000	0	84.8	35-135	0			
Ethylbenzene	995	30	1000	0	99.5	75-125	0			
Isopropylbenzene	985	30	1000	0	98.5	75-130	0			
Methyl tert-butyl ether	969	30	1000	0	96.9	75-125	0			
Methylene chloride	1064	30	1000	0	106	55-145	0			
Styrene	1005	30	1000	0	100	75-125	0			
Tetrachloroethene	968.5	30	1000	0	96.8	64-140	0			
Toluene	964.5	30	1000	0	96.4	70-125	0			
trans-1,2-Dichloroethene	1038	30	1000	0	104	65-135	0			
trans-1,3-Dichloropropene	969.5	30	1000	0	97	65-125	0			
Trichloroethene	943	30	1000	0	94.3	75-125	0			
Trichlorofluoromethane	1060	30	1000	0	106	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57183	Instrument ID VMS5		Method: SW8260B				
Vinyl chloride	1103	30	1000	0	110	60-125	0
Xylenes, Total	2945	90	3000	0	98.2	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</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: Dibromofluoromethane</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: Toluene-d8</i>	<i>1028</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57183** Instrument ID **VMS5** Method: **SW8260B**

MS				Sample ID: 14031223-02A MS			Units: µg/Kg		Analysis Date: 04/04/14 09:40 PM	
Client ID:				Run ID: VMS8_140404A			SeqNo: 2700547		Prep Date: 04/03/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	979.5	30	1000	0	98	70-135	0			
1,1,2,2-Tetrachloroethane	953	30	1000	0	95.3	55-130	0			
1,1,2-Trichloroethane	943.5	30	1000	0	94.4	60-125	0			
1,1-Dichloroethane	1037	30	1000	0	104	75-125	0			
1,1-Dichloroethene	1143	30	1000	0	114	65-135	0			
1,2,4-Trichlorobenzene	786.5	30	1000	0	78.6	65-130	0			
1,2-Dibromo-3-chloropropane	917.5	30	1000	0	91.8	40-135	0			
1,2-Dibromoethane	1232	30	1000	0	123	75-125	0			
1,2-Dichlorobenzene	881.5	30	1000	0	88.2	75-120	0			
1,2-Dichloroethane	986.5	30	1000	0	98.6	70-135	0			
1,2-Dichloropropane	1002	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	877.5	30	1000	0	87.8	70-125	0			
1,4-Dichlorobenzene	863	30	1000	0	86.3	70-125	0			
2-Butanone	1208	200	1000	0	121	30-160	0			
2-Hexanone	1038	30	1000	0	104	45-145	0			
4-Methyl-2-pentanone	1380	30	1000	0	138	89-161	0			
Acetone	1182	100	1000	0	118	20-160	0			
Benzene	1070	30	1000	0	107	75-125	0			
Bromodichloromethane	862	30	1000	0	86.2	70-130	0			
Bromoform	800	30	1000	0	80	55-135	0			
Bromomethane	952	75	1000	0	95.2	30-160	0			
Carbon disulfide	1274	30	1000	0	127	45-160	0			
Carbon tetrachloride	997.5	30	1000	0	99.8	65-135	0			
Chlorobenzene	941.5	30	1000	0	94.2	75-125	0			
Chloroethane	551	100	1000	0	55.1	40-155	0			
Chloroform	967.5	30	1000	0	96.8	70-125	0			
Chloromethane	915.5	100	1000	0	91.6	50-130	0			
cis-1,2-Dichloroethene	973	30	1000	0	97.3	65-125	0			
cis-1,3-Dichloropropene	864	30	1000	0	86.4	70-125	0			
Dibromochloromethane	785	30	1000	0	78.5	65-135	0			
Dichlorodifluoromethane	767	30	1000	0	76.7	35-135	0			
Ethylbenzene	943	30	1000	0	94.3	75-125	0			
Isopropylbenzene	946.5	30	1000	0	94.6	75-130	0			
Methyl tert-butyl ether	1100	30	1000	0	110	75-125	0			
Methylene chloride	1078	30	1000	0	108	55-145	0			
Styrene	979	30	1000	0	97.9	75-125	0			
Tetrachloroethene	979.5	30	1000	0	98	64-140	0			
Toluene	943.5	30	1000	0	94.4	70-125	0			
trans-1,2-Dichloroethene	1088	30	1000	0	109	65-135	0			
trans-1,3-Dichloropropene	860.5	30	1000	0	86	65-125	0			
Trichloroethene	973.5	30	1000	0	97.4	75-125	0			
Trichlorofluoromethane	981	30	1000	0	98.1	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57183	Instrument ID VMS5		Method: SW8260B				
Vinyl chloride	1018	30	1000	0	102	60-125	0
Xylenes, Total	2808	90	3000	0	93.6	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>962.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>1006</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1001</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>986.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.6</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57183** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 14031223-02A MSD			Units: µg/Kg		Analysis Date: 04/04/14 10:05 PM	
Client ID:				Run ID: VMS8_140404A			SeqNo: 2700548		Prep Date: 04/03/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	892.5	30	1000	0	89.2	70-135	979.5	9.29	30	
1,1,2,2-Tetrachloroethane	913	30	1000	0	91.3	55-130	953	4.29	30	
1,1,2-Trichloroethane	887.5	30	1000	0	88.8	60-125	943.5	6.12	30	
1,1-Dichloroethane	992	30	1000	0	99.2	75-125	1037	4.44	30	
1,1-Dichloroethene	1088	30	1000	0	109	65-135	1143	4.93	30	
1,2,4-Trichlorobenzene	825	30	1000	0	82.5	65-130	786.5	4.78	30	
1,2-Dibromo-3-chloropropane	838	30	1000	0	83.8	40-135	917.5	9.06	30	
1,2-Dibromoethane	1158	30	1000	0	116	75-125	1232	6.11	30	
1,2-Dichlorobenzene	852	30	1000	0	85.2	75-120	881.5	3.4	30	
1,2-Dichloroethane	876	30	1000	0	87.6	70-135	986.5	11.9	30	
1,2-Dichloropropane	950.5	30	1000	0	95	70-120	1002	5.28	30	
1,3-Dichlorobenzene	862	30	1000	0	86.2	70-125	877.5	1.78	30	
1,4-Dichlorobenzene	842.5	30	1000	0	84.2	70-125	863	2.4	30	
2-Butanone	1174	200	1000	0	117	30-160	1208	2.77	30	
2-Hexanone	982	30	1000	0	98.2	45-145	1038	5.5	30	
4-Methyl-2-pentanone	1348	30	1000	0	135	89-161	1380	2.35	30	
Acetone	1193	100	1000	0	119	20-160	1182	0.884	30	
Benzene	974	30	1000	0	97.4	75-125	1070	9.44	30	
Bromodichloromethane	809	30	1000	0	80.9	70-130	862	6.34	30	
Bromoform	762	30	1000	0	76.2	55-135	800	4.87	30	
Bromomethane	864.5	75	1000	0	86.4	30-160	952	9.63	30	
Carbon disulfide	1144	30	1000	0	114	45-160	1274	10.7	30	
Carbon tetrachloride	906.5	30	1000	0	90.6	65-135	997.5	9.56	30	
Chlorobenzene	909.5	30	1000	0	91	75-125	941.5	3.46	30	
Chloroethane	461.5	100	1000	0	46.2	40-155	551	17.7	30	
Chloroform	926	30	1000	0	92.6	70-125	967.5	4.38	30	
Chloromethane	848	100	1000	0	84.8	50-130	915.5	7.66	30	
cis-1,2-Dichloroethene	940	30	1000	0	94	65-125	973	3.45	30	
cis-1,3-Dichloropropene	832.5	30	1000	0	83.2	70-125	864	3.71	30	
Dibromochloromethane	750	30	1000	0	75	65-135	785	4.56	30	
Dichlorodifluoromethane	736.5	30	1000	0	73.6	35-135	767	4.06	30	
Ethylbenzene	915	30	1000	0	91.5	75-125	943	3.01	30	
Isopropylbenzene	898.5	30	1000	0	89.8	75-130	946.5	5.2	30	
Methyl tert-butyl ether	1047	30	1000	0	105	75-125	1100	4.94	30	
Methylene chloride	1093	30	1000	0	109	55-145	1078	1.43	30	
Styrene	953	30	1000	0	95.3	75-125	979	2.69	30	
Tetrachloroethene	911	30	1000	0	91.1	64-140	979.5	7.25	30	
Toluene	906	30	1000	0	90.6	70-125	943.5	4.06	30	
trans-1,2-Dichloroethene	1058	30	1000	0	106	65-135	1088	2.75	30	
trans-1,3-Dichloropropene	842	30	1000	0	84.2	65-125	860.5	2.17	30	
Trichloroethene	946	30	1000	0	94.6	75-125	973.5	2.87	30	
Trichlorofluoromethane	911.5	30	1000	0	91.2	25-185	981	7.34	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57183		Instrument ID VMS5		Method: SW8260B					
Vinyl chloride	894.5	30	1000	0	89.4	60-125	1018	12.9	30
Xylenes, Total	2704	90	3000	0	90.1	75-125	2808	3.77	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>915</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>91.5</i>	<i>70-130</i>	<i>962.5</i>	<i>5.06</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>1002</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>1006</i>	<i>0.448</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>965</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.5</i>	<i>70-130</i>	<i>1001</i>	<i>3.66</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>986</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.6</i>	<i>70-130</i>	<i>986.5</i>	<i>0.0507</i>	<i>30</i>
The following samples were analyzed in this batch:									
		1404174-01A		1404174-03A		1404174-05A			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138302A** Instrument ID **VMS6** Method: **SW8260**

MBLK		Sample ID: VBKWW1-140403-R138302A				Units: µg/L		Analysis Date: 04/03/14 12:56 PM		
Client ID:		Run ID: VMS6_140403A				SeqNo: 2698111		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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138302A	Instrument ID VMS6	Method: SW8260						
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>20.11</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>18.9</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.5</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.78</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.9</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138302A** Instrument ID **VMS6** Method: **SW8260**

LCS				Sample ID: VLCSW1-140403-R138302A			Units: µg/L		Analysis Date: 04/03/14 12:03 PM	
Client ID:				Run ID: VMS6_140403A			SeqNo: 2698109		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	20.64	1.0	20	0	103	65-130	0			
1,1,2,2-Tetrachloroethane	21.93	1.0	20	0	110	65-130	0			
1,1,2-Trichloroethane	21.25	1.0	20	0	106	75-125	0			
1,1-Dichloroethane	22.75	1.0	20	0	114	70-135	0			
1,1-Dichloroethene	23.48	1.0	20	0	117	70-130	0			
1,2,4-Trichlorobenzene	22.67	1.0	20	0	113	65-135	0			
1,2-Dibromo-3-chloropropane	18.37	1.0	20	0	91.8	50-130	0			
1,2-Dibromoethane	24.85	1.0	20	0	124	87-179	0			
1,2-Dichlorobenzene	22.04	1.0	20	0	110	70-120	0			
1,2-Dichloroethane	21.07	1.0	20	0	105	87-179	0			
1,2-Dichloropropane	20.47	2.0	20	0	102	75-125	0			
1,3-Dichlorobenzene	22.61	2.0	20	0	113	75-125	0			
1,4-Dichlorobenzene	21.86	2.0	20	0	109	75-125	0			
2-Butanone	25.64	5.0	20	0	128	30-150	0			
2-Hexanone	21.18	5.0	20	0	106	55-130	0			
4-Methyl-2-pentanone	27.49	5.0	20	0	137	77-178	0			
Acetone	26.82	20	20	0	134	40-140	0			
Benzene	22.16	1.0	20	0	111	80-120	0			
Bromodichloromethane	18.71	1.0	20	0	93.6	75-120	0			
Bromoform	14.46	1.0	20	0	72.3	70-130	0			
Bromomethane	29.63	1.0	20	0	148	30-145	0			S
Carbon disulfide	23.87	2.5	20	0	119	35-165	0			
Carbon tetrachloride	19.74	1.0	20	0	98.7	65-140	0			
Chlorobenzene	21.72	1.0	20	0	109	80-120	0			
Chloroethane	21.1	1.0	20	0	106	60-135	0			
Chloroform	21.85	1.0	20	0	109	65-135	0			
Chloromethane	21.66	1.0	20	0	108	70-125	0			
cis-1,2-Dichloroethene	22.81	1.0	20	0	114	70-125	0			
cis-1,3-Dichloropropene	19.86	1.0	20	0	99.3	70-130	0			
Dibromochloromethane	15.49	1.0	20	0	77.4	60-135	0			
Dichlorodifluoromethane	15.26	1.0	20	0	76.3	30-155	0			
Ethylbenzene	22.96	1.0	20	0	115	75-125	0			
Isopropylbenzene	20.41	1.0	20	0	102	75-125	0			
Methyl tert-butyl ether	22.48	5.0	20	0	112	65-125	0			
Methylene chloride	22.34	5.0	20	0	112	55-140	0			
Styrene	20.32	1.0	20	0	102	65-135	0			
Tetrachloroethene	23.47	2.0	20	0	117	45-150	0			
Toluene	22.46	1.0	20	0	112	75-120	0			
trans-1,2-Dichloroethene	24.08	1.0	20	0	120	60-140	0			
trans-1,3-Dichloropropene	19.6	1.0	20	0	98	55-140	0			
Trichloroethene	22.31	1.0	20	0	112	70-125	0			
Trichlorofluoromethane	20.31	1.0	20	0	102	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138302A	Instrument ID VMS6		Method: SW8260				
Vinyl chloride	20.51	1.0	20	0	103	50-145	0
Xylenes, Total	61.69	3.0	60	0	103	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>19.68</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.33</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138302A** Instrument ID **VMS6** Method: **SW8260**

MS				Sample ID: 1404174-02A MS			Units: µg/L		Analysis Date: 04/03/14 10:12 PM	
Client ID: W-R2330012-040114-ACN-004				Run ID: VMS6_140403A			SeqNo: 2698964		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	17.13	1.0	20	0	85.6	65-130	0			
1,1,2,2-Tetrachloroethane	19.58	1.0	20	0	97.9	65-130	0			
1,1,2-Trichloroethane	20.2	1.0	20	0	101	75-125	0			
1,1-Dichloroethane	22.8	1.0	20	0	114	70-135	0			
1,1-Dichloroethene	24.51	1.0	20	0	123	70-130	0			
1,2,4-Trichlorobenzene	15.58	1.0	20	0	77.9	65-135	0			
1,2-Dibromo-3-chloropropane	15.23	1.0	20	0	76.2	50-130	0			
1,2-Dibromoethane	22.99	1.0	20	0	115	81-158	0			
1,2-Dichlorobenzene	18.91	1.0	20	0	94.6	70-120	0			
1,2-Dichloroethane	16.81	1.0	20	0	84	70-130	0			
1,2-Dichloropropane	21.2	2.0	20	0	106	75-125	0			
1,3-Dichlorobenzene	19.05	2.0	20	0	95.2	75-125	0			
1,4-Dichlorobenzene	18.8	2.0	20	0	94	75-125	0			
2-Butanone	22.11	5.0	20	0	111	30-150	0			
2-Hexanone	19.32	5.0	20	0	96.6	55-130	0			
4-Methyl-2-pentanone	25.04	5.0	20	0	125	73-162	0			
Acetone	24.16	20	20	3.27	104	40-140	0			
Benzene	18.54	1.0	20	0.36	90.9	80-120	0			
Bromodichloromethane	14.88	1.0	20	0	74.4	75-120	0			S
Bromoform	12.95	1.0	20	0	64.8	70-130	0			S
Bromomethane	15	1.0	20	0	75	30-145	0			
Carbon disulfide	24.04	2.5	20	0	120	35-165	0			
Carbon tetrachloride	16.43	1.0	20	0	82.2	65-140	0			
Chlorobenzene	20.3	1.0	20	0	102	80-120	0			
Chloroethane	22.29	1.0	20	0	111	60-135	0			
Chloroform	21.86	1.0	20	0	109	65-135	0			
Chloromethane	17.83	1.0	20	0	89.2	70-125	0			
cis-1,2-Dichloroethene	22.07	1.0	20	0	110	70-125	0			
cis-1,3-Dichloropropene	15.64	1.0	20	0	78.2	70-130	0			
Dibromochloromethane	14.09	1.0	20	0	70.4	60-135	0			
Dichlorodifluoromethane	18.21	1.0	20	0	91	30-155	0			
Ethylbenzene	22.41	1.0	20	0	112	75-125	0			
Isopropylbenzene	18.75	1.0	20	0	93.8	75-125	0			
Methyl tert-butyl ether	21.18	5.0	20	0	106	65-125	0			
Methylene chloride	21.29	5.0	20	0	106	55-140	0			
Styrene	18.53	1.0	20	0	92.6	65-135	0			
Tetrachloroethene	22.14	2.0	20	0	111	45-150	0			
Toluene	22.22	1.0	20	0.62	108	75-120	0			
trans-1,2-Dichloroethene	24.78	1.0	20	0	124	60-140	0			
trans-1,3-Dichloropropene	17.6	1.0	20	0	88	55-140	0			
Trichloroethene	21.9	1.0	20	0	110	70-125	0			
Trichlorofluoromethane	21.4	1.0	20	0	107	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138302A	Instrument ID VMS6		Method: SW8260				
Vinyl chloride	20.93	1.0	20	0	105	50-145	0
Xylenes, Total	58.31	3.0	60	1	95.5	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.55</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>82.8</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.03</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>17.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>85.7</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.98</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.9</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: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138302A** Instrument ID **VMS6** Method: **SW8260**

MSD				Sample ID: 1404174-02A MSD			Units: µg/L		Analysis Date: 04/03/14 10:39 PM	
Client ID: W-R2330012-040114-ACN-004				Run ID: VMS6_140403A			SeqNo: 2698965		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	21.08	1.0	20	0	105	65-130	17.13	20.7	30	
1,1,2,2-Tetrachloroethane	20.35	1.0	20	0	102	65-130	19.58	3.86	30	
1,1,2-Trichloroethane	25.23	1.0	20	0	126	75-125	20.2	22.1	30	S
1,1-Dichloroethane	22.4	1.0	20	0	112	70-135	22.8	1.77	30	
1,1-Dichloroethene	22.81	1.0	20	0	114	70-130	24.51	7.19	30	
1,2,4-Trichlorobenzene	17.4	1.0	20	0	87	65-135	15.58	11	30	
1,2-Dibromo-3-chloropropane	15.43	1.0	20	0	77.2	50-130	15.23	1.3	30	
1,2-Dibromoethane	27.9	1.0	20	0	140	81-158	22.99	19.3	30	
1,2-Dichlorobenzene	20.01	1.0	20	0	100	70-120	18.91	5.65	30	
1,2-Dichloroethane	20.42	1.0	20	0	102	70-130	16.81	19.4	30	
1,2-Dichloropropane	20.58	2.0	20	0	103	75-125	21.2	2.97	30	
1,3-Dichlorobenzene	19.95	2.0	20	0	99.8	75-125	19.05	4.62	30	
1,4-Dichlorobenzene	19.52	2.0	20	0	97.6	75-125	18.8	3.76	30	
2-Butanone	22.9	5.0	20	0	114	30-150	22.11	3.51	30	
2-Hexanone	25.66	5.0	20	0	128	55-130	19.32	28.2	30	
4-Methyl-2-pentanone	32.18	5.0	20	0	161	73-162	25.04	25	30	
Acetone	24.23	20	20	3.27	105	40-140	24.16	0.289	30	
Benzene	22.31	1.0	20	0.36	110	80-120	18.54	18.5	30	
Bromodichloromethane	17.82	1.0	20	0	89.1	75-120	14.88	18	30	
Bromoform	13.69	1.0	20	0	68.4	70-130	12.95	5.56	30	S
Bromomethane	17.37	1.0	20	0	86.8	30-145	15	14.6	30	
Carbon disulfide	23.3	2.5	20	0	116	35-165	24.04	3.13	30	
Carbon tetrachloride	20.04	1.0	20	0	100	65-140	16.43	19.8	30	
Chlorobenzene	20.59	1.0	20	0	103	80-120	20.3	1.42	30	
Chloroethane	21.78	1.0	20	0	109	60-135	22.29	2.31	30	
Chloroform	21.65	1.0	20	0	108	65-135	21.86	0.965	30	
Chloromethane	17.76	1.0	20	0	88.8	70-125	17.83	0.393	30	
cis-1,2-Dichloroethene	21.77	1.0	20	0	109	70-125	22.07	1.37	30	
cis-1,3-Dichloropropene	22.91	1.0	20	0	115	70-130	15.64	37.7	30	R
Dibromochloromethane	16.71	1.0	20	0	83.6	60-135	14.09	17	30	
Dichlorodifluoromethane	17.66	1.0	20	0	88.3	30-155	18.21	3.07	30	
Ethylbenzene	22.33	1.0	20	0	112	75-125	22.41	0.358	30	
Isopropylbenzene	19.33	1.0	20	0	96.6	75-125	18.75	3.05	30	
Methyl tert-butyl ether	21.51	5.0	20	0	108	65-125	21.18	1.55	30	
Methylene chloride	20.56	5.0	20	0	103	55-140	21.29	3.49	30	
Styrene	18.62	1.0	20	0	93.1	65-135	18.53	0.485	30	
Tetrachloroethene	25.74	2.0	20	0	129	45-150	22.14	15	30	
Toluene	24.8	1.0	20	0.62	121	75-120	22.22	11	30	S
trans-1,2-Dichloroethene	23.45	1.0	20	0	117	60-140	24.78	5.52	30	
trans-1,3-Dichloropropene	22.73	1.0	20	0	114	55-140	17.6	25.4	30	
Trichloroethene	22.43	1.0	20	0	112	70-125	21.9	2.39	30	
Trichlorofluoromethane	21.25	1.0	20	0	106	60-145	21.4	0.703	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138302A	Instrument ID VMS6			Method: SW8260					
Vinyl chloride	19.93	1.0	20	0	99.6	50-145	20.93	4.89	30
Xylenes, Total	59.02	3.0	60	1	96.7	75-130	58.31	1.21	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.12</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>70-120</i>	<i>16.55</i>	<i>19.5</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.7</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.5</i>	<i>75-120</i>	<i>20.03</i>	<i>1.66</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.74</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>85-115</i>	<i>17.14</i>	<i>19</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>22.34</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>112</i>	<i>85-120</i>	<i>19.98</i>	<i>11.2</i>	<i>30</i>

The following samples were analyzed in this batch:	1404174-02A	1404174-04A	1404174-06A	
	1404174-07A			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57241** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57241-57241				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404B		SeqNo: 2699951		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total U 0.50

LCS		Sample ID: LCS-57241-57241				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404B		SeqNo: 2699952		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.419 0.50 2.5 0 96.8 85-119 0

MS		Sample ID: 1404104-03C MS				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404B		SeqNo: 2699955		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.61 0.51 2.53 0.09996 99.2 70-130 0

MSD		Sample ID: 1404104-03C MSD				Units: mg/Kg		Analysis Date: 04/04/14 03:28 PM		
Client ID:		Run ID: LACHAT_140404B		SeqNo: 2699956		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.549 0.51 2.541 0.09996 96.4 70-130 2.61 2.39 30

The following samples were analyzed in this batch:

1404174-01B	1404174-03B	1404174-05B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57257** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57257-57257				Units: mg/L		Analysis Date: 04/07/14 09:56 AM		
Client ID:		Run ID: LACHAT_140407A		SeqNo: 2701027		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	U	0.0050								

MBLK		Sample ID: MBLK-57257-57257				Units: mg/L		Analysis Date: 04/07/14 09:56 AM		
Client ID:		Run ID: LACHAT_140407A		SeqNo: 2701034		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	U	0.0050								

LCS		Sample ID: LCS-57257-57257				Units: mg/L		Analysis Date: 04/07/14 09:56 AM		
Client ID:		Run ID: LACHAT_140407A		SeqNo: 2701028		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	0.2449	0.0050	0.25	0	98	83-120	0			

LCS		Sample ID: LCS-57257-57257				Units: mg/L		Analysis Date: 04/07/14 09:56 AM		
Client ID:		Run ID: LACHAT_140407A		SeqNo: 2701035		Prep Date: 04/04/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	0.2449	0.0050	0.25	0	98	83-120	0			

The following samples were analyzed in this batch:

1404174-02C	1404174-04C	1404174-06C

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404174
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138469** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R138469				Units: % of sample		Analysis Date: 04/04/14 09:57 AM		
Client ID:		Run ID: MOIST_140404B		SeqNo: 2701258		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS				Sample ID: LCS-R138469				Units: % of sample			Analysis Date: 04/04/14 09:57 AM												
Client ID:				Run ID: MOIST_140404B				SeqNo: 2701257		Prep Date:		DF: 1											
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

DUP					Sample ID: 1404174-05B DUP					Units: % of sample			Analysis Date: 04/04/14 09:57 AM											
Client ID: S-R2330012-040114-ACN-006					Run ID: MOIST_140404B					SeqNo: 2701236			Prep Date:		DF: 1									
Analyte					Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Moisture 14.01 0.050 0 0 0 0-0 14.54 3.71 20

DUP				Sample ID: 1404207-01B DUP				Units: % of sample			Analysis Date: 04/04/14 09:57 AM					
Client ID:				Run ID: MOIST_140404B				SeqNo: 2701244		Prep Date:		DF: 1				
Analyte				Result		PQL		SPK Val		SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 16.32 0.050 0 0 0 0-0 16.45 0.793 20

The following samples were analyzed in this batch:

1404174-01B	1404174-03B	1404174-05B

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



Environmental

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

Chain of Custody Form

Page 1 of 1

COC ID: 105582

Houston, TX
+1 281 530 3656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: TBS

ALS Work Order #: 1404174

Customer Information

Purchase Order
Work Order
Company Name: The Mannik & Smith Group, Inc.
Send Report To: Mike Friedoff, Frank Biehl
Address: 2365 Haggerty Road South
Suite 100
City/State/Zip: Canton, MI 48188
Phone: (734) 397-3100
Fax: (734) 397-3131
e-Mail Address:

Project Information

Project Name: Van Buren Landfill
Project Number: R2330012
Bill To Company: RACER Trust
Invoice Attn: Accounts Payable
Address: 2930 Ecorse Rd
City/State/Zip: Ypsilanti, MI 48188
Phone: 734-397-3100
Fax: 734-397-3131
e-Mail Address: M.Friedoff@MannikSmithGroup.com

Parameter/Method Request for Analysis

A: VOCs
B: SVOCs
C: PCBs
D: Cyanide - total
E: Cyanide - amenable
F: Metals (including Hg) - total
G: Moisture
H: Metals (including Hg) - dissolved Field Filtered
I: RUSH - 2 DAY

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-R2330012-040114-ACW-004	4/1/14	0920	S	7	3	X	X		X		X					
2	W-R2330012-040114-ACW-004		1000	A ₂	1,2,4	8	(X)	X			X	X		(X)			
3	S-R2330012-040114-ACW-005		1045	S	7	3	X	X		X		X					
4	W-R2330012-040114-ACW-005		1110	A ₂	1,2,4	8	(X)	X			X	X		(X)			
5	S-R2330012-040114-ACW-006		1330	S	7	3	X	X		X		X					
6	W-R2330012-040114-ACW-006		1415	A ₂	1,2,4	8	X	X			X	X		X			
7	Trip Blank		0000	A ₂	1	1	X										
8																	
9																	
10																	

Sampler(s) Please Print & Sign: <u>Adam Nica</u>		Shipment Method: <u>Carrier</u>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☒ Other: <u>See Above (2 DAY)</u>		Results Due Date: <u>4/3/14 0830</u>	
Relinquished by: <u>[Signature]</u>	Date: <u>4/1/14</u>	Time: <u>1600</u>	Received by: <u>[Signature]</u>	Notes: <u>Rec'd 4/3/14 0830 D-7 LI</u>			
Relinquished by: <u>[Signature]</u>	Date: <u>4/2/14</u>	Time: <u>1025</u>	Received by (Laboratory): <u>[Signature]</u>	Cooler ID:	Cooler Temp: <u>42°C</u>	QC Package: (Check One Box Below)	
Logged by (Laboratory): <u>DES</u>	Date: <u>4/3/14</u>	Time: <u>1030</u>	Checked by (Laboratory): <u>TBS</u>			☒ Level II Std QC ☐ Level III Std QC/Raw Data ☐ Level IV SW846/CLP ☐ Other:	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₄ 6-NaHSO ₄ 7-Other 8-4°C 9-5035							

☒ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other:

☐ TRRP Check List
☐ TRRP Level IV

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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 8070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: 4-2-14	Time:	Date:
	Name: <i>[Signature]</i>	Company:	

4.20c

 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 8070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: 4-2-14	Time:	Date:
	Name: <i>[Signature]</i>	Company:	

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **03-Apr-14 10:25**

Work Order: **1404174**

Received by: **DS**

Checklist completed by <u>Diane Shaw</u>	03-Apr-14	Reviewed by: <u>Tom Bramish</u>	03-Apr-14
eSignature	Date	eSignature	Date

Matrices: Soil, Water

Carrier name: City Transfer

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>4.2 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/3/2014 11:38:44 AM</u>		
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:

Work Order: 1404444

Project Name:
RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl
2365 Haggerty Road South
Suite 100
Canton, MI 48188
(734) 397-3100

17-Apr-2014



Certificate No: MN 532786



17-Apr-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **1404444**

Dear Frank,

ALS Environmental received 5 samples on 09-Apr-2014 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 65.

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: MN 532786

Report of Laboratory Analysis

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

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Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404444

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>
1404444-01	S-R2330012-040214-ACN-007	Soil		04/02/14 11:00	04/09/14 08:30	☐
1404444-02	S-R2330012-040214-ACN-008	Soil		04/02/14 11:45	04/09/14 08:30	☐
1404444-03	S-R2330012-040214-ACN-009	Soil		04/02/14 13:00	04/09/14 08:30	☐
1404444-04	S-R2330012-040214-ACN-010	Soil		04/02/14 15:30	04/09/14 08:30	☐
1404444-05	Trip Blank	Water		04/02/14	04/09/14 08:30	☐

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
WorkOrder: 1404444

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404444

Case Narrative**QC Comments:**

Batch 57410, Method VOC_8260_S, Sample LCS-57410: The LCS recovery was outside of the upper control limit but within the Sporadic Marginal Exceedence limit. No qualification is necessary for Vinyl chloride.

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-007
Collection Date: 04/02/14 11:00 AM

Work Order: 1404444
Lab ID: 1404444-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
<u>BatchID: 57497</u>							
Mercury	0.058		0.00074	0.015	mg/Kg-dry	1	04/14/14 14:47
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/11/14	Analyst: ML
<u>BatchID: 57469</u>							
Antimony	0.094	J	0.0082	2.0	mg/Kg-dry	5	04/12/14 07:05
Arsenic	3.3		0.28	0.82	mg/Kg-dry	5	04/12/14 07:05
Barium	34		0.057	2.0	mg/Kg-dry	5	04/12/14 07:05
Beryllium	0.34	J	0.016	0.82	mg/Kg-dry	5	04/12/14 07:05
Cadmium	0.11	J	0.0082	0.82	mg/Kg-dry	5	04/12/14 07:05
Chromium	9.6		0.34	2.0	mg/Kg-dry	5	04/12/14 07:05
Cobalt	2.7		0.0082	2.0	mg/Kg-dry	5	04/12/14 07:05
Copper	8.3		0.40	2.0	mg/Kg-dry	5	04/12/14 07:05
Iron	9,300		6.8	33	mg/Kg-dry	5	04/12/14 07:05
Lead	5.0		0.0082	2.0	mg/Kg-dry	5	04/12/14 07:05
Manganese	89		0.18	2.0	mg/Kg-dry	5	04/12/14 07:05
Nickel	9.9		0.20	2.0	mg/Kg-dry	5	04/12/14 07:05
Selenium	0.51	J	0.26	1.6	mg/Kg-dry	5	04/12/14 07:05
Silver	0.030	J	0.0082	0.82	mg/Kg-dry	5	04/12/14 07:05
Thallium	0.14	J	0.049	2.0	mg/Kg-dry	5	04/12/14 07:05
Vanadium	13		0.12	2.0	mg/Kg-dry	5	04/12/14 07:05
Zinc	30		0.17	4.1	mg/Kg-dry	5	04/14/14 10:17
<u>BatchID: 57469</u>							
Aluminum	8,100		5.2	41	mg/Kg-dry	50	04/13/14 15:31
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/11/14	Analyst: RM
<u>BatchID: 57443</u>							
1,1'-Biphenyl	U		5.7	380	µg/Kg-dry	1	04/12/14 18:58
2,4,5-Trichlorophenol	U		9.5	180	µg/Kg-dry	1	04/12/14 18:58
2,4,6-Trichlorophenol	U		6.4	180	µg/Kg-dry	1	04/12/14 18:58
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	04/12/14 18:58
2,4-Dimethylphenol	U		61	380	µg/Kg-dry	1	04/12/14 18:58
2,4-Dinitrophenol	U		34	760	µg/Kg-dry	1	04/12/14 18:58
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	04/12/14 18:58
2,6-Dinitrotoluene	U		20	180	µg/Kg-dry	1	04/12/14 18:58
2-Chloronaphthalene	U		1.8	92	µg/Kg-dry	1	04/12/14 18:58
2-Chlorophenol	U		11	180	µg/Kg-dry	1	04/12/14 18:58
2-Methylnaphthalene	U		3.2	92	µg/Kg-dry	1	04/12/14 18:58
2-Methylphenol	U		16	180	µg/Kg-dry	1	04/12/14 18:58

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-007
Collection Date: 04/02/14 11:00 AM

Work Order: 1404444
Lab ID: 1404444-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		15	760	µg/Kg-dry	1	04/12/14 18:58
2-Nitrophenol	U		13	180	µg/Kg-dry	1	04/12/14 18:58
3,3'-Dichlorobenzidine	U		470	760	µg/Kg-dry	1	04/12/14 18:58
3-Nitroaniline	U		13	760	µg/Kg-dry	1	04/12/14 18:58
4,6-Dinitro-2-methylphenol	U		32	380	µg/Kg-dry	1	04/12/14 18:58
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	04/12/14 18:58
4-Chloro-3-methylphenol	U		8.8	180	µg/Kg-dry	1	04/12/14 18:58
4-Chloroaniline	U		11	380	µg/Kg-dry	1	04/12/14 18:58
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	04/12/14 18:58
4-Methylphenol	U		18	180	µg/Kg-dry	1	04/12/14 18:58
4-Nitroaniline	U		11	760	µg/Kg-dry	1	04/12/14 18:58
4-Nitrophenol	U		7.6	760	µg/Kg-dry	1	04/12/14 18:58
Acenaphthene	U		1.1	34	µg/Kg-dry	1	04/12/14 18:58
Acenaphthylene	U		1.4	34	µg/Kg-dry	1	04/12/14 18:58
Acetophenone	U		5.7	380	µg/Kg-dry	1	04/12/14 18:58
Anthracene	U		1.5	34	µg/Kg-dry	1	04/12/14 18:58
Atrazine	U		12	57	µg/Kg-dry	1	04/12/14 18:58
Benzaldehyde	U		15	380	µg/Kg-dry	1	04/12/14 18:58
Benzo(a)anthracene	U		1.5	34	µg/Kg-dry	1	04/12/14 18:58
Benzo(a)pyrene	U		2.5	34	µg/Kg-dry	1	04/12/14 18:58
Benzo(b)fluoranthene	U		2.2	34	µg/Kg-dry	1	04/12/14 18:58
Benzo(g,h,i)perylene	U		3.0	34	µg/Kg-dry	1	04/12/14 18:58
Benzo(k)fluoranthene	U		1.6	34	µg/Kg-dry	1	04/12/14 18:58
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	04/12/14 18:58
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	04/12/14 18:58
Bis(2-chloroisopropyl)ether	U		16	180	µg/Kg-dry	1	04/12/14 18:58
Bis(2-ethylhexyl)phthalate	U		12	380	µg/Kg-dry	1	04/12/14 18:58
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	04/12/14 18:58
Caprolactam	U		17	380	µg/Kg-dry	1	04/12/14 18:58
Carbazole	U		11	180	µg/Kg-dry	1	04/12/14 18:58
Chrysene	U		1.8	34	µg/Kg-dry	1	04/12/14 18:58
Dibenzo(a,h)anthracene	U		2.8	34	µg/Kg-dry	1	04/12/14 18:58
Dibenzofuran	U		12	180	µg/Kg-dry	1	04/12/14 18:58
Diethyl phthalate	U		12	380	µg/Kg-dry	1	04/12/14 18:58
Dimethyl phthalate	U		13	380	µg/Kg-dry	1	04/12/14 18:58
Di-n-butyl phthalate	U		5.5	380	µg/Kg-dry	1	04/12/14 18:58
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	04/12/14 18:58
Fluoranthene	U		2.7	34	µg/Kg-dry	1	04/12/14 18:58
Fluorene	U		2.6	34	µg/Kg-dry	1	04/12/14 18:58
Hexachlorobenzene	U		11	180	µg/Kg-dry	1	04/12/14 18:58

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-007
Collection Date: 04/02/14 11:00 AM

Work Order: 1404444
Lab ID: 1404444-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		13	57	µg/Kg-dry	1	04/12/14 18:58
Hexachlorocyclopentadiene	U		12	380	µg/Kg-dry	1	04/12/14 18:58
Hexachloroethane	U		18	180	µg/Kg-dry	1	04/12/14 18:58
Indeno(1,2,3-cd)pyrene	U		2.5	34	µg/Kg-dry	1	04/12/14 18:58
Isophorone	U		13	180	µg/Kg-dry	1	04/12/14 18:58
Naphthalene	U		2.8	34	µg/Kg-dry	1	04/12/14 18:58
Nitrobenzene	U		15	180	µg/Kg-dry	1	04/12/14 18:58
N-Nitrosodi-n-propylamine	U		15	180	µg/Kg-dry	1	04/12/14 18:58
N-Nitrosodiphenylamine	U		68	180	µg/Kg-dry	1	04/12/14 18:58
Pentachlorophenol	U		7.4	23	µg/Kg-dry	1	04/12/14 18:58
Phenanthrene	U		1.5	34	µg/Kg-dry	1	04/12/14 18:58
Phenol	U		13	180	µg/Kg-dry	1	04/12/14 18:58
Pyrene	U		2.6	34	µg/Kg-dry	1	04/12/14 18:58
Surr: 2,4,6-Tribromophenol	79.1			34-140	%REC	1	04/12/14 18:58
Surr: 2-Fluorobiphenyl	75.5			12-100	%REC	1	04/12/14 18:58
Surr: 2-Fluorophenol	83.0			33-117	%REC	1	04/12/14 18:58
Surr: 4-Terphenyl-d14	103			25-137	%REC	1	04/12/14 18:58
Surr: Nitrobenzene-d5	77.2			37-107	%REC	1	04/12/14 18:58
Surr: Phenol-d6	82.4			40-106	%REC	1	04/12/14 18:58

VOLATILE ORGANIC COMPOUNDS

SW8260B

Prep: SW5035 / 4/10/14

Analyst: RS

BatchID: 57410

1,1,1-Trichloroethane	U		13	35	µg/Kg-dry	1	04/12/14 18:44
1,1,2,2-Tetrachloroethane	U		15	35	µg/Kg-dry	1	04/12/14 18:44
1,1,2-Trichloroethane	U		12	35	µg/Kg-dry	1	04/12/14 18:44
1,1,2-Trichlorotrifluoroethane	U		13	35	µg/Kg-dry	1	04/12/14 18:44
1,1-Dichloroethane	U		13	35	µg/Kg-dry	1	04/12/14 18:44
1,1-Dichloroethene	U		15	35	µg/Kg-dry	1	04/12/14 18:44
1,2,4-Trichlorobenzene	U		18	35	µg/Kg-dry	1	04/12/14 18:44
1,2-Dibromo-3-chloropropane	U		17	35	µg/Kg-dry	1	04/12/14 18:44
1,2-Dibromoethane	U		14	35	µg/Kg-dry	1	04/12/14 18:44
1,2-Dichlorobenzene	U		14	35	µg/Kg-dry	1	04/12/14 18:44
1,2-Dichloroethane	U		17	35	µg/Kg-dry	1	04/12/14 18:44
1,2-Dichloropropane	U		12	35	µg/Kg-dry	1	04/12/14 18:44
1,3-Dichlorobenzene	U		14	35	µg/Kg-dry	1	04/12/14 18:44
1,4-Dichlorobenzene	U		13	35	µg/Kg-dry	1	04/12/14 18:44
2-Butanone	U		86	230	µg/Kg-dry	1	04/12/14 18:44
2-Hexanone	U		8.6	35	µg/Kg-dry	1	04/12/14 18:44
4-Methyl-2-pentanone	U		12	35	µg/Kg-dry	1	04/12/14 18:44
Acetone	U		74	120	µg/Kg-dry	1	04/12/14 18:44

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-007
Collection Date: 04/02/14 11:00 AM

Work Order: 1404444
Lab ID: 1404444-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		14	35	µg/Kg-dry	1	04/12/14 18:44
Bromodichloromethane	U		7.8	35	µg/Kg-dry	1	04/12/14 18:44
Bromoform	U		6.9	35	µg/Kg-dry	1	04/12/14 18:44
Bromomethane	U		13	87	µg/Kg-dry	1	04/12/14 18:44
Carbon disulfide	U		17	35	µg/Kg-dry	1	04/12/14 18:44
Carbon tetrachloride	U		9.9	35	µg/Kg-dry	1	04/12/14 18:44
Chlorobenzene	U		14	35	µg/Kg-dry	1	04/12/14 18:44
Chloroethane	U		74	120	µg/Kg-dry	1	04/12/14 18:44
Chloroform	U		14	35	µg/Kg-dry	1	04/12/14 18:44
Chloromethane	49	J	19	120	µg/Kg-dry	1	04/12/14 18:44
cis-1,2-Dichloroethene	U		14	35	µg/Kg-dry	1	04/12/14 18:44
cis-1,3-Dichloropropene	U		12	35	µg/Kg-dry	1	04/12/14 18:44
Cyclohexane	U		16	35	µg/Kg-dry	1	04/12/14 18:44
Dibromochloromethane	U		6.5	35	µg/Kg-dry	1	04/12/14 18:44
Dichlorodifluoromethane	U		16	35	µg/Kg-dry	1	04/12/14 18:44
Ethylbenzene	U		13	35	µg/Kg-dry	1	04/12/14 18:44
Isopropylbenzene	U		15	35	µg/Kg-dry	1	04/12/14 18:44
Methyl acetate	U		47	230	µg/Kg-dry	1	04/12/14 18:44
Methyl tert-butyl ether	U		15	35	µg/Kg-dry	1	04/12/14 18:44
Methylcyclohexane	U		16	35	µg/Kg-dry	1	04/12/14 18:44
Methylene chloride	U		14	35	µg/Kg-dry	1	04/12/14 18:44
Styrene	U		13	35	µg/Kg-dry	1	04/12/14 18:44
Tetrachloroethene	U		16	35	µg/Kg-dry	1	04/12/14 18:44
Toluene	U		13	35	µg/Kg-dry	1	04/12/14 18:44
trans-1,2-Dichloroethene	U		11	35	µg/Kg-dry	1	04/12/14 18:44
trans-1,3-Dichloropropene	U		12	35	µg/Kg-dry	1	04/12/14 18:44
Trichloroethene	U		16	35	µg/Kg-dry	1	04/12/14 18:44
Trichlorofluoromethane	U		9.6	35	µg/Kg-dry	1	04/12/14 18:44
Vinyl chloride	U		16	35	µg/Kg-dry	1	04/12/14 18:44
Xylenes, Total	U		41	100	µg/Kg-dry	1	04/12/14 18:44
Surr: 1,2-Dichloroethane-d4	100			70-130	%REC	1	04/12/14 18:44
Surr: 4-Bromofluorobenzene	90.6			70-130	%REC	1	04/12/14 18:44
Surr: Dibromofluoromethane	95.8			70-130	%REC	1	04/12/14 18:44
Surr: Toluene-d8	102			70-130	%REC	1	04/12/14 18:44

CYANIDE, TOTAL			SW9012A			Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: <u>57588</u>							
Cyanide, Total	0.061	J	0.027	0.58	mg/Kg-dry	1	04/16/14 16:03
MOISTURE			A2540 G				Analyst: AT
BatchID: <u>R138681</u>							

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-007
Collection Date: 04/02/14 11:00 AM

Work Order: 1404444
Lab ID: 1404444-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	14		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-008
Collection Date: 04/02/14 11:45 AM

Work Order: 1404444
Lab ID: 1404444-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
<u>BatchID: 57497</u>							
Mercury	0.19		0.00097	0.019	mg/Kg-dry	1	04/14/14 14:49
METALS BY ICP-MS							
			SW6020A			Prep: SW3050B / 4/11/14	Analyst: ML
<u>BatchID: 57469</u>							
Antimony	35		0.0090	2.2	mg/Kg-dry	5	04/12/14 07:11
Arsenic	18		0.31	0.90	mg/Kg-dry	5	04/12/14 07:11
Barium	600		0.063	2.2	mg/Kg-dry	5	04/12/14 07:11
Beryllium	0.43	J	0.018	0.90	mg/Kg-dry	5	04/12/14 07:11
Cadmium	16		0.0090	0.90	mg/Kg-dry	5	04/12/14 07:11
Chromium	49		0.37	2.2	mg/Kg-dry	5	04/12/14 07:11
Cobalt	19		0.0090	2.2	mg/Kg-dry	5	04/12/14 07:11
Copper	380		0.44	2.2	mg/Kg-dry	5	04/12/14 07:11
Nickel	89		0.22	2.2	mg/Kg-dry	5	04/12/14 07:11
Selenium	1.3	J	0.29	1.8	mg/Kg-dry	5	04/12/14 07:11
Silver	9.8		0.0090	0.90	mg/Kg-dry	5	04/12/14 07:11
Thallium	0.054	J	0.054	2.2	mg/Kg-dry	5	04/12/14 07:11
Vanadium	12		0.13	2.2	mg/Kg-dry	5	04/12/14 07:11
<u>BatchID: 57469</u>							
Aluminum	26,000		5.7	45	mg/Kg-dry	50	04/13/14 15:37
Iron	120,000		75	360	mg/Kg-dry	50	04/13/14 00:11
Lead	1,800		0.090	22	mg/Kg-dry	50	04/13/14 00:11
Manganese	830		2.0	22	mg/Kg-dry	50	04/13/14 00:11
Zinc	2,100		1.9	45	mg/Kg-dry	50	04/13/14 00:11
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270			Prep: SW3541 / 4/11/14	Analyst: RM
<u>BatchID: 57443</u>							
1,1'-Biphenyl	U		6.0	400	µg/Kg-dry	1	04/12/14 19:19
2,4,5-Trichlorophenol	U		10	190	µg/Kg-dry	1	04/12/14 19:19
2,4,6-Trichlorophenol	U		6.8	190	µg/Kg-dry	1	04/12/14 19:19
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	04/12/14 19:19
2,4-Dimethylphenol	U		65	400	µg/Kg-dry	1	04/12/14 19:19
2,4-Dinitrophenol	U		36	800	µg/Kg-dry	1	04/12/14 19:19
2,4-Dinitrotoluene	U		13	190	µg/Kg-dry	1	04/12/14 19:19
2,6-Dinitrotoluene	U		21	190	µg/Kg-dry	1	04/12/14 19:19
2-Chloronaphthalene	U		1.9	97	µg/Kg-dry	1	04/12/14 19:19
2-Chlorophenol	U		12	190	µg/Kg-dry	1	04/12/14 19:19
2-Methylnaphthalene	U		3.3	97	µg/Kg-dry	1	04/12/14 19:19
2-Methylphenol	U		16	190	µg/Kg-dry	1	04/12/14 19:19

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-008
Collection Date: 04/02/14 11:45 AM

Work Order: 1404444
Lab ID: 1404444-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	800	µg/Kg-dry	1	04/12/14 19:19
2-Nitrophenol	U		14	190	µg/Kg-dry	1	04/12/14 19:19
3,3'-Dichlorobenzidine	U		500	800	µg/Kg-dry	1	04/12/14 19:19
3-Nitroaniline	U		14	800	µg/Kg-dry	1	04/12/14 19:19
4,6-Dinitro-2-methylphenol	U		33	400	µg/Kg-dry	1	04/12/14 19:19
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	04/12/14 19:19
4-Chloro-3-methylphenol	U		9.3	190	µg/Kg-dry	1	04/12/14 19:19
4-Chloroaniline	U		12	400	µg/Kg-dry	1	04/12/14 19:19
4-Chlorophenyl phenyl ether	U		12	190	µg/Kg-dry	1	04/12/14 19:19
4-Methylphenol	U		19	190	µg/Kg-dry	1	04/12/14 19:19
4-Nitroaniline	U		11	800	µg/Kg-dry	1	04/12/14 19:19
4-Nitrophenol	U		8.0	800	µg/Kg-dry	1	04/12/14 19:19
Acenaphthene	77		1.2	36	µg/Kg-dry	1	04/12/14 19:19
Acenaphthylene	33	J	1.5	36	µg/Kg-dry	1	04/12/14 19:19
Acetophenone	U		6.0	400	µg/Kg-dry	1	04/12/14 19:19
Anthracene	420		1.6	36	µg/Kg-dry	1	04/12/14 19:19
Atrazine	U		12	61	µg/Kg-dry	1	04/12/14 19:19
Benzaldehyde	U		15	400	µg/Kg-dry	1	04/12/14 19:19
Benzo(a)anthracene	860		1.6	36	µg/Kg-dry	1	04/12/14 19:19
Benzo(a)pyrene	680		2.6	36	µg/Kg-dry	1	04/12/14 19:19
Benzo(b)fluoranthene	820		2.4	36	µg/Kg-dry	1	04/12/14 19:19
Benzo(g,h,i)perylene	410		3.2	36	µg/Kg-dry	1	04/12/14 19:19
Benzo(k)fluoranthene	350		1.7	36	µg/Kg-dry	1	04/12/14 19:19
Bis(2-chloroethoxy)methane	U		13	190	µg/Kg-dry	1	04/12/14 19:19
Bis(2-chloroethyl)ether	U		13	190	µg/Kg-dry	1	04/12/14 19:19
Bis(2-chloroisopropyl)ether	U		17	190	µg/Kg-dry	1	04/12/14 19:19
Bis(2-ethylhexyl)phthalate	390	J	13	400	µg/Kg-dry	1	04/12/14 19:19
Butyl benzyl phthalate	U		15	190	µg/Kg-dry	1	04/12/14 19:19
Caprolactam	U		18	400	µg/Kg-dry	1	04/12/14 19:19
Carbazole	97	J	12	190	µg/Kg-dry	1	04/12/14 19:19
Chrysene	800		1.9	36	µg/Kg-dry	1	04/12/14 19:19
Dibenzo(a,h)anthracene	140		3.0	36	µg/Kg-dry	1	04/12/14 19:19
Dibenzofuran	62	J	13	190	µg/Kg-dry	1	04/12/14 19:19
Diethyl phthalate	U		13	400	µg/Kg-dry	1	04/12/14 19:19
Dimethyl phthalate	U		14	400	µg/Kg-dry	1	04/12/14 19:19
Di-n-butyl phthalate	U		5.8	400	µg/Kg-dry	1	04/12/14 19:19
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	04/12/14 19:19
Fluoranthene	2,000		2.8	36	µg/Kg-dry	1	04/12/14 19:19
Fluorene	150		2.7	36	µg/Kg-dry	1	04/12/14 19:19
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	04/12/14 19:19

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-008
Collection Date: 04/02/14 11:45 AM

Work Order: 1404444
Lab ID: 1404444-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	61	µg/Kg-dry	1	04/12/14 19:19
Hexachlorocyclopentadiene	U		13	400	µg/Kg-dry	1	04/12/14 19:19
Hexachloroethane	U		19	190	µg/Kg-dry	1	04/12/14 19:19
Indeno(1,2,3-cd)pyrene	490		2.7	36	µg/Kg-dry	1	04/12/14 19:19
Isophorone	U		13	190	µg/Kg-dry	1	04/12/14 19:19
Naphthalene	27	J	3.0	36	µg/Kg-dry	1	04/12/14 19:19
Nitrobenzene	U		16	190	µg/Kg-dry	1	04/12/14 19:19
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	04/12/14 19:19
N-Nitrosodiphenylamine	U		72	190	µg/Kg-dry	1	04/12/14 19:19
Pentachlorophenol	U		7.8	24	µg/Kg-dry	1	04/12/14 19:19
Phenanthrene	1,500		1.6	36	µg/Kg-dry	1	04/12/14 19:19
Phenol	U		14	190	µg/Kg-dry	1	04/12/14 19:19
Pyrene	1,600		2.7	36	µg/Kg-dry	1	04/12/14 19:19
Surr: 2,4,6-Tribromophenol	65.8			34-140	%REC	1	04/12/14 19:19
Surr: 2-Fluorobiphenyl	57.9			12-100	%REC	1	04/12/14 19:19
Surr: 2-Fluorophenol	61.7			33-117	%REC	1	04/12/14 19:19
Surr: 4-Terphenyl-d14	69.5			25-137	%REC	1	04/12/14 19:19
Surr: Nitrobenzene-d5	56.8			37-107	%REC	1	04/12/14 19:19
Surr: Phenol-d6	60.2			40-106	%REC	1	04/12/14 19:19
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: RS
BatchID: 57410							
1,1,1-Trichloroethane	U		20	52	µg/Kg-dry	1	04/12/14 19:09
1,1,2,2-Tetrachloroethane	U		23	52	µg/Kg-dry	1	04/12/14 19:09
1,1,2-Trichloroethane	U		18	52	µg/Kg-dry	1	04/12/14 19:09
1,1,2-Trichlorotrifluoroethane	U		19	52	µg/Kg-dry	1	04/12/14 19:09
1,1-Dichloroethane	U		19	52	µg/Kg-dry	1	04/12/14 19:09
1,1-Dichloroethene	U		22	52	µg/Kg-dry	1	04/12/14 19:09
1,2,4-Trichlorobenzene	U		27	52	µg/Kg-dry	1	04/12/14 19:09
1,2-Dibromo-3-chloropropane	U		25	52	µg/Kg-dry	1	04/12/14 19:09
1,2-Dibromoethane	U		20	52	µg/Kg-dry	1	04/12/14 19:09
1,2-Dichlorobenzene	U		21	52	µg/Kg-dry	1	04/12/14 19:09
1,2-Dichloroethane	U		24	52	µg/Kg-dry	1	04/12/14 19:09
1,2-Dichloropropane	U		17	52	µg/Kg-dry	1	04/12/14 19:09
1,3-Dichlorobenzene	U		21	52	µg/Kg-dry	1	04/12/14 19:09
1,4-Dichlorobenzene	U		20	52	µg/Kg-dry	1	04/12/14 19:09
2-Butanone	U		130	340	µg/Kg-dry	1	04/12/14 19:09
2-Hexanone	U		13	52	µg/Kg-dry	1	04/12/14 19:09
4-Methyl-2-pentanone	U		17	52	µg/Kg-dry	1	04/12/14 19:09
Acetone	U		110	170	µg/Kg-dry	1	04/12/14 19:09

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-008
Collection Date: 04/02/14 11:45 AM

Work Order: 1404444
Lab ID: 1404444-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		21	52	µg/Kg-dry	1	04/12/14 19:09
Bromodichloromethane	U		12	52	µg/Kg-dry	1	04/12/14 19:09
Bromoform	U		10	52	µg/Kg-dry	1	04/12/14 19:09
Bromomethane	U		20	130	µg/Kg-dry	1	04/12/14 19:09
Carbon disulfide	U		26	52	µg/Kg-dry	1	04/12/14 19:09
Carbon tetrachloride	U		15	52	µg/Kg-dry	1	04/12/14 19:09
Chlorobenzene	U		21	52	µg/Kg-dry	1	04/12/14 19:09
Chloroethane	U		110	170	µg/Kg-dry	1	04/12/14 19:09
Chloroform	U		21	52	µg/Kg-dry	1	04/12/14 19:09
Chloromethane	100	J	29	170	µg/Kg-dry	1	04/12/14 19:09
cis-1,2-Dichloroethene	U		21	52	µg/Kg-dry	1	04/12/14 19:09
cis-1,3-Dichloropropene	U		18	52	µg/Kg-dry	1	04/12/14 19:09
Cyclohexane	U		23	52	µg/Kg-dry	1	04/12/14 19:09
Dibromochloromethane	U		9.5	52	µg/Kg-dry	1	04/12/14 19:09
Dichlorodifluoromethane	U		23	52	µg/Kg-dry	1	04/12/14 19:09
Ethylbenzene	73		19	52	µg/Kg-dry	1	04/12/14 19:09
Isopropylbenzene	U		22	52	µg/Kg-dry	1	04/12/14 19:09
Methyl acetate	260	J	69	340	µg/Kg-dry	1	04/12/14 19:09
Methyl tert-butyl ether	U		22	52	µg/Kg-dry	1	04/12/14 19:09
Methylcyclohexane	U		24	52	µg/Kg-dry	1	04/12/14 19:09
Methylene chloride	U		20	52	µg/Kg-dry	1	04/12/14 19:09
Styrene	U		19	52	µg/Kg-dry	1	04/12/14 19:09
Tetrachloroethene	240		23	52	µg/Kg-dry	1	04/12/14 19:09
Toluene	46	J	19	52	µg/Kg-dry	1	04/12/14 19:09
trans-1,2-Dichloroethene	U		16	52	µg/Kg-dry	1	04/12/14 19:09
trans-1,3-Dichloropropene	U		17	52	µg/Kg-dry	1	04/12/14 19:09
Trichloroethene	U		24	52	µg/Kg-dry	1	04/12/14 19:09
Trichlorofluoromethane	U		14	52	µg/Kg-dry	1	04/12/14 19:09
Vinyl chloride	U		23	52	µg/Kg-dry	1	04/12/14 19:09
Xylenes, Total	120	J	61	150	µg/Kg-dry	1	04/12/14 19:09
Surr: 1,2-Dichloroethane-d4	98.8			70-130	%REC	1	04/12/14 19:09
Surr: 4-Bromofluorobenzene	92.4			70-130	%REC	1	04/12/14 19:09
Surr: Dibromofluoromethane	95.0			70-130	%REC	1	04/12/14 19:09
Surr: Toluene-d8	102			70-130	%REC	1	04/12/14 19:09

CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: <u>57588</u>						
Cyanide, Total	0.51	J	0.028	0.61	mg/Kg-dry	04/16/14 16:03
MOISTURE			A2540 G			Analyst: AT
BatchID: <u>R138681</u>						

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-008
Collection Date: 04/02/14 11:45 AM

Work Order: 1404444
Lab ID: 1404444-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	19		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-009
Collection Date: 04/02/14 01:00 PM

Work Order: 1404444
Lab ID: 1404444-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
<u>BatchID: 57497</u>							
Mercury	0.18		0.00086	0.017	mg/Kg-dry	1	04/14/14 14:51
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/11/14	Analyst: ML
<u>BatchID: 57469</u>							
Antimony	3.3		0.0090	2.3	mg/Kg-dry	5	04/12/14 07:17
Arsenic	12		0.31	0.90	mg/Kg-dry	5	04/12/14 07:17
Barium	150		0.063	2.3	mg/Kg-dry	5	04/12/14 07:17
Beryllium	0.36	J	0.018	0.90	mg/Kg-dry	5	04/12/14 07:17
Cadmium	2.6		0.0090	0.90	mg/Kg-dry	5	04/12/14 07:17
Chromium	91		0.37	2.3	mg/Kg-dry	5	04/12/14 07:17
Cobalt	4.8		0.0090	2.3	mg/Kg-dry	5	04/12/14 07:17
Copper	53		0.44	2.3	mg/Kg-dry	5	04/12/14 07:17
Iron	14,000		7.5	36	mg/Kg-dry	5	04/12/14 07:17
Lead	290		0.0090	2.3	mg/Kg-dry	5	04/12/14 07:17
Manganese	460		0.20	2.3	mg/Kg-dry	5	04/12/14 07:17
Nickel	16		0.23	2.3	mg/Kg-dry	5	04/12/14 07:17
Selenium	0.76	J	0.29	1.8	mg/Kg-dry	5	04/12/14 07:17
Silver	0.93		0.0090	0.90	mg/Kg-dry	5	04/12/14 07:17
Thallium	0.20	J	0.054	2.3	mg/Kg-dry	5	04/12/14 07:17
Vanadium	11		0.14	2.3	mg/Kg-dry	5	04/12/14 07:17
<u>BatchID: 57469</u>							
Aluminum	4,800		5.7	45	mg/Kg-dry	50	04/13/14 15:43
Zinc	2,900		1.9	45	mg/Kg-dry	50	04/13/14 00:16
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/11/14	Analyst: RM
<u>BatchID: 57443</u>							
1,1'-Biphenyl	U		5.6	370	µg/Kg-dry	1	04/12/14 19:40
2,4,5-Trichlorophenol	U		9.4	180	µg/Kg-dry	1	04/12/14 19:40
2,4,6-Trichlorophenol	U		6.4	180	µg/Kg-dry	1	04/12/14 19:40
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	04/12/14 19:40
2,4-Dimethylphenol	U		61	370	µg/Kg-dry	1	04/12/14 19:40
2,4-Dinitrophenol	U		34	750	µg/Kg-dry	1	04/12/14 19:40
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	04/12/14 19:40
2,6-Dinitrotoluene	U		20	180	µg/Kg-dry	1	04/12/14 19:40
2-Chloronaphthalene	U		1.8	91	µg/Kg-dry	1	04/12/14 19:40
2-Chlorophenol	U		11	180	µg/Kg-dry	1	04/12/14 19:40
2-Methylnaphthalene	77	J	3.1	91	µg/Kg-dry	1	04/12/14 19:40
2-Methylphenol	U		15	180	µg/Kg-dry	1	04/12/14 19:40

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-009
Collection Date: 04/02/14 01:00 PM

Work Order: 1404444
Lab ID: 1404444-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		15	750	µg/Kg-dry	1	04/12/14 19:40
2-Nitrophenol	U		13	180	µg/Kg-dry	1	04/12/14 19:40
3,3'-Dichlorobenzidine	U		470	750	µg/Kg-dry	1	04/12/14 19:40
3-Nitroaniline	U		13	750	µg/Kg-dry	1	04/12/14 19:40
4,6-Dinitro-2-methylphenol	370	J	31	370	µg/Kg-dry	1	04/12/14 19:40
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	04/12/14 19:40
4-Chloro-3-methylphenol	U		8.7	180	µg/Kg-dry	1	04/12/14 19:40
4-Chloroaniline	U		11	370	µg/Kg-dry	1	04/12/14 19:40
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	04/12/14 19:40
4-Methylphenol	U		18	180	µg/Kg-dry	1	04/12/14 19:40
4-Nitroaniline	U		10	750	µg/Kg-dry	1	04/12/14 19:40
4-Nitrophenol	U		7.5	750	µg/Kg-dry	1	04/12/14 19:40
Acenaphthene	110		1.1	34	µg/Kg-dry	1	04/12/14 19:40
Acenaphthylene	100		1.4	34	µg/Kg-dry	1	04/12/14 19:40
Acetophenone	U		5.6	370	µg/Kg-dry	1	04/12/14 19:40
Anthracene	330		1.5	34	µg/Kg-dry	1	04/12/14 19:40
Atrazine	U		11	57	µg/Kg-dry	1	04/12/14 19:40
Benzaldehyde	U		14	370	µg/Kg-dry	1	04/12/14 19:40
Benzo(a)anthracene	1,700		1.5	34	µg/Kg-dry	1	04/12/14 19:40
Benzo(a)pyrene	1,700		2.5	34	µg/Kg-dry	1	04/12/14 19:40
Benzo(b)fluoranthene	1,700		2.2	34	µg/Kg-dry	1	04/12/14 19:40
Benzo(g,h,i)perylene	1,500		3.0	34	µg/Kg-dry	1	04/12/14 19:40
Benzo(k)fluoranthene	560		1.6	34	µg/Kg-dry	1	04/12/14 19:40
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	04/12/14 19:40
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	04/12/14 19:40
Bis(2-chloroisopropyl)ether	U		16	180	µg/Kg-dry	1	04/12/14 19:40
Bis(2-ethylhexyl)phthalate	470		12	370	µg/Kg-dry	1	04/12/14 19:40
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	04/12/14 19:40
Caprolactam	U		16	370	µg/Kg-dry	1	04/12/14 19:40
Carbazole	180	J	11	180	µg/Kg-dry	1	04/12/14 19:40
Dibenzo(a,h)anthracene	340		2.8	34	µg/Kg-dry	1	04/12/14 19:40
Dibenzofuran	96	J	12	180	µg/Kg-dry	1	04/12/14 19:40
Diethyl phthalate	U		12	370	µg/Kg-dry	1	04/12/14 19:40
Dimethyl phthalate	U		13	370	µg/Kg-dry	1	04/12/14 19:40
Di-n-butyl phthalate	U		5.5	370	µg/Kg-dry	1	04/12/14 19:40
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	04/12/14 19:40
Fluorene	210		2.5	34	µg/Kg-dry	1	04/12/14 19:40
Hexachlorobenzene	U		11	180	µg/Kg-dry	1	04/12/14 19:40
Hexachlorobutadiene	U		13	57	µg/Kg-dry	1	04/12/14 19:40
Hexachlorocyclopentadiene	U		12	370	µg/Kg-dry	1	04/12/14 19:40

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-009
Collection Date: 04/02/14 01:00 PM

Work Order: 1404444
Lab ID: 1404444-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachloroethane	U		18	180	µg/Kg-dry	1	04/12/14 19:40
Indeno(1,2,3-cd)pyrene	1,000		2.5	34	µg/Kg-dry	1	04/12/14 19:40
Isophorone	U		13	180	µg/Kg-dry	1	04/12/14 19:40
Naphthalene	110		2.8	34	µg/Kg-dry	1	04/12/14 19:40
Nitrobenzene	U		15	180	µg/Kg-dry	1	04/12/14 19:40
N-Nitrosodi-n-propylamine	U		14	180	µg/Kg-dry	1	04/12/14 19:40
N-Nitrosodiphenylamine	U		67	180	µg/Kg-dry	1	04/12/14 19:40
Phenanthrene	1,700		1.5	34	µg/Kg-dry	1	04/12/14 19:40
Phenol	U		13	180	µg/Kg-dry	1	04/12/14 19:40
Surr: 2,4,6-Tribromophenol	77.8			34-140	%REC	1	04/12/14 19:40
Surr: 2-Fluorobiphenyl	64.3			12-100	%REC	1	04/12/14 19:40
Surr: 2-Fluorophenol	68.5			33-117	%REC	1	04/12/14 19:40
Surr: 4-Terphenyl-d14	71.2			25-137	%REC	1	04/12/14 19:40
Surr: Nitrobenzene-d5	62.6			37-107	%REC	1	04/12/14 19:40
Surr: Phenol-d6	69.0			40-106	%REC	1	04/12/14 19:40
BatchID: 57443							
Chrysene	2,400		7.2	140	µg/Kg-dry	4	04/15/14 00:24
Fluoranthene	2,500		11	140	µg/Kg-dry	4	04/15/14 00:24
Pentachlorophenol	2,200		29	91	µg/Kg-dry	4	04/15/14 00:24
Pyrene	3,200		10	140	µg/Kg-dry	4	04/15/14 00:24
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: BG
BatchID: 57410							
1,1,1-Trichloroethane	U		17	46	µg/Kg-dry	1	04/13/14 15:26
1,1,2,2-Tetrachloroethane	U		20	46	µg/Kg-dry	1	04/13/14 15:26
1,1,2-Trichloroethane	U		16	46	µg/Kg-dry	1	04/13/14 15:26
1,1,2-Trichlorotrifluoroethane	U		17	46	µg/Kg-dry	1	04/13/14 15:26
1,1-Dichloroethane	U		17	46	µg/Kg-dry	1	04/13/14 15:26
1,1-Dichloroethene	U		19	46	µg/Kg-dry	1	04/13/14 15:26
1,2,4-Trichlorobenzene	U		24	46	µg/Kg-dry	1	04/13/14 15:26
1,2-Dibromo-3-chloropropane	U		22	46	µg/Kg-dry	1	04/13/14 15:26
1,2-Dibromoethane	U		18	46	µg/Kg-dry	1	04/13/14 15:26
1,2-Dichlorobenzene	U		18	46	µg/Kg-dry	1	04/13/14 15:26
1,2-Dichloroethane	U		22	46	µg/Kg-dry	1	04/13/14 15:26
1,2-Dichloropropane	U		15	46	µg/Kg-dry	1	04/13/14 15:26
1,3-Dichlorobenzene	U		18	46	µg/Kg-dry	1	04/13/14 15:26
1,4-Dichlorobenzene	U		17	46	µg/Kg-dry	1	04/13/14 15:26
2-Butanone	U		110	300	µg/Kg-dry	1	04/13/14 15:26
2-Hexanone	U		11	46	µg/Kg-dry	1	04/13/14 15:26
4-Methyl-2-pentanone	U		15	46	µg/Kg-dry	1	04/13/14 15:26

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-009
Collection Date: 04/02/14 01:00 PM

Work Order: 1404444
Lab ID: 1404444-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetone	U		96	150	µg/Kg-dry	1	04/13/14 15:26
Benzene	U		18	46	µg/Kg-dry	1	04/13/14 15:26
Bromodichloromethane	U		10	46	µg/Kg-dry	1	04/13/14 15:26
Bromoform	U		9.0	46	µg/Kg-dry	1	04/13/14 15:26
Bromomethane	U		17	110	µg/Kg-dry	1	04/13/14 15:26
Carbon disulfide	U		23	46	µg/Kg-dry	1	04/13/14 15:26
Carbon tetrachloride	U		13	46	µg/Kg-dry	1	04/13/14 15:26
Chlorobenzene	U		19	46	µg/Kg-dry	1	04/13/14 15:26
Chloroethane	U		97	150	µg/Kg-dry	1	04/13/14 15:26
Chloroform	U		19	46	µg/Kg-dry	1	04/13/14 15:26
Chloromethane	U		25	150	µg/Kg-dry	1	04/13/14 15:26
cis-1,2-Dichloroethene	U		18	46	µg/Kg-dry	1	04/13/14 15:26
cis-1,3-Dichloropropene	U		16	46	µg/Kg-dry	1	04/13/14 15:26
Cyclohexane	U		20	46	µg/Kg-dry	1	04/13/14 15:26
Dibromochloromethane	U		8.4	46	µg/Kg-dry	1	04/13/14 15:26
Dichlorodifluoromethane	U		21	46	µg/Kg-dry	1	04/13/14 15:26
Ethylbenzene	U		17	46	µg/Kg-dry	1	04/13/14 15:26
Isopropylbenzene	U		20	46	µg/Kg-dry	1	04/13/14 15:26
Methyl acetate	U		61	300	µg/Kg-dry	1	04/13/14 15:26
Methyl tert-butyl ether	U		19	46	µg/Kg-dry	1	04/13/14 15:26
Methylcyclohexane	U		21	46	µg/Kg-dry	1	04/13/14 15:26
Methylene chloride	U		18	46	µg/Kg-dry	1	04/13/14 15:26
Styrene	U		17	46	µg/Kg-dry	1	04/13/14 15:26
Tetrachloroethene	U		20	46	µg/Kg-dry	1	04/13/14 15:26
Toluene	U		17	46	µg/Kg-dry	1	04/13/14 15:26
trans-1,2-Dichloroethene	U		14	46	µg/Kg-dry	1	04/13/14 15:26
trans-1,3-Dichloropropene	U		15	46	µg/Kg-dry	1	04/13/14 15:26
Trichloroethene	U		21	46	µg/Kg-dry	1	04/13/14 15:26
Trichlorofluoromethane	U		13	46	µg/Kg-dry	1	04/13/14 15:26
Vinyl chloride	U		21	46	µg/Kg-dry	1	04/13/14 15:26
Xylenes, Total	U		54	140	µg/Kg-dry	1	04/13/14 15:26
Surr: 1,2-Dichloroethane-d4	96.4			70-130	%REC	1	04/13/14 15:26
Surr: 4-Bromofluorobenzene	96.2			70-130	%REC	1	04/13/14 15:26
Surr: Dibromofluoromethane	99.4			70-130	%REC	1	04/13/14 15:26
Surr: Toluene-d8	99.4			70-130	%REC	1	04/13/14 15:26
CYANIDE, TOTAL			SW9012A			Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: 57588							
Cyanide, Total	0.23	J	0.027	0.58	mg/Kg-dry	1	04/16/14 16:03
MOISTURE			A2540 G				Analyst: AT

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-009
Collection Date: 04/02/14 01:00 PM

Work Order: 1404444
Lab ID: 1404444-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID: R138681</u>							
Moisture	14		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-010
Collection Date: 04/02/14 03:30 PM

Work Order: 1404444
Lab ID: 1404444-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
<u>BatchID: 57497</u>							
Mercury	0.019		0.00085	0.017	mg/Kg-dry	1	04/14/14 14:53
METALS BY ICP-MS							
			SW6020A			Prep: SW3050B / 4/12/14	Analyst: RH
<u>BatchID: 57490</u>							
Antimony	0.16	J	0.0083	2.1	mg/Kg-dry	5	04/13/14 20:59
Arsenic	22		0.28	0.83	mg/Kg-dry	5	04/13/14 20:59
Barium	21		0.058	2.1	mg/Kg-dry	5	04/13/14 20:59
Beryllium	0.28	J	0.017	0.83	mg/Kg-dry	5	04/13/14 20:59
Cadmium	0.10	J	0.0083	0.83	mg/Kg-dry	5	04/13/14 20:59
Chromium	10		0.34	2.1	mg/Kg-dry	5	04/13/14 20:59
Cobalt	3.2		0.0083	2.1	mg/Kg-dry	5	04/13/14 20:59
Copper	5.5		0.41	2.1	mg/Kg-dry	5	04/13/14 20:59
Iron	37,000		6.9	33	mg/Kg-dry	5	04/13/14 20:59
Lead	5.0		0.0083	2.1	mg/Kg-dry	5	04/13/14 20:59
Manganese	250		0.18	2.1	mg/Kg-dry	5	04/13/14 20:59
Nickel	7.6		0.21	2.1	mg/Kg-dry	5	04/13/14 20:59
Selenium	0.62	J	0.27	1.7	mg/Kg-dry	5	04/13/14 20:59
Silver	0.061	J	0.0083	0.83	mg/Kg-dry	5	04/13/14 20:59
Thallium	0.12	J	0.050	2.1	mg/Kg-dry	5	04/13/14 20:59
Vanadium	17		0.12	2.1	mg/Kg-dry	5	04/13/14 20:59
Zinc	22		0.17	4.2	mg/Kg-dry	5	04/13/14 20:59
<u>BatchID: 57490</u>							
Aluminum	3,900		5.2	42	mg/Kg-dry	50	04/15/14 14:03
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270			Prep: SW3541 / 4/11/14	Analyst: RM
<u>BatchID: 57443</u>							
1,1'-Biphenyl	U		5.9	390	µg/Kg-dry	1	04/12/14 20:00
2,4,5-Trichlorophenol	U		9.9	190	µg/Kg-dry	1	04/12/14 20:00
2,4,6-Trichlorophenol	U		6.7	190	µg/Kg-dry	1	04/12/14 20:00
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	04/12/14 20:00
2,4-Dimethylphenol	U		64	390	µg/Kg-dry	1	04/12/14 20:00
2,4-Dinitrophenol	U		36	790	µg/Kg-dry	1	04/12/14 20:00
2,4-Dinitrotoluene	U		13	190	µg/Kg-dry	1	04/12/14 20:00
2,6-Dinitrotoluene	U		21	190	µg/Kg-dry	1	04/12/14 20:00
2-Chloronaphthalene	U		1.9	95	µg/Kg-dry	1	04/12/14 20:00
2-Chlorophenol	U		12	190	µg/Kg-dry	1	04/12/14 20:00
2-Methylnaphthalene	U		3.3	95	µg/Kg-dry	1	04/12/14 20:00
2-Methylphenol	U		16	190	µg/Kg-dry	1	04/12/14 20:00

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-010
Collection Date: 04/02/14 03:30 PM

Work Order: 1404444
Lab ID: 1404444-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		15	790	µg/Kg-dry	1	04/12/14 20:00
2-Nitrophenol	U		13	190	µg/Kg-dry	1	04/12/14 20:00
3,3'-Dichlorobenzidine	U		490	790	µg/Kg-dry	1	04/12/14 20:00
3-Nitroaniline	U		13	790	µg/Kg-dry	1	04/12/14 20:00
4,6-Dinitro-2-methylphenol	U		33	390	µg/Kg-dry	1	04/12/14 20:00
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	04/12/14 20:00
4-Chloro-3-methylphenol	U		9.2	190	µg/Kg-dry	1	04/12/14 20:00
4-Chloroaniline	U		12	390	µg/Kg-dry	1	04/12/14 20:00
4-Chlorophenyl phenyl ether	U		12	190	µg/Kg-dry	1	04/12/14 20:00
4-Methylphenol	U		19	190	µg/Kg-dry	1	04/12/14 20:00
4-Nitroaniline	U		11	790	µg/Kg-dry	1	04/12/14 20:00
4-Nitrophenol	U		7.9	790	µg/Kg-dry	1	04/12/14 20:00
Acenaphthene	U		1.2	36	µg/Kg-dry	1	04/12/14 20:00
Acenaphthylene	U		1.4	36	µg/Kg-dry	1	04/12/14 20:00
Acetophenone	U		5.9	390	µg/Kg-dry	1	04/12/14 20:00
Anthracene	U		1.6	36	µg/Kg-dry	1	04/12/14 20:00
Atrazine	U		12	60	µg/Kg-dry	1	04/12/14 20:00
Benzaldehyde	U		15	390	µg/Kg-dry	1	04/12/14 20:00
Benzo(a)anthracene	U		1.6	36	µg/Kg-dry	1	04/12/14 20:00
Benzo(a)pyrene	U		2.6	36	µg/Kg-dry	1	04/12/14 20:00
Benzo(b)fluoranthene	U		2.3	36	µg/Kg-dry	1	04/12/14 20:00
Benzo(g,h,i)perylene	U		3.1	36	µg/Kg-dry	1	04/12/14 20:00
Benzo(k)fluoranthene	U		1.7	36	µg/Kg-dry	1	04/12/14 20:00
Bis(2-chloroethoxy)methane	U		12	190	µg/Kg-dry	1	04/12/14 20:00
Bis(2-chloroethyl)ether	U		12	190	µg/Kg-dry	1	04/12/14 20:00
Bis(2-chloroisopropyl)ether	U		17	190	µg/Kg-dry	1	04/12/14 20:00
Bis(2-ethylhexyl)phthalate	U		13	390	µg/Kg-dry	1	04/12/14 20:00
Butyl benzyl phthalate	U		15	190	µg/Kg-dry	1	04/12/14 20:00
Caprolactam	U		17	390	µg/Kg-dry	1	04/12/14 20:00
Carbazole	U		12	190	µg/Kg-dry	1	04/12/14 20:00
Chrysene	U		1.9	36	µg/Kg-dry	1	04/12/14 20:00
Dibenzo(a,h)anthracene	U		3.0	36	µg/Kg-dry	1	04/12/14 20:00
Dibenzofuran	U		12	190	µg/Kg-dry	1	04/12/14 20:00
Diethyl phthalate	U		13	390	µg/Kg-dry	1	04/12/14 20:00
Dimethyl phthalate	U		13	390	µg/Kg-dry	1	04/12/14 20:00
Di-n-butyl phthalate	U		5.7	390	µg/Kg-dry	1	04/12/14 20:00
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	04/12/14 20:00
Fluoranthene	U		2.8	36	µg/Kg-dry	1	04/12/14 20:00
Fluorene	U		2.7	36	µg/Kg-dry	1	04/12/14 20:00
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	04/12/14 20:00

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-010
Collection Date: 04/02/14 03:30 PM

Work Order: 1404444
Lab ID: 1404444-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		13	60	µg/Kg-dry	1	04/12/14 20:00
Hexachlorocyclopentadiene	U		12	390	µg/Kg-dry	1	04/12/14 20:00
Hexachloroethane	U		18	190	µg/Kg-dry	1	04/12/14 20:00
Indeno(1,2,3-cd)pyrene	U		2.6	36	µg/Kg-dry	1	04/12/14 20:00
Isophorone	U		13	190	µg/Kg-dry	1	04/12/14 20:00
Naphthalene	U		2.9	36	µg/Kg-dry	1	04/12/14 20:00
Nitrobenzene	U		15	190	µg/Kg-dry	1	04/12/14 20:00
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	04/12/14 20:00
N-Nitrosodiphenylamine	U		71	190	µg/Kg-dry	1	04/12/14 20:00
Pentachlorophenol	U		7.7	24	µg/Kg-dry	1	04/12/14 20:00
Phenanthrene	U		1.6	36	µg/Kg-dry	1	04/12/14 20:00
Phenol	U		14	190	µg/Kg-dry	1	04/12/14 20:00
Pyrene	U		2.7	36	µg/Kg-dry	1	04/12/14 20:00
Surr: 2,4,6-Tribromophenol	82.4			34-140	%REC	1	04/12/14 20:00
Surr: 2-Fluorobiphenyl	70.8			12-100	%REC	1	04/12/14 20:00
Surr: 2-Fluorophenol	79.4			33-117	%REC	1	04/12/14 20:00
Surr: 4-Terphenyl-d14	86.4			25-137	%REC	1	04/12/14 20:00
Surr: Nitrobenzene-d5	71.0			37-107	%REC	1	04/12/14 20:00
Surr: Phenol-d6	75.8			40-106	%REC	1	04/12/14 20:00
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: BG
BatchID: 57410							
1,1,1-Trichloroethane	U		14	38	µg/Kg-dry	1	04/13/14 15:51
1,1,2,2-Tetrachloroethane	U		17	38	µg/Kg-dry	1	04/13/14 15:51
1,1,2-Trichloroethane	U		13	38	µg/Kg-dry	1	04/13/14 15:51
1,1,2-Trichlorotrifluoroethane	U		14	38	µg/Kg-dry	1	04/13/14 15:51
1,1-Dichloroethane	U		14	38	µg/Kg-dry	1	04/13/14 15:51
1,1-Dichloroethene	U		16	38	µg/Kg-dry	1	04/13/14 15:51
1,2,4-Trichlorobenzene	U		20	38	µg/Kg-dry	1	04/13/14 15:51
1,2-Dibromo-3-chloropropane	U		18	38	µg/Kg-dry	1	04/13/14 15:51
1,2-Dibromoethane	U		15	38	µg/Kg-dry	1	04/13/14 15:51
1,2-Dichlorobenzene	U		15	38	µg/Kg-dry	1	04/13/14 15:51
1,2-Dichloroethane	U		18	38	µg/Kg-dry	1	04/13/14 15:51
1,2-Dichloropropane	U		13	38	µg/Kg-dry	1	04/13/14 15:51
1,3-Dichlorobenzene	U		15	38	µg/Kg-dry	1	04/13/14 15:51
1,4-Dichlorobenzene	U		14	38	µg/Kg-dry	1	04/13/14 15:51
2-Butanone	U		94	250	µg/Kg-dry	1	04/13/14 15:51
2-Hexanone	U		9.3	38	µg/Kg-dry	1	04/13/14 15:51
4-Methyl-2-pentanone	U		13	38	µg/Kg-dry	1	04/13/14 15:51
Acetone	240	J	80	250	µg/Kg-dry	1	04/13/14 15:51

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-010
Collection Date: 04/02/14 03:30 PM

Work Order: 1404444
Lab ID: 1404444-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		15	38	µg/Kg-dry	1	04/13/14 15:51
Bromodichloromethane	U		8.5	38	µg/Kg-dry	1	04/13/14 15:51
Bromoform	U		7.5	38	µg/Kg-dry	1	04/13/14 15:51
Bromomethane	U		14	95	µg/Kg-dry	1	04/13/14 15:51
Carbon disulfide	38	J	19	44	µg/Kg-dry	1	04/13/14 15:51
Carbon tetrachloride	U		11	38	µg/Kg-dry	1	04/13/14 15:51
Chlorobenzene	U		15	38	µg/Kg-dry	1	04/13/14 15:51
Chloroethane	U		80	130	µg/Kg-dry	1	04/13/14 15:51
Chloroform	U		16	38	µg/Kg-dry	1	04/13/14 15:51
Chloromethane	U		21	130	µg/Kg-dry	1	04/13/14 15:51
cis-1,2-Dichloroethene	U		15	38	µg/Kg-dry	1	04/13/14 15:51
cis-1,3-Dichloropropene	U		13	38	µg/Kg-dry	1	04/13/14 15:51
Cyclohexane	U		17	38	µg/Kg-dry	1	04/13/14 15:51
Dibromochloromethane	U		7.0	38	µg/Kg-dry	1	04/13/14 15:51
Dichlorodifluoromethane	U		17	38	µg/Kg-dry	1	04/13/14 15:51
Ethylbenzene	44		14	38	µg/Kg-dry	1	04/13/14 15:51
Isopropylbenzene	25	J	16	38	µg/Kg-dry	1	04/13/14 15:51
Methyl acetate	180	J	51	250	µg/Kg-dry	1	04/13/14 15:51
Methyl tert-butyl ether	U		16	38	µg/Kg-dry	1	04/13/14 15:51
Methylcyclohexane	57	J	18	63	µg/Kg-dry	1	04/13/14 15:51
Methylene chloride	U		15	38	µg/Kg-dry	1	04/13/14 15:51
Styrene	U		14	38	µg/Kg-dry	1	04/13/14 15:51
Tetrachloroethene	U		17	38	µg/Kg-dry	1	04/13/14 15:51
Toluene	28	J	14	38	µg/Kg-dry	1	04/13/14 15:51
trans-1,2-Dichloroethene	U		12	38	µg/Kg-dry	1	04/13/14 15:51
trans-1,3-Dichloropropene	U		13	38	µg/Kg-dry	1	04/13/14 15:51
Trichloroethene	U		18	38	µg/Kg-dry	1	04/13/14 15:51
Trichlorofluoromethane	U		10	38	µg/Kg-dry	1	04/13/14 15:51
Vinyl chloride	U		17	38	µg/Kg-dry	1	04/13/14 15:51
Xylenes, Total	130		45	110	µg/Kg-dry	1	04/13/14 15:51
Surr: 1,2-Dichloroethane-d4	96.8			70-130	%REC	1	04/13/14 15:51
Surr: 4-Bromofluorobenzene	96.2			70-130	%REC	1	04/13/14 15:51
Surr: Dibromofluoromethane	100			70-130	%REC	1	04/13/14 15:51
Surr: Toluene-d8	98.4			70-130	%REC	1	04/13/14 15:51

CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: <u>57588</u>						
Cyanide, Total	0.056	J	0.028	0.60	mg/Kg-dry	04/16/14 16:03
MOISTURE			A2540 G			Analyst: AT
BatchID: <u>R138681</u>						

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040214-ACN-010
Collection Date: 04/02/14 03:30 PM

Work Order: 1404444
Lab ID: 1404444-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	17		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 04/02/14

Work Order: 1404444
Lab ID: 1404444-05
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: RS
<u>BatchID: R138835</u>							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/14/14 17:10
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/14/14 17:10
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/14/14 17:10
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/14/14 17:10
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/14/14 17:10
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/14/14 17:10
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/14/14 17:10
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/14/14 17:10
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/14/14 17:10
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/14/14 17:10
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/14/14 17:10
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/14/14 17:10
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/14/14 17:10
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/14/14 17:10
2-Butanone	U		0.64	25	µg/L	1	04/14/14 17:10
2-Hexanone	U		0.19	50	µg/L	1	04/14/14 17:10
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/14/14 17:10
Acetone	U		3.0	50	µg/L	1	04/14/14 17:10
Benzene	U		0.14	1.0	µg/L	1	04/14/14 17:10
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/14/14 17:10
Bromoform	U		0.18	1.0	µg/L	1	04/14/14 17:10
Bromomethane	U		0.38	5.0	µg/L	1	04/14/14 17:10
Carbon disulfide	U		0.26	5.0	µg/L	1	04/14/14 17:10
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/14/14 17:10
Chlorobenzene	U		0.12	1.0	µg/L	1	04/14/14 17:10
Chloroethane	U		0.25	5.0	µg/L	1	04/14/14 17:10
Chloroform	U		0.15	1.0	µg/L	1	04/14/14 17:10
Chloromethane	U		0.29	5.0	µg/L	1	04/14/14 17:10
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/14/14 17:10
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/14/14 17:10
Cyclohexane	U		0.20	1.0	µg/L	1	04/14/14 17:10
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/14/14 17:10
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/14/14 17:10
Ethylbenzene	U		0.12	1.0	µg/L	1	04/14/14 17:10
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/14/14 17:10
Methyl acetate	U		0.76	10	µg/L	1	04/14/14 17:10
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/14/14 17:10

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

ALS Group USA, Corp

Date: 17-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 04/02/14

Work Order: 1404444
Lab ID: 1404444-05
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/14/14 17:10
Methylene chloride	U		0.75	5.0	µg/L	1	04/14/14 17:10
Styrene	U		0.12	1.0	µg/L	1	04/14/14 17:10
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/14/14 17:10
Toluene	U		0.13	1.0	µg/L	1	04/14/14 17:10
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/14/14 17:10
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/14/14 17:10
Trichloroethene	U		0.16	1.0	µg/L	1	04/14/14 17:10
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/14/14 17:10
Vinyl chloride	U		0.15	1.0	µg/L	1	04/14/14 17:10
Xylenes, Total	U		0.30	3.0	µg/L	1	04/14/14 17:10
Surr: 1,2-Dichloroethane-d4	98.2			70-120	%REC	1	04/14/14 17:10
Surr: 4-Bromofluorobenzene	83.7			75-120	%REC	1	04/14/14 17:10
Surr: Dibromofluoromethane	96.6			85-115	%REC	1	04/14/14 17:10
Surr: Toluene-d8	96.5			85-120	%REC	1	04/14/14 17:10

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

Client: The Mannik & Smith Group, Inc.

Work Order: 1404444

Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57497

Instrument ID HG1

Method: SW7471

MBLK		Sample ID: MBLK-57497-57497				Units: mg/Kg		Analysis Date: 04/14/14 02:05 PM		
Client ID:		Run ID: HG1_140414A				SeqNo: 2711367		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0055	0.020								J

LCS		Sample ID: LCS-57497-57497				Units: mg/Kg		Analysis Date: 04/14/14 02:08 PM		
Client ID:		Run ID: HG1_140414A				SeqNo: 2711368		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1802	0.020	0.1665	0	108	80-120	0			

MS		Sample ID: 1404589-03AMS				Units: mg/Kg		Analysis Date: 04/14/14 02:21 PM		
Client ID:		Run ID: HG1_140414A				SeqNo: 2711374		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1534	0.014	0.1163	0.02001	115	75-125	0			

MSD		Sample ID: 1404589-03AMSD				Units: mg/Kg		Analysis Date: 04/14/14 02:24 PM		
Client ID:		Run ID: HG1_140414A				SeqNo: 2711375		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.145	0.014	0.1144	0.02001	109	75-125	0.1534	5.64	35	

The following samples were analyzed in this batch:

1404444-01B	1404444-02B	1404444-03B
1404444-04B		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57469-57469				Units: mg/Kg		Analysis Date: 04/12/14 06:53 AM		
Client ID:		Run ID: ICPMS1_140411A				SeqNo: 2709488		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.25								
Arsenic	U	0.25								
Barium	U	0.25								
Beryllium	U	0.10								
Cadmium	U	0.10								
Chromium	U	0.25								
Cobalt	U	0.25								
Copper	U	0.25								
Iron	1.526	4.0								J
Lead	U	0.25								
Manganese	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Thallium	U	0.25								
Vanadium	U	0.25								

MBLK		Sample ID: MBLK-57469-57469				Units: mg/Kg		Analysis Date: 04/14/14 10:04 AM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710798		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.4809	0.50								J
Zinc	0.03354	0.50								J

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57469-57469				Units: mg/Kg		Analysis Date: 04/12/14 06:59 AM		
Client ID:		Run ID: ICPMS1_140411A				SeqNo: 2709489		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	4.866	0.25	5	0	97.3	80-120	0			
Arsenic	4.504	0.25	5	0	90.1	80-120	0			
Barium	4.872	0.25	5	0	97.4	80-120	0			
Beryllium	4.805	0.10	5	0	96.1	80-120	0			
Cadmium	4.807	0.10	5	0	96.1	80-120	0			
Chromium	4.745	0.25	5	0	94.9	80-120	0			
Cobalt	4.754	0.25	5	0	95.1	80-120	0			
Copper	4.764	0.25	5	0	95.3	80-120	0			
Iron	492.6	4.0	500	0	98.5	80-120	0			
Lead	4.919	0.25	5	0	98.4	80-120	0			
Manganese	4.801	0.25	5	0	96	80-120	0			
Nickel	4.666	0.25	5	0	93.3	80-120	0			
Selenium	4.401	0.25	5	0	88	80-120	0			
Silver	4.77	0.25	5	0	95.4	80-120	0			
Thallium	4.734	0.25	5	0	94.7	80-120	0			
Vanadium	4.83	0.25	5	0	96.6	80-120	0			

LCS		Sample ID: LCS-57469-57469				Units: mg/Kg		Analysis Date: 04/14/14 10:11 AM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710799		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	4.621	0.50	5	0	92.4	80-120	0			
Zinc	4.554	0.50	5	0	91.1	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

MS Sample ID: 1404472-11BMS				Units: mg/Kg			Analysis Date: 04/12/14 07:40 AM			
Client ID:		Run ID: ICPMS1_140411A			SeqNo: 2709496		Prep Date: 04/11/14		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	6.805	1.5	7.429	0.0857	90.4	75-125	0			
Arsenic	16.7	1.5	7.429	11.02	76.4	75-125	0			
Barium	59.26	1.5	7.429	50.06	124	75-125	0			O
Beryllium	7.302	0.59	7.429	0.314	94.1	75-125	0			
Cadmium	7.744	0.59	7.429	0.1453	102	75-125	0			
Chromium	18.85	1.5	7.429	8.582	138	75-125	0			S
Cobalt	10.94	1.5	7.429	3.167	105	75-125	0			
Copper	12.49	1.5	7.429	4.648	106	75-125	0			
Iron	14610	24	742.9	13810	107	75-125	0			O
Lead	17.31	1.5	7.429	10.65	89.6	75-125	0			
Manganese	201.7	1.5	7.429	181.6	270	75-125	0			SO
Nickel	15.29	1.5	7.429	6.033	125	75-125	0			
Selenium	7.432	1.5	7.429	0.5952	92	75-125	0			
Silver	7.18	1.5	7.429	0.02079	96.4	75-125	0			
Thallium	7.251	1.5	7.429	0.07307	96.6	75-125	0			
Vanadium	26.89	1.5	7.429	15.1	159	75-125	0			S

MS Sample ID: 1404472-11BMS				Units: mg/Kg			Analysis Date: 04/13/14 04:01 PM			
Client ID:		Run ID: ICPMS1_140412A			SeqNo: 2710472		Prep Date: 04/11/14		DF: 40	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	8318	30	7.429	6143	29300	75-125	0			SO

MS Sample ID: 1404472-11BMS				Units: mg/Kg			Analysis Date: 04/14/14 10:23 AM			
Client ID:		Run ID: ICPMS1_140412A			SeqNo: 2710801		Prep Date: 04/11/14		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	37.89	3.0	7.429	26.03	160	75-125	0			S

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1404472-11BMSD		Units: mg/Kg		Analysis Date: 04/12/14 08:04 AM		
Client ID:			Run ID: ICPMS1_140411A		SeqNo: 2709500		Prep Date: 04/11/14		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	6.132	1.5	7.508	0.0857	80.5	75-125	6.805	10.4	25	
Arsenic	16.16	1.5	7.508	11.02	68.4	75-125	16.7	3.32	25	S
Barium	58.38	1.5	7.508	50.06	111	75-125	59.26	1.49	25	O
Beryllium	6.949	0.60	7.508	0.314	88.4	75-125	7.302	4.95	25	
Cadmium	7.432	0.60	7.508	0.1453	97.1	75-125	7.744	4.11	25	
Chromium	17.6	1.5	7.508	8.582	120	75-125	18.85	6.85	25	
Cobalt	10.55	1.5	7.508	3.167	98.4	75-125	10.94	3.57	25	
Copper	11.72	1.5	7.508	4.648	94.2	75-125	12.49	6.36	25	
Iron	13840	24	750.8	13810	3.05	75-125	14610	5.4	25	SO
Lead	16.47	1.5	7.508	10.65	77.5	75-125	17.31	4.97	25	
Manganese	216	1.5	7.508	181.6	458	75-125	201.7	6.87	25	SO
Nickel	14.41	1.5	7.508	6.033	112	75-125	15.29	5.93	25	
Selenium	7.3	1.5	7.508	0.5952	89.3	75-125	7.432	1.79	25	
Silver	6.886	1.5	7.508	0.02079	91.4	75-125	7.18	4.18	25	
Thallium	6.919	1.5	7.508	0.07307	91.2	75-125	7.251	4.69	25	
Vanadium	25.28	1.5	7.508	15.1	136	75-125	26.89	6.17	25	S
Zinc	36.4	3.0	7.508	26.3	134	75-125	40	9.43	25	BS

MSD					Sample ID: 1404472-11BMSD				Units: mg/Kg		Analysis Date: 04/13/14 04:25 PM	
Client ID:			Run ID: ICPMS1_140412A			SeqNo: 2710481		Prep Date: 04/11/14		DF: 40		
Analyte			Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum			8330	30	7.508	6143	29100	75-125	8389	0.705	25	SO

The following samples were analyzed in this batch:

1404444-01B 1404444-02B 1404444-03B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57490-57490				Units: mg/Kg		Analysis Date: 04/13/14 08:47 PM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710584		Prep Date: 04/12/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.25								
Arsenic	U	0.25								
Barium	U	0.25								
Beryllium	U	0.10								
Cadmium	U	0.10								
Chromium	U	0.25								
Cobalt	U	0.25								
Copper	U	0.25								
Iron	U	4.0								
Lead	0.00151	0.25								J
Manganese	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Thallium	U	0.25								
Vanadium	U	0.25								
Zinc	0.04558	0.50								J

MBLK					Sample ID: MBLK-57490-57490					Units:mg/Kg			Analysis Date: 04/15/14 01:50 PM				
Client ID:					Run ID: ICPMS1_140415A					SeqNo: 2714936			Prep Date: 04/12/14			DF: 1	
Analyte					Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Aluminum					U	0.50											

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57490-57490				Units: mg/Kg		Analysis Date: 04/13/14 08:53 PM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710586		Prep Date: 04/12/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	4.776	0.25	5	0	95.5	80-120	0			
Arsenic	4.586	0.25	5	0	91.7	80-120	0			
Barium	4.779	0.25	5	0	95.6	80-120	0			
Beryllium	4.764	0.10	5	0	95.3	80-120	0			
Cadmium	4.73	0.10	5	0	94.6	80-120	0			
Chromium	4.918	0.25	5	0	98.4	80-120	0			
Cobalt	4.862	0.25	5	0	97.2	80-120	0			
Copper	4.904	0.25	5	0	98.1	80-120	0			
Iron	508	4.0	500	0	102	80-120	0			
Lead	4.838	0.25	5	0	96.8	80-120	0			
Manganese	4.901	0.25	5	0	98	80-120	0			
Nickel	4.904	0.25	5	0	98.1	80-120	0			
Selenium	4.354	0.25	5	0	87.1	80-120	0			
Silver	4.628	0.25	5	0	92.6	80-120	0			
Thallium	4.658	0.25	5	0	93.2	80-120	0			
Vanadium	5.01	0.25	5	0	100	80-120	0			
Zinc	4.686	0.50	5	0	93.7	80-120	0			

LCS		Sample ID: LCS-57490-57490				Units: mg/Kg		Analysis Date: 04/15/14 01:57 PM		
Client ID:		Run ID: ICPMS1_140415A				SeqNo: 2714937		Prep Date: 04/12/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	5.03	0.50	5	0	101	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 1404478-21AMS			Units: mg/Kg		Analysis Date: 04/13/14 09:35 PM		
Client ID:			Run ID: ICPMS1_140412A			SeqNo: 2710605		Prep Date: 04/12/14		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	6.273	1.6	6.579	0.07859	94.2	75-125	0				
Arsenic	7.78	1.6	6.579	1.351	97.7	75-125	0				
Barium	20.66	1.6	6.579	10.46	155	75-125	0			S	
Beryllium	6.03	0.66	6.579	0.08684	90.3	75-125	0				
Cadmium	6.365	0.66	6.579	0.08072	95.5	75-125	0				
Chromium	14.27	1.6	6.579	4.767	144	75-125	0			S	
Cobalt	8.484	1.6	6.579	1.887	100	75-125	0				
Copper	10.26	1.6	6.579	3.893	96.8	75-125	0				
Iron	5747	26	657.9	4275	224	75-125	0			SO	
Lead	9.845	1.6	6.579	3.64	94.3	75-125	0				
Manganese	121.9	1.6	6.579	104.2	270	75-125	0			SO	
Nickel	12.66	1.6	6.579	5.01	116	75-125	0				
Selenium	5.957	1.6	6.579	0.3188	85.7	75-125	0				
Silver	5.872	1.6	6.579	0.0001772	89.2	75-125	0				
Thallium	6.092	1.6	6.579	0.02043	92.3	75-125	0				
Vanadium	17.79	1.6	6.579	8.052	148	75-125	0			S	
Zinc	21.87	3.3	6.579	14.02	119	75-125	0				

MS					Sample ID: 1404478-21AMS			Units: mg/Kg		Analysis Date: 04/15/14 02:39 PM	
Client ID:			Run ID: ICPMS1_140415A			SeqNo: 2714947		Prep Date: 04/12/14		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	3161	33	6.579	1943	18500	75-125	0			SO	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 1404478-21AMSD				Units: mg/Kg		Analysis Date: 04/13/14 09:41 PM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710607		Prep Date: 04/12/14		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	6.402	1.7	6.693	0.07859	94.5	75-125	6.273	2.04	25	
Arsenic	7.748	1.7	6.693	1.351	95.6	75-125	7.78	0.412	25	
Barium	18.07	1.7	6.693	10.46	114	75-125	20.66	13.4	25	
Beryllium	6.118	0.67	6.693	0.08684	90.1	75-125	6.03	1.45	25	
Cadmium	6.479	0.67	6.693	0.08072	95.6	75-125	6.365	1.78	25	
Chromium	12.16	1.7	6.693	4.767	110	75-125	14.27	16	25	
Cobalt	8.256	1.7	6.693	1.887	95.2	75-125	8.484	2.71	25	
Copper	10.1	1.7	6.693	3.893	92.7	75-125	10.26	1.57	25	
Iron	5335	27	669.3	4275	158	75-125	5747	7.44	25	SO
Lead	9.183	1.7	6.693	3.64	82.8	75-125	9.845	6.96	25	
Manganese	103.7	1.7	6.693	104.2	-7.58	75-125	121.9	16.2	25	SO
Nickel	11.46	1.7	6.693	5.01	96.4	75-125	12.66	9.99	25	
Selenium	6.265	1.7	6.693	0.3188	88.8	75-125	5.957	5.04	25	
Silver	6.004	1.7	6.693	0.0001772	89.7	75-125	5.872	2.23	25	
Thallium	6.001	1.7	6.693	0.02043	89.3	75-125	6.092	1.51	25	
Vanadium	17.21	1.7	6.693	8.052	137	75-125	17.79	3.34	25	S
Zinc	21.32	3.3	6.693	14.02	109	75-125	21.87	2.56	25	

MSD		Sample ID: 1404478-21AMSD				Units: mg/Kg		Analysis Date: 04/15/14 03:04 PM		
Client ID:		Run ID: ICPMS1_140415A				SeqNo: 2714956		Prep Date: 04/12/14		DF: 50
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	2950	33	6.693	1943	15000	75-125	3161	6.89	25	SO

The following samples were analyzed in this batch: 1404444-04B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57443-57443				Units: µg/Kg		Analysis Date: 04/12/14 01:42 PM		
Client ID:		Run ID: SVMS8_140412A				SeqNo: 2710983		Prep Date: 04/11/14		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	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
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	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443		Instrument ID SVMS8		Method: SW8270				
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
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	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	160						
Naphthalene	U	6.7						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	6.7						
Phenol	U	160						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	892	0	1667	0	53.5	34-140	0	
<i>Surr: 2-Fluorobiphenyl</i>	1197	0	1667	0	71.8	12-100	0	
<i>Surr: 2-Fluorophenol</i>	1169	0	1667	0	70.1	33-117	0	
<i>Surr: 4-Terphenyl-d14</i>	1717	0	1667	0	103	25-137	0	
<i>Surr: Nitrobenzene-d5</i>	1212	0	1667	0	72.7	37-107	0	
<i>Surr: Phenol-d6</i>	1257	0	1667	0	75.4	40-106	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

LCS Sample ID: SLCSS1-57443-57443				Units: µg/Kg			Analysis Date: 04/12/14 02:03 PM			
Client ID:		Run ID: SVMS8_140412A		SeqNo: 2710984		Prep Date: 04/11/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	577.7	160	666.7	0	86.6	50-110	0			
2,4,6-Trichlorophenol	558.3	160	666.7	0	83.7	45-110	0			
2,4-Dichlorophenol	542	160	666.7	0	81.3	45-110	0			
2,4-Dimethylphenol	475.3	330	666.7	0	71.3	30-105	0			
2,4-Dinitrophenol	514	660	666.7	0	77.1	15-130	0			J
2,4-Dinitrotoluene	558.3	160	666.7	0	83.7	50-115	0			
2,6-Dinitrotoluene	567.3	160	666.7	0	85.1	50-110	0			
2-Chloronaphthalene	586	6.7	666.7	0	87.9	45-105	0			
2-Chlorophenol	565.7	160	666.7	0	84.8	45-105	0			
2-Methylnaphthalene	543.7	6.7	666.7	0	81.5	45-105	0			
2-Methylphenol	562.7	160	666.7	0	84.4	40-105	0			
2-Nitroaniline	544.7	660	666.7	0	81.7	45-120	0			J
2-Nitrophenol	536.7	160	666.7	0	80.5	40-110	0			
3-Nitroaniline	336	660	666.7	0	50.4	25-150	0			J
4-Bromophenyl phenyl ether	613.7	160	666.7	0	92	45-115	0			
4-Chloro-3-methylphenol	555.3	160	666.7	0	83.3	45-115	0			
4-Chloroaniline	320	660	666.7	0	48	15-110	0			J
4-Chlorophenyl phenyl ether	562.3	160	666.7	0	84.3	45-110	0			
4-Methylphenol	568	160	666.7	0	85.2	40-105	0			
4-Nitroaniline	391.7	660	666.7	0	58.7	35-150	0			J
4-Nitrophenol	639.3	660	666.7	0	95.9	15-140	0			J
Acenaphthene	553.3	6.7	666.7	0	83	45-110	0			
Acenaphthylene	580	6.7	666.7	0	87	45-105	0			
Anthracene	615	6.7	666.7	0	92.2	55-105	0			
Benzo(a)anthracene	596	6.7	666.7	0	89.4	50-110	0			
Benzo(a)pyrene	634	6.7	666.7	0	95.1	50-110	0			
Benzo(b)fluoranthene	654.3	6.7	666.7	0	98.1	45-115	0			
Benzo(g,h,i)perylene	606.3	6.7	666.7	0	90.9	40-125	0			
Benzo(k)fluoranthene	667	6.7	666.7	0	100	45-115	0			
Bis(2-chloroethoxy)methane	558.7	160	666.7	0	83.8	45-110	0			
Bis(2-chloroethyl)ether	618.3	160	666.7	0	92.7	40-105	0			
Bis(2-chloroisopropyl)ether	523.3	160	666.7	0	78.5	20-115	0			
Bis(2-ethylhexyl)phthalate	639.3	330	666.7	0	95.9	45-125	0			
Butyl benzyl phthalate	641.3	160	666.7	0	96.2	50-125	0			
Carbazole	624	160	666.7	0	93.6	50-150	0			
Chrysene	637.3	6.7	666.7	0	95.6	55-110	0			
Dibenzo(a,h)anthracene	626.3	6.7	666.7	0	93.9	40-125	0			
Dibenzofuran	554.3	160	666.7	0	83.1	50-105	0			
Diethyl phthalate	608.7	330	666.7	0	91.3	50-115	0			
Dimethyl phthalate	597.7	330	666.7	0	89.6	50-110	0			
Di-n-butyl phthalate	641.7	330	666.7	0	96.2	55-110	0			
Di-n-octyl phthalate	691	160	666.7	0	104	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	639.3	6.7	666.7	0	95.9	55-115	0
Fluorene	558.7	6.7	666.7	0	83.8	50-110	0
Hexachlorobenzene	605	160	666.7	0	90.7	45-120	0
Hexachlorobutadiene	552.3	160	666.7	0	82.8	40-115	0
Hexachlorocyclopentadiene	529.3	330	666.7	0	79.4	40-115	0
Hexachloroethane	537.7	160	666.7	0	80.6	35-110	0
Indeno(1,2,3-cd)pyrene	635.3	6.7	666.7	0	95.3	40-120	0
Isophorone	540.3	160	666.7	0	81	45-110	0
Naphthalene	533	6.7	666.7	0	79.9	40-105	0
Nitrobenzene	531.7	160	666.7	0	79.7	40-115	0
N-Nitrosodi-n-propylamine	601.3	160	666.7	0	90.2	40-115	0
N-Nitrosodiphenylamine	622.3	160	666.7	0	93.3	50-115	0
Pentachlorophenol	572	330	666.7	0	85.8	25-120	0
Phenanthrene	577.7	6.7	666.7	0	86.6	50-110	0
Phenol	611	160	666.7	0	91.6	40-100	0
Pyrene	712	6.7	666.7	0	107	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1531</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>91.9</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1335</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>80.1</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1479</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>88.7</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1898</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>114</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1425</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>85.5</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1474</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>88.4</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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1404544-01C MS			Units: µg/Kg		Analysis Date: 04/12/14 04:10 PM	
Client ID:				Run ID: SVMS8_140412A			SeqNo: 2710990		Prep Date: 04/11/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1160	310	1288	0	90.1	50-110	0			
2,4,6-Trichlorophenol	1122	310	1288	0	87.1	45-110	0			
2,4-Dichlorophenol	978	310	1288	0	75.9	45-110	0			
2,4-Dimethylphenol	690.8	640	1288	0	53.6	30-105	0			
2,4-Dinitrophenol	1002	1,300	1288	0	77.8	15-130	0			J
2,4-Dinitrotoluene	1104	310	1288	0	85.7	50-115	0			
2,6-Dinitrotoluene	1105	310	1288	0	85.8	50-110	0			
2-Chloronaphthalene	1045	13	1288	0	81.1	45-105	0			
2-Chlorophenol	902	310	1288	0	70	45-105	0			
2-Methylnaphthalene	940	13	1288	35.24	70.3	45-105	0			
2-Methylphenol	947.1	310	1288	0	73.5	40-105	0			
2-Nitroaniline	1139	1,300	1288	0	88.4	45-120	0			J
2-Nitrophenol	860.8	310	1288	0	66.8	40-110	0			
3-Nitroaniline	752	1,300	1288	0	58.4	25-110	0			J
4-Bromophenyl phenyl ether	1253	310	1288	0	97.3	45-115	0			
4-Chloro-3-methylphenol	1058	310	1288	0	82.2	45-115	0			
4-Chloroaniline	296.2	1,300	1288	0	23	15-110	0			J
4-Chlorophenyl phenyl ether	1099	310	1288	0	85.3	45-110	0			
4-Methylphenol	936.8	310	1288	0	72.7	40-105	0			
4-Nitroaniline	873.7	1,300	1288	0	67.8	35-150	0			J
4-Nitrophenol	1263	1,300	1288	0	98	15-140	0			J
Acenaphthene	1061	13	1288	0	82.4	45-110	0			
Acenaphthylene	1070	13	1288	0	83.1	45-105	0			
Anthracene	1200	13	1288	0	93.2	55-105	0			
Benzo(a)anthracene	1168	13	1288	0	90.7	50-110	0			
Benzo(a)pyrene	1243	13	1288	0	96.5	50-110	0			
Benzo(b)fluoranthene	1233	13	1288	0	95.7	45-115	0			
Benzo(g,h,i)perylene	1350	13	1288	0	105	40-125	0			
Benzo(k)fluoranthene	1192	13	1288	0	92.5	45-115	0			
Bis(2-chloroethoxy)methane	894.3	310	1288	0	69.4	45-110	0			
Bis(2-chloroethyl)ether	815.1	310	1288	0	63.3	40-105	0			
Bis(2-chloroisopropyl)ether	879.5	310	1288	0	68.3	20-115	0			
Bis(2-ethylhexyl)phthalate	1344	640	1288	0	104	45-125	0			
Butyl benzyl phthalate	1338	310	1288	0	104	50-125	0			
Carbazole	1133	310	1288	0	88	50-150	0			
Chrysene	1210	13	1288	0	93.9	55-110	0			
Dibenzo(a,h)anthracene	1294	13	1288	0	100	40-125	0			
Dibenzofuran	1100	310	1288	0	85.4	50-105	0			
Diethyl phthalate	1175	640	1288	0	91.2	50-115	0			
Dimethyl phthalate	1142	640	1288	0	88.7	50-110	0			
Di-n-butyl phthalate	1288	640	1288	0	100	55-110	0			
Di-n-octyl phthalate	1472	310	1288	0	114	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	1279	13	1288	35.24	96.6	55-115	0
Fluorene	1095	13	1288	0	85	50-110	0
Hexachlorobenzene	1162	310	1288	0	90.2	45-120	0
Hexachlorobutadiene	848.6	310	1288	0	65.9	40-115	0
Hexachlorocyclopentadiene	918.7	640	1288	0	71.3	40-115	0
Hexachloroethane	837	310	1288	0	65	35-110	0
Indeno(1,2,3-cd)pyrene	1405	13	1288	0	109	40-120	0
Isophorone	888.5	310	1288	0	69	45-110	0
Naphthalene	874.3	13	1288	24.47	66	40-105	0
Nitrobenzene	839.6	310	1288	0	65.2	40-115	0
N-Nitrosodi-n-propylamine	972.2	310	1288	0	75.5	40-115	0
N-Nitrosodiphenylamine	1197	310	1288	0	92.9	50-115	0
Pentachlorophenol	1170	640	1288	0	90.9	25-120	0
Phenanthrene	1183	13	1288	37.85	88.9	50-110	0
Phenol	958.7	310	1288	0	74.4	40-100	0
Pyrene	1388	13	1288	30.67	105	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2933</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>91.1</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2340</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>72.7</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>2214</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>68.8</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3506</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>109</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2201</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>68.4</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>2335</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>72.5</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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 1404544-01C MSD				Units: µg/Kg		Analysis Date: 04/12/14 04:31 PM	
Client ID:		Run ID: SVMS8_140412A			SeqNo: 2710993		Prep Date: 04/11/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	1184	320	1313	0	90.1	50-110	1160	2.03	30		
2,4,6-Trichlorophenol	1135	320	1313	0	86.4	45-110	1122	1.16	30		
2,4-Dichlorophenol	1003	320	1313	0	76.4	45-110	978	2.56	30		
2,4-Dimethylphenol	709.2	650	1313	0	54	30-105	690.8	2.62	30		
2,4-Dinitrophenol	999.4	1,300	1313	0	76.1	15-130	1002	0	30	J	
2,4-Dinitrotoluene	1138	320	1313	0	86.6	50-115	1104	3.07	30		
2,6-Dinitrotoluene	1120	320	1313	0	85.2	50-110	1105	1.27	30		
2-Chloronaphthalene	1093	13	1313	0	83.2	45-105	1045	4.52	30		
2-Chlorophenol	941.6	320	1313	0	71.7	45-105	902	4.3	30		
2-Methylnaphthalene	978.4	13	1313	35.24	71.8	45-105	940	4	30		
2-Methylphenol	977.1	320	1313	0	74.4	40-105	947.1	3.12	30		
2-Nitroaniline	1184	1,300	1313	0	90.1	45-120	1139	0	30	J	
2-Nitrophenol	899.6	320	1313	0	68.5	40-110	860.8	4.41	30		
3-Nitroaniline	811.6	1,300	1313	0	61.8	25-110	752	0	30	J	
4-Bromophenyl phenyl ether	1253	320	1313	0	95.4	45-115	1253	0.00195	30		
4-Chloro-3-methylphenol	1112	320	1313	0	84.6	45-115	1058	4.91	30		
4-Chloroaniline	365.7	1,300	1313	0	27.8	15-110	296.2	0	30	J	
4-Chlorophenyl phenyl ether	1123	320	1313	0	85.5	45-110	1099	2.15	30		
4-Methylphenol	974.5	320	1313	0	74.2	40-105	936.8	3.94	30		
4-Nitroaniline	950.2	1,300	1313	0	72.3	35-150	873.7	0	30	J	
4-Nitrophenol	1306	1,300	1313	0	99.4	15-140	1263	3.39	30		
Acenaphthene	1061	13	1313	0	80.8	45-110	1061	0.00924	30		
Acenaphthylene	1094	13	1313	0	83.3	45-105	1070	2.21	30		
Anthracene	1215	13	1313	0	92.5	55-105	1200	1.22	30		
Benzo(a)anthracene	1210	13	1313	0	92.1	50-110	1168	3.56	30		
Benzo(a)pyrene	1275	13	1313	0	97.1	50-110	1243	2.54	30		
Benzo(b)fluoranthene	1273	13	1313	0	96.9	45-115	1233	3.22	30		
Benzo(g,h,i)perylene	1367	13	1313	0	104	40-125	1350	1.25	30		
Benzo(k)fluoranthene	1196	13	1313	0	91.1	45-115	1192	0.391	30		
Bis(2-chloroethoxy)methane	897	320	1313	0	68.3	45-110	894.3	0.3	30		
Bis(2-chloroethyl)ether	842.5	320	1313	0	64.1	40-105	815.1	3.3	30		
Bis(2-chloroisopropyl)ether	887.8	320	1313	0	67.6	20-115	879.5	0.94	30		
Bis(2-ethylhexyl)phthalate	1407	650	1313	0	107	45-125	1344	4.57	30		
Butyl benzyl phthalate	1383	320	1313	0	105	50-125	1338	3.31	30		
Carbazole	1192	320	1313	0	90.8	50-150	1133	5.1	30		
Chrysene	1209	13	1313	0	92	55-110	1210	0.073	30		
Dibenzo(a,h)anthracene	1420	13	1313	0	108	40-125	1294	9.25	30		
Dibenzofuran	1102	320	1313	0	83.9	50-105	1100	0.14	30		
Diethyl phthalate	1202	650	1313	0	91.5	50-115	1175	2.24	30		
Dimethyl phthalate	1164	650	1313	0	88.6	50-110	1142	1.86	30		
Di-n-butyl phthalate	1317	650	1313	0	100	55-110	1288	2.17	30		
Di-n-octyl phthalate	1523	320	1313	0	116	40-130	1472	3.45	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443		Instrument ID SVMS8		Method: SW8270					
Fluoranthene	1310	13	1313	35.24	97.1	55-115	1279	2.42	30
Fluorene	1085	13	1313	0	82.6	50-110	1095	0.894	30
Hexachlorobenzene	1229	320	1313	0	93.6	45-120	1162	5.61	30
Hexachlorobutadiene	877.9	320	1313	0	66.8	40-115	848.6	3.4	30
Hexachlorocyclopentadiene	982.3	650	1313	0	74.8	40-115	918.7	6.69	30
Hexachloroethane	856.3	320	1313	0	65.2	35-110	837	2.28	30
Indeno(1,2,3-cd)pyrene	1455	13	1313	0	111	40-120	1405	3.47	30
Isophorone	920.6	320	1313	0	70.1	45-110	888.5	3.55	30
Naphthalene	882.5	13	1313	24.47	65.3	40-105	874.3	0.934	30
Nitrobenzene	878.6	320	1313	0	66.9	40-115	839.6	4.54	30
N-Nitrosodi-n-propylamine	1009	320	1313	0	76.8	40-115	972.2	3.74	30
N-Nitrosodiphenylamine	1215	320	1313	0	92.5	50-115	1197	1.54	30
Pentachlorophenol	1169	650	1313	0	89	25-120	1170	0.0861	30
Phenanthrene	1181	13	1313	37.85	87.1	50-110	1183	0.12	30
Phenol	985.6	320	1313	0	75	40-100	958.7	2.77	30
Pyrene	1413	13	1313	30.67	105	45-125	1388	1.78	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3040</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>92.6</i>	<i>34-140</i>	<i>2933</i>	<i>3.58</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2386</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>72.7</i>	<i>12-100</i>	<i>2340</i>	<i>1.97</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>2273</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>69.2</i>	<i>33-117</i>	<i>2214</i>	<i>2.61</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3608</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>110</i>	<i>25-137</i>	<i>3506</i>	<i>2.85</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2325</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>70.8</i>	<i>37-107</i>	<i>2201</i>	<i>5.47</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>2422</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>73.8</i>	<i>40-106</i>	<i>2335</i>	<i>3.67</i>	<i>40</i>

The following samples were analyzed in this batch:

1404444-01B
1404444-04B

1404444-02B

1404444-03B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

MBLK		Sample ID: MBLK-57410-57410				Units: µg/Kg		Analysis Date: 04/10/14 01:29 PM		
Client ID:		Run ID: VMS5_140410A				SeqNo: 2707557		Prep Date: 04/10/14		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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410		Instrument ID VMS5		Method: SW8260B				
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>		980.5	0	1000	0	98	70-130	0
<i>Surr: 4-Bromofluorobenzene</i>		962.5	0	1000	0	96.2	70-130	0
<i>Surr: Dibromofluoromethane</i>		975.5	0	1000	0	97.6	70-130	0
<i>Surr: Toluene-d8</i>		1016	0	1000	0	102	70-130	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

LCS Sample ID: LCS-57410-57410				Units: µg/Kg			Analysis Date: 04/10/14 12:12 PM			
Client ID:		Run ID: VMS5_140410A		SeqNo: 2707555		Prep Date: 04/10/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1102	30	1000	0	110	70-135	0			
1,1,2,2-Tetrachloroethane	1084	30	1000	0	108	55-130	0			
1,1,2-Trichloroethane	1054	30	1000	0	105	60-125	0			
1,1-Dichloroethane	1116	30	1000	0	112	75-125	0			
1,1-Dichloroethene	1240	30	1000	0	124	65-135	0			
1,2,4-Trichlorobenzene	989	30	1000	0	98.9	65-130	0			
1,2-Dibromo-3-chloropropane	964.5	30	1000	0	96.4	40-135	0			
1,2-Dibromoethane	1212	30	1000	0	121	75-125	0			
1,2-Dichlorobenzene	1007	30	1000	0	101	75-120	0			
1,2-Dichloroethane	1024	30	1000	0	102	70-135	0			
1,2-Dichloropropane	1001	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	1036	30	1000	0	104	70-125	0			
1,4-Dichlorobenzene	1006	30	1000	0	101	70-125	0			
2-Butanone	1372	200	1000	0	137	30-160	0			
2-Hexanone	1170	30	1000	0	117	45-145	0			
4-Methyl-2-pentanone	1543	30	1000	0	154	96-168	0			
Acetone	1543	100	1000	0	154	20-160	0			
Benzene	1091	30	1000	0	109	75-125	0			
Bromodichloromethane	1044	30	1000	0	104	70-130	0			
Bromoform	801.5	30	1000	0	80.2	55-135	0			
Bromomethane	1464	75	1000	0	146	30-160	0			
Carbon disulfide	1186	30	1000	0	119	45-160	0			
Carbon tetrachloride	1088	30	1000	0	109	65-135	0			
Chlorobenzene	1059	30	1000	0	106	75-125	0			
Chloroethane	1386	100	1000	0	139	40-155	0			
Chloroform	1073	30	1000	0	107	70-125	0			
Chloromethane	1283	100	1000	0	128	50-130	0			
cis-1,2-Dichloroethene	1107	30	1000	0	111	65-125	0			
cis-1,3-Dichloropropene	1086	30	1000	0	109	70-125	0			
Dibromochloromethane	835	30	1000	0	83.5	65-135	0			
Dichlorodifluoromethane	1182	30	1000	0	118	35-135	0			
Ethylbenzene	1103	30	1000	0	110	75-125	0			
Isopropylbenzene	1118	30	1000	0	112	75-130	0			
Methyl tert-butyl ether	1108	30	1000	0	111	75-125	0			
Methylene chloride	1186	30	1000	0	119	55-145	0			
Styrene	1128	30	1000	0	113	75-125	0			
Tetrachloroethene	1084	30	1000	0	108	64-140	0			
Toluene	1076	30	1000	0	108	70-125	0			
trans-1,2-Dichloroethene	1172	30	1000	0	117	65-135	0			
trans-1,3-Dichloropropene	1071	30	1000	0	107	65-125	0			
Trichloroethene	1090	30	1000	0	109	75-125	0			
Trichlorofluoromethane	1269	30	1000	0	127	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410	Instrument ID VMS5		Method: SW8260B					
Vinyl chloride	1280	30	1000	0	128	60-125	0	S
Xylenes, Total	3285	90	3000	0	110	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</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: 4-Bromofluorobenzene</i>	<i>975.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.6</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1004</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>1017</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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

MS				Sample ID: 1404444-01A MS			Units: µg/Kg		Analysis Date: 04/13/14 01:17 AM	
Client ID: S-R2330012-040214-ACN-007				Run ID: VMS9_140412A			SeqNo: 2710295		Prep Date: 04/10/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1156	30	1000	0	116	70-135	0			
1,1,2,2-Tetrachloroethane	875.5	30	1000	0	87.6	55-130	0			
1,1,2-Trichloroethane	917	30	1000	0	91.7	60-125	0			
1,1-Dichloroethane	1063	30	1000	0	106	75-125	0			
1,1-Dichloroethene	1242	30	1000	0	124	65-135	0			
1,2,4-Trichlorobenzene	971	30	1000	0	97.1	65-130	0			
1,2-Dibromo-3-chloropropane	879.5	30	1000	0	88	40-135	0			
1,2-Dibromoethane	982.5	30	1000	0	98.2	75-125	0			
1,2-Dichlorobenzene	991	30	1000	0	99.1	75-120	0			
1,2-Dichloroethane	990.5	30	1000	0	99	70-135	0			
1,2-Dichloropropane	1005	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	1064	30	1000	0	106	70-125	0			
1,4-Dichlorobenzene	996.5	30	1000	0	99.6	70-125	0			
2-Butanone	813.5	200	1000	0	81.4	30-160	0			
2-Hexanone	846	30	1000	0	84.6	45-145	0			
4-Methyl-2-pentanone	1197	30	1000	0	120	89-161	0			
Acetone	1184	100	1000	32	115	20-160	0			
Benzene	1118	30	1000	0	112	75-125	0			
Bromodichloromethane	949.5	30	1000	0	95	70-130	0			
Bromoform	783	30	1000	0	78.3	55-135	0			
Bromomethane	1241	75	1000	0	124	30-160	0			
Carbon disulfide	1218	30	1000	0	122	45-160	0			
Carbon tetrachloride	1090	30	1000	0	109	65-135	0			
Chlorobenzene	1016	30	1000	0	102	75-125	0			
Chloroethane	1280	100	1000	0	128	40-155	0			
Chloroform	1034	30	1000	0	103	70-125	0			
Chloromethane	773	100	1000	42.5	73	50-130	0			
cis-1,2-Dichloroethene	1077	30	1000	0	108	65-125	0			
cis-1,3-Dichloropropene	946.5	30	1000	0	94.6	70-125	0			
Dibromochloromethane	751.5	30	1000	0	75.2	65-135	0			
Dichlorodifluoromethane	828	30	1000	0	82.8	35-135	0			
Ethylbenzene	1012	30	1000	0	101	75-125	0			
Isopropylbenzene	983.5	30	1000	0	98.4	75-130	0			
Methyl tert-butyl ether	954.5	30	1000	0	95.4	75-125	0			
Methylene chloride	1074	30	1000	0	107	55-145	0			
Styrene	931.5	30	1000	0	93.2	75-125	0			
Tetrachloroethene	1293	30	1000	0	129	64-140	0			
Toluene	1098	30	1000	0	110	70-125	0			
trans-1,2-Dichloroethene	1126	30	1000	0	113	65-135	0			
trans-1,3-Dichloropropene	849	30	1000	0	84.9	65-125	0			
Trichloroethene	1133	30	1000	0	113	75-125	0			
Trichlorofluoromethane	1116	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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410		Instrument ID VMS5		Method: SW8260B			
Vinyl chloride	948.5	30	1000	0	94.8	60-125	0
Xylenes, Total	2980	90	3000	0	99.3	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>982.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>948.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>979.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>1004</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 1404444-01A MSD			Units: µg/Kg		Analysis Date: 04/13/14 01:41 AM	
Client ID: S-R2330012-040214-ACN-007				Run ID: VMS9_140412A			SeqNo: 2710296		Prep Date: 04/10/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1130	30	1000	0	113	70-135	1156	2.28	30	
1,1,2,2-Tetrachloroethane	895.5	30	1000	0	89.6	55-130	875.5	2.26	30	
1,1,2-Trichloroethane	904.5	30	1000	0	90.4	60-125	917	1.37	30	
1,1-Dichloroethane	1094	30	1000	0	109	75-125	1063	2.87	30	
1,1-Dichloroethene	1182	30	1000	0	118	65-135	1242	4.87	30	
1,2,4-Trichlorobenzene	951	30	1000	0	95.1	65-130	971	2.08	30	
1,2-Dibromo-3-chloropropane	857	30	1000	0	85.7	40-135	879.5	2.59	30	
1,2-Dibromoethane	977.5	30	1000	0	97.8	75-125	982.5	0.51	30	
1,2-Dichlorobenzene	1012	30	1000	0	101	75-120	991	2.05	30	
1,2-Dichloroethane	969.5	30	1000	0	97	70-135	990.5	2.14	30	
1,2-Dichloropropane	1004	30	1000	0	100	70-120	1005	0.149	30	
1,3-Dichlorobenzene	1053	30	1000	0	105	70-125	1064	1.04	30	
1,4-Dichlorobenzene	1007	30	1000	0	101	70-125	996.5	1.05	30	
2-Butanone	861.5	200	1000	0	86.2	30-160	813.5	5.73	30	
2-Hexanone	901	30	1000	0	90.1	45-145	846	6.3	30	
4-Methyl-2-pentanone	1211	30	1000	0	121	89-161	1197	1.16	30	
Acetone	1164	100	1000	32	113	20-160	1184	1.62	30	
Benzene	1106	30	1000	0	111	75-125	1118	1.12	30	
Bromodichloromethane	926	30	1000	0	92.6	70-130	949.5	2.51	30	
Bromoform	829	30	1000	0	82.9	55-135	783	5.71	30	
Bromomethane	966	75	1000	0	96.6	30-160	1241	24.9	30	
Carbon disulfide	1224	30	1000	0	122	45-160	1218	0.41	30	
Carbon tetrachloride	1004	30	1000	0	100	65-135	1090	8.31	30	
Chlorobenzene	1042	30	1000	0	104	75-125	1016	2.53	30	
Chloroethane	987.5	100	1000	0	98.8	40-155	1280	25.8	30	
Chloroform	1016	30	1000	0	102	70-125	1034	1.8	30	
Chloromethane	834	100	1000	42.5	79.2	50-130	773	7.59	30	
cis-1,2-Dichloroethene	1073	30	1000	0	107	65-125	1077	0.372	30	
cis-1,3-Dichloropropene	928.5	30	1000	0	92.8	70-125	946.5	1.92	30	
Dibromochloromethane	742	30	1000	0	74.2	65-135	751.5	1.27	30	
Dichlorodifluoromethane	841.5	30	1000	0	84.2	35-135	828	1.62	30	
Ethylbenzene	1023	30	1000	0	102	75-125	1012	1.13	30	
Isopropylbenzene	998.5	30	1000	0	99.8	75-130	983.5	1.51	30	
Methyl tert-butyl ether	982.5	30	1000	0	98.2	75-125	954.5	2.89	30	
Methylene chloride	1092	30	1000	0	109	55-145	1074	1.75	30	
Styrene	961	30	1000	0	96.1	75-125	931.5	3.12	30	
Tetrachloroethene	1270	30	1000	0	127	64-140	1293	1.83	30	
Toluene	1119	30	1000	0	112	70-125	1098	1.89	30	
trans-1,2-Dichloroethene	1159	30	1000	0	116	65-135	1126	2.93	30	
trans-1,3-Dichloropropene	884	30	1000	0	88.4	65-125	849	4.04	30	
Trichloroethene	1093	30	1000	0	109	75-125	1133	3.59	30	
Trichlorofluoromethane	1103	30	1000	0	110	25-185	1116	1.17	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410		Instrument ID VMS5		Method: SW8260B					
Vinyl chloride	944	30	1000	0	94.4	60-125	948.5	0.476	30
Xylenes, Total	3027	90	3000	0	101	75-125	2980	1.56	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>958.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95.8</i>	<i>70-130</i>	<i>982.5</i>	<i>2.47</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>977</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.7</i>	<i>70-130</i>	<i>948.5</i>	<i>2.96</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>984.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>979.5</i>	<i>0.509</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>1010</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>1004</i>	<i>0.596</i>	<i>30</i>
The following samples were analyzed in this batch:			1404444-01A	1404444-02A	1404444-03A				
			1404444-04A						

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VBK1-140414-R138835A				Units: µg/L		Analysis Date: 04/14/14 11:52 AM		
Client ID:		Run ID: VMS9_140414A				SeqNo: 2712209		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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A	Instrument ID VMS9	Method: SW8260						
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>18.83</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.2</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>17.23</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>86.2</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>18.99</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>20.53</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW1-140414-R138835A				Units: µg/L		Analysis Date: 04/14/14 10:14 AM		
Client ID:		Run ID: VMS9_140414A				SeqNo: 2712208		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	21.3	1.0	20	0	106	65-130	0			
1,1,2,2-Tetrachloroethane	17.22	1.0	20	0	86.1	65-130	0			
1,1,2-Trichloroethane	18.3	1.0	20	0	91.5	75-125	0			
1,1-Dichloroethane	20.82	1.0	20	0	104	70-135	0			
1,1-Dichloroethene	22.92	1.0	20	0	115	70-130	0			
1,2,4-Trichlorobenzene	20.79	1.0	20	0	104	65-135	0			
1,2-Dibromo-3-chloropropane	17.91	1.0	20	0	89.6	50-130	0			
1,2-Dibromoethane	19.47	1.0	20	0	97.4	87-179	0			
1,2-Dichlorobenzene	21.02	1.0	20	0	105	70-120	0			
1,2-Dichloroethane	18.29	1.0	20	0	91.4	87-179	0			
1,2-Dichloropropane	18.71	2.0	20	0	93.6	75-125	0			
1,3-Dichlorobenzene	22.67	2.0	20	0	113	75-125	0			
1,4-Dichlorobenzene	21.84	2.0	20	0	109	75-125	0			
2-Butanone	18.15	5.0	20	0	90.8	30-150	0			
2-Hexanone	18.13	5.0	20	0	90.6	55-130	0			
4-Methyl-2-pentanone	23.26	5.0	20	0	116	77-178	0			
Acetone	19.39	20	20	0	97	40-140	0			J
Benzene	22.46	1.0	20	0	112	80-120	0			
Bromodichloromethane	18.26	1.0	20	0	91.3	75-120	0			
Bromoform	16.5	1.0	20	0	82.5	70-130	0			
Bromomethane	18.84	1.0	20	0	94.2	30-145	0			
Carbon disulfide	24.41	2.5	20	0	122	35-165	0			
Carbon tetrachloride	19.74	1.0	20	0	98.7	65-140	0			
Chlorobenzene	21.48	1.0	20	0	107	80-120	0			
Chloroethane	19.59	1.0	20	0	98	60-135	0			
Chloroform	19.8	1.0	20	0	99	65-135	0			
Chloromethane	17.02	1.0	20	0	85.1	70-125	0			
cis-1,2-Dichloroethene	20.34	1.0	20	0	102	70-125	0			
cis-1,3-Dichloropropene	18.8	1.0	20	0	94	70-130	0			
Dibromochloromethane	15.6	1.0	20	0	78	60-135	0			
Dichlorodifluoromethane	15.82	1.0	20	0	79.1	30-155	0			
Ethylbenzene	21.65	1.0	20	0	108	75-125	0			
Isopropylbenzene	21.77	1.0	20	0	109	75-125	0			
Methyl tert-butyl ether	17.79	5.0	20	0	89	65-125	0			
Methylene chloride	19.5	5.0	20	0	97.5	55-140	0			
Styrene	19.87	1.0	20	0	99.4	65-135	0			
Tetrachloroethene	26.14	2.0	20	0	131	45-150	0			
Toluene	23.65	1.0	20	0	118	75-120	0			
trans-1,2-Dichloroethene	22.19	1.0	20	0	111	60-140	0			
trans-1,3-Dichloropropene	19.04	1.0	20	0	95.2	55-140	0			
Trichloroethene	22.08	1.0	20	0	110	70-125	0			
Trichlorofluoromethane	20.34	1.0	20	0	102	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	18.41	1.0	20	0	92	50-145	0
Xylenes, Total	63.93	3.0	60	0	107	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>90.7</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.2</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>18.89</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.4</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.81</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</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: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 1404297-05A MS			Units: µg/L		Analysis Date: 04/14/14 08:25 PM	
Client ID:				Run ID: VMS9_140414A			SeqNo: 2712219		Prep Date:	
									DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	98.95	5.0	100	0	99	65-130	0			
1,1,2,2-Tetrachloroethane	84.85	5.0	100	0	84.8	65-130	0			
1,1,2-Trichloroethane	92.15	5.0	100	0	92.2	75-125	0			
1,1-Dichloroethane	109	5.0	100	0	109	70-135	0			
1,1-Dichloroethene	114.4	5.0	100	0	114	70-130	0			
1,2,4-Trichlorobenzene	74.4	5.0	100	0	74.4	65-135	0			
1,2-Dibromo-3-chloropropane	74.85	5.0	100	0	74.8	50-130	0			
1,2-Dibromoethane	99.8	5.0	100	0	99.8	81-158	0			
1,2-Dichlorobenzene	93.4	5.0	100	0	93.4	70-120	0			
1,2-Dichloroethane	96.75	5.0	100	0	96.8	70-130	0			
1,2-Dichloropropane	97.2	10	100	0	97.2	75-125	0			
1,3-Dichlorobenzene	101.4	10	100	0	101	75-125	0			
1,4-Dichlorobenzene	94.8	10	100	0	94.8	75-125	0			
2-Butanone	92.4	25	100	0	92.4	30-150	0			
2-Hexanone	81.3	25	100	0	81.3	55-130	0			
4-Methyl-2-pentanone	110.3	25	100	0	110	73-162	0			
Acetone	241.3	100	100	114.4	127	40-140	0			
Benzene	105.4	5.0	100	0	105	80-120	0			
Bromodichloromethane	94.95	5.0	100	0	95	75-120	0			
Bromoform	78	5.0	100	0	78	70-130	0			
Bromomethane	97.5	5.0	100	0	97.5	30-145	0			
Carbon disulfide	116.8	12	100	0	117	35-165	0			
Carbon tetrachloride	86.1	5.0	100	0	86.1	65-140	0			
Chlorobenzene	101	5.0	100	0	101	80-120	0			
Chloroethane	95.85	5.0	100	0	95.8	60-135	0			
Chloroform	100.5	5.0	100	0	100	65-135	0			
Chloromethane	77.5	5.0	100	0	77.5	70-125	0			
cis-1,2-Dichloroethene	103.3	5.0	100	0	103	70-125	0			
cis-1,3-Dichloropropene	93.45	5.0	100	0	93.4	70-130	0			
Dibromochloromethane	78.9	5.0	100	0	78.9	60-135	0			
Dichlorodifluoromethane	68.75	5.0	100	0	68.8	30-155	0			
Ethylbenzene	96.2	5.0	100	0	96.2	75-125	0			
Isopropylbenzene	96.55	5.0	100	0	96.6	75-125	0			
Methyl tert-butyl ether	101.9	25	100	0	102	65-125	0			
Methylene chloride	111.9	25	100	0	112	55-140	0			
Styrene	92	5.0	100	0	92	65-135	0			
Tetrachloroethene	119.2	10	100	0	119	45-150	0			
Toluene	110.6	5.0	100	0	111	75-120	0			
trans-1,2-Dichloroethene	111.4	5.0	100	0	111	60-140	0			
trans-1,3-Dichloropropene	90.45	5.0	100	0	90.4	55-140	0			
Trichloroethene	105.4	5.0	100	0	105	70-125	0			
Trichlorofluoromethane	96.7	5.0	100	0	96.7	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	84.95	5.0	100	0	85	50-145	0
Xylenes, Total	295.1	15	300	0	98.4	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	97.8	0	100	0	97.8	70-120	0
<i>Surr: 4-Bromofluorobenzene</i>	99.35	0	100	0	99.4	75-120	0
<i>Surr: Dibromofluoromethane</i>	102.2	0	100	0	102	85-115	0
<i>Surr: Toluene-d8</i>	105.7	0	100	0	106	85-120	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

MSD				Sample ID: 1404297-05A MSD				Units: µg/L		Analysis Date: 04/14/14 08:50 PM	
Client ID:			Run ID: VMS9_140414A			SeqNo: 2712220		Prep Date:		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	98	5.0	100	0	98	65-130	98.95	0.965	30		
1,1,2,2-Tetrachloroethane	87.75	5.0	100	0	87.8	65-130	84.85	3.36	30		
1,1,2-Trichloroethane	92.85	5.0	100	0	92.8	75-125	92.15	0.757	30		
1,1-Dichloroethane	106.1	5.0	100	0	106	70-135	109	2.65	30		
1,1-Dichloroethene	113.9	5.0	100	0	114	70-130	114.4	0.482	30		
1,2,4-Trichlorobenzene	82.7	5.0	100	0	82.7	65-135	74.4	10.6	30		
1,2-Dibromo-3-chloropropane	80.8	5.0	100	0	80.8	50-130	74.85	7.65	30		
1,2-Dibromoethane	97.35	5.0	100	0	97.4	81-158	99.8	2.49	30		
1,2-Dichlorobenzene	97.3	5.0	100	0	97.3	70-120	93.4	4.09	30		
1,2-Dichloroethane	98.9	5.0	100	0	98.9	70-130	96.75	2.2	30		
1,2-Dichloropropane	96	10	100	0	96	75-125	97.2	1.24	30		
1,3-Dichlorobenzene	103	10	100	0	103	75-125	101.4	1.47	30		
1,4-Dichlorobenzene	96.55	10	100	0	96.6	75-125	94.8	1.83	30		
2-Butanone	102.6	25	100	0	103	30-150	92.4	10.5	30		
2-Hexanone	86.6	25	100	0	86.6	55-130	81.3	6.31	30		
4-Methyl-2-pentanone	114.2	25	100	0	114	73-162	110.3	3.52	30		
Acetone	238.6	100	100	114.4	124	40-140	241.3	1.1	30		
Benzene	103.2	5.0	100	0	103	80-120	105.4	2.16	30		
Bromodichloromethane	93.55	5.0	100	0	93.6	75-120	94.95	1.49	30		
Bromoform	79.8	5.0	100	0	79.8	70-130	78	2.28	30		
Bromomethane	92.45	5.0	100	0	92.4	30-145	97.5	5.32	30		
Carbon disulfide	113.3	12	100	0	113	35-165	116.8	3.04	30		
Carbon tetrachloride	103.2	5.0	100	0	103	65-140	86.1	18.1	30		
Chlorobenzene	99.25	5.0	100	0	99.2	80-120	101	1.8	30		
Chloroethane	89.65	5.0	100	0	89.6	60-135	95.85	6.68	30		
Chloroform	99.75	5.0	100	0	99.8	65-135	100.5	0.749	30		
Chloromethane	75.95	5.0	100	0	76	70-125	77.5	2.02	30		
cis-1,2-Dichloroethene	100.2	5.0	100	0	100	70-125	103.3	3.1	30		
cis-1,3-Dichloropropene	94.55	5.0	100	0	94.6	70-130	93.45	1.17	30		
Dibromochloromethane	78.4	5.0	100	0	78.4	60-135	78.9	0.636	30		
Dichlorodifluoromethane	68.3	5.0	100	0	68.3	30-155	68.75	0.657	30		
Ethylbenzene	93.85	5.0	100	0	93.8	75-125	96.2	2.47	30		
Isopropylbenzene	92	5.0	100	0	92	75-125	96.55	4.83	30		
Methyl tert-butyl ether	102.3	25	100	0	102	65-125	101.9	0.392	30		
Methylene chloride	114.6	25	100	0	115	55-140	111.9	2.43	30		
Styrene	92.5	5.0	100	0	92.5	65-135	92	0.542	30		
Tetrachloroethene	113.4	10	100	0	113	45-150	119.2	4.95	30		
Toluene	105.6	5.0	100	0	106	75-120	110.6	4.67	30		
trans-1,2-Dichloroethene	109.6	5.0	100	0	110	60-140	111.4	1.72	30		
trans-1,3-Dichloropropene	90.8	5.0	100	0	90.8	55-140	90.45	0.386	30		
Trichloroethene	103.4	5.0	100	0	103	70-125	105.4	1.96	30		
Trichlorofluoromethane	93.5	5.0	100	0	93.5	60-145	96.7	3.36	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A		Instrument ID VMS9		Method: SW8260					
Vinyl chloride	83.1	5.0	100	0	83.1	50-145	84.95	2.2	30
Xylenes, Total	287.6	15	300	0	95.9	75-130	295.1	2.57	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.9</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>95.9</i>	<i>70-120</i>	<i>97.8</i>	<i>1.96</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.8</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>98.8</i>	<i>75-120</i>	<i>99.35</i>	<i>0.555</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>99.55</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>99.6</i>	<i>85-115</i>	<i>102.2</i>	<i>2.63</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>102.8</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>103</i>	<i>85-120</i>	<i>105.7</i>	<i>2.83</i>	<i>30</i>

The following samples were analyzed in this batch: | 1404444-05A |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57588** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57588-57588				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716812		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	0.02982	0.50								J

LCS		Sample ID: LCS-57588-57588				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716813		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.438	0.50	2.5	0	97.5	85-119	0			

MS		Sample ID: 1404444-01B MS				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID: S-R2330012-040214-ACN-007		Run ID: LACHAT_140416B				SeqNo: 2716815		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.457	0.50	2.5	0.05262	96.2	70-130	0			

MS		Sample ID: 1404640-01B MS				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716828		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.517	0.50	2.5	0.08842	97.1	70-130	0			

MSD		Sample ID: 1404444-01B MSD				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID: S-R2330012-040214-ACN-007		Run ID: LACHAT_140416B				SeqNo: 2716816		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.493	0.50	2.5	0.05262	97.6	70-130	2.457	1.45	30	

MSD		Sample ID: 1404640-01B MSD				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716829		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.442	0.50	2.5	0.08842	94.1	70-130	2.517	3.02	30	

The following samples were analyzed in this batch:

1404444-01B	1404444-02B	1404444-03B
1404444-04B		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404444
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138681** Instrument ID **MOIST** Method: **A2540 G**

MBLK				Sample ID: WBLKS-R138681				Units: % of sample			Analysis Date: 04/09/14 01:54 PM			
Client ID:				Run ID: MOIST_140409B				SeqNo: 2706166		Prep Date:		DF: 1		
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS				Sample ID: LCS-R138681				Units: % of sample				Analysis Date: 04/09/14 01:54 PM																															
Client ID:				Run ID: MOIST_140409B				SeqNo: 2706163				Prep Date:				DF: 1																											
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

DUP					Sample ID: 1404444-02B DUP					Units: % of sample			Analysis Date: 04/09/14 01:54 PM																																									
Client ID: S-R2330012-040214-ACN-008					Run ID: MOIST_140409B					SeqNo: 2706154			Prep Date:		DF: 1																																							
Analyte					Result					PQL					SPK Val					SPK Ref Value					%REC					Control Limit					RPD Ref Value					%RPD					RPD Limit					Qual				

Moisture 19.56 0.050 0 0 0 0-0 18.67 4.66 20

The following samples were analyzed in this batch:

1404444-01B	1404444-02B	1404444-03B
1404444-04B		

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



Environmental

Cincinnati, OH
+1 513 733 5336

Everett, WA
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Fort Collins, CO
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Holland, MI
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Chain of Custody Form

Page 1 of 1

COC ID: 94671

Houston, TX
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Middletown, PA
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Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: TBS

ALS Work Order #: 1404444

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number	R2330012	B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs											
Send Report To	Mike Friedoff, Frank Bickl	Invoice Attn	Accounts Payable	D	Cyanide - total											
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	F	Metals (including Hg) - total											
Phone	(734) 397-3100	Phone		G	Moisture											
Fax	(734) 397-3131	Fax		H	Metals (including Hg) - dissolved											
e-Mail Address		e-Mail Address	MFriedoff@manniksmithgroup.com	I												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-R2330012-040214-ACN-007	4-2-13	1100	S	7	3	X	X		X		X					
2	S-R2330012-040214-ACN-008	4-2-13	1145	S	7	3	X	X		X		X					
3	S-R2330012-040214-ACN-009	4-2-13	1300	S	7	3	X	X		X		X					
4	S-R2330012-040214-ACN-010	4-2-13	1530	S	7	3	X	X		X		X					
5	Trip Blank	—	—	AL	1	1	X										
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Adam New</u>		Shipment Method <u>Carrier</u>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ Other 2 WK Days ☐ 24 Hour				Results Due Date: <u>4/9/14</u>	
Relinquished by: <u>MSK Friedoff</u>	Date: <u>4-2-13</u>	Time: <u>1630</u>	Received by: <u>MSK Friedoff</u>		Notes: <u>Rec'd 4/9/14 0830 Q. 7 ll</u>				
Relinquished by: <u>MSK Friedoff</u>	Date: <u>4/8/14</u>	Time: <u>0950</u>	Received by (Laboratory): <u>MSK Friedoff</u>		Cooler ID:	Cooler Temp. <u>34</u>	QC Package: (Check One Box Below)		
Logged by (Laboratory): <u>DES</u>	Date: <u>4/9/14</u>	Time: <u>1230</u>	Checked by (Laboratory): <u>TBS</u>		☒ Level II Std QC ☐ TRRP Check List ☐ Level III Std QC/Row Data ☐ TRRP Level IV ☐ Level IV BWS46/CLP ☐ Other				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035									

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.

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**ALS Environmental**

3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL

Date:

4-9-14

Time:

Name:

Company:

Seal Broken By:

Date:

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **09-Apr-14 08:30**

Work Order: **1404444**

Received by: **DS**

Checklist completed by <u><i>Diane Shaw</i></u>	09-Apr-14	Reviewed by: <u><i>Tom Bramish</i></u>	09-Apr-14
eSignature	Date	eSignature	Date

Matrices: Soil

Carrier name: City Transfer

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.4 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/9/2014 12:35:59 PM</u>		
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:

Work Order: 1404445

Project Name:
RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl
2365 Haggerty Road South
Suite 100
Canton, MI 48188
(734) 397-3100

18-Apr-2014



Certificate No: MN 532786



18-Apr-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **1404445**

Dear Frank,

ALS Environmental received 11 samples on 09-Apr-2014 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 129.

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: MN 532786

Report of Laboratory Analysis

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

RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404445

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>
1404445-01	S-R2330012-040314-ACN-011	Soil		04/03/14 09:45	04/09/14 08:30	☐
1404445-02	S-R2330012-040314-ACN-012	Soil		04/03/14 09:50	04/09/14 08:30	☐
1404445-03	W-R2330012-040314-ACN-007	Water		04/03/14 10:15	04/09/14 08:30	☐
1404445-04	W-R2330012-040314-ACN-008	Water		04/03/14 10:20	04/09/14 08:30	☐
1404445-05	S-R2330012-040314-ACN-013	Soil		04/03/14 11:35	04/09/14 08:30	☐
1404445-06	W-R2330012-040314-ACN-009	Water		04/03/14 12:00	04/09/14 08:30	☐
1404445-07	S-R2330012-040314-ACN-014	Soil		04/03/14 13:10	04/09/14 08:30	☐
1404445-08	W-R2330012-040314-ACN-010	Water		04/03/14 13:35	04/09/14 08:30	☐
1404445-09	S-R2330012-040314-ACN-015	Soil		04/03/14 14:45	04/09/14 08:30	☐
1404445-10	W-R2330012-040314-ACN-011	Water		04/03/14 15:00	04/09/14 08:30	☐
1404445-11	Trip Blank	Water		04/03/14	04/09/14 08:30	☐

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
WorkOrder: 1404445

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404445

Case Narrative**Analytical Comments:**

Batch 57500, Method SVO_8270_S, Sample 1404445-02B: One or more SVOC surrogate recoveries are high due to matrix interference.

QC Comments:

Batch 57500, Method SVO_8270_S, Sample SLCSS1-57500: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for Di-n-octyl phthalate.

Batch 57500, Method SVO_8270_S, Sample 1404445-05B MS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for Bis(2-ethylhexyl)phthalate.

Batch 57500, Method SVO_8270_S, Sample 1404445-05B MS: The MS and/or MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for Hexachlorocyclopentadiene.

Batch 57410, Method VOC_8260_S, Sample LCS-57410: The LCS recovery was outside of the upper control limit but within the Sporadic Marginal Exceedence limit. No qualification is necessary for Vinyl chloride.

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-011
Collection Date: 04/03/14 09:45 AM

Work Order: 1404445
Lab ID: 1404445-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
<u>BatchID: 57497</u>							
Mercury	0.27		0.00088	0.018	mg/Kg-dry	1	04/14/14 14:56
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/11/14	Analyst: ML
<u>BatchID: 57469</u>							
Antimony	7.0		0.0084	2.1	mg/Kg-dry	5	04/12/14 07:23
Arsenic	7.8		0.28	0.84	mg/Kg-dry	5	04/12/14 07:23
Barium	130		0.059	2.1	mg/Kg-dry	5	04/12/14 07:23
Beryllium	0.17	J	0.017	0.84	mg/Kg-dry	5	04/12/14 07:23
Cadmium	6.5		0.0084	0.84	mg/Kg-dry	5	04/12/14 07:23
Chromium	57		0.34	2.1	mg/Kg-dry	5	04/12/14 07:23
Cobalt	8.3		0.0084	2.1	mg/Kg-dry	5	04/12/14 07:23
Copper	270		0.41	2.1	mg/Kg-dry	5	04/12/14 07:23
Lead	410		0.0084	2.1	mg/Kg-dry	5	04/12/14 07:23
Nickel	24		0.21	2.1	mg/Kg-dry	5	04/12/14 07:23
Selenium	0.42	J	0.27	1.7	mg/Kg-dry	5	04/12/14 07:23
Silver	0.62	J	0.0084	0.84	mg/Kg-dry	5	04/12/14 07:23
Thallium	U		0.050	2.1	mg/Kg-dry	5	04/12/14 07:23
Vanadium	8.6		0.13	2.1	mg/Kg-dry	5	04/12/14 07:23
<u>BatchID: 57469</u>							
Aluminum	4,400		5.3	42	mg/Kg-dry	50	04/13/14 15:49
Iron	95,000		70	330	mg/Kg-dry	50	04/13/14 00:22
Manganese	700		1.8	21	mg/Kg-dry	50	04/13/14 00:22
Zinc	860		1.8	42	mg/Kg-dry	50	04/13/14 00:22
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/11/14	Analyst: RM
<u>BatchID: 57443</u>							
1,1'-Biphenyl	79	J	6.2	410	µg/Kg-dry	1	04/12/14 20:21
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	04/12/14 20:21
2,4,6-Trichlorophenol	U		7.0	200	µg/Kg-dry	1	04/12/14 20:21
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	04/12/14 20:21
2,4-Dimethylphenol	U		67	410	µg/Kg-dry	1	04/12/14 20:21
2,4-Dinitrophenol	U		38	830	µg/Kg-dry	1	04/12/14 20:21
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	04/12/14 20:21
2,6-Dinitrotoluene	U		22	200	µg/Kg-dry	1	04/12/14 20:21
2-Chloronaphthalene	U		2.0	100	µg/Kg-dry	1	04/12/14 20:21
2-Chlorophenol	U		13	200	µg/Kg-dry	1	04/12/14 20:21
2-Methylnaphthalene	210		3.5	100	µg/Kg-dry	1	04/12/14 20:21
2-Methylphenol	U		17	200	µg/Kg-dry	1	04/12/14 20:21

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-011
Collection Date: 04/03/14 09:45 AM

Work Order: 1404445
Lab ID: 1404445-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		16	830	µg/Kg-dry	1	04/12/14 20:21
2-Nitrophenol	U		14	200	µg/Kg-dry	1	04/12/14 20:21
3,3'-Dichlorobenzidine	U		520	830	µg/Kg-dry	1	04/12/14 20:21
3-Nitroaniline	U		14	830	µg/Kg-dry	1	04/12/14 20:21
4,6-Dinitro-2-methylphenol	U		35	410	µg/Kg-dry	1	04/12/14 20:21
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	04/12/14 20:21
4-Chloro-3-methylphenol	U		9.7	200	µg/Kg-dry	1	04/12/14 20:21
4-Chloroaniline	U		12	410	µg/Kg-dry	1	04/12/14 20:21
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	04/12/14 20:21
4-Methylphenol	200	J	20	200	µg/Kg-dry	1	04/12/14 20:21
4-Nitroaniline	U		12	830	µg/Kg-dry	1	04/12/14 20:21
4-Nitrophenol	U		8.3	830	µg/Kg-dry	1	04/12/14 20:21
Acenaphthene	160		1.3	38	µg/Kg-dry	1	04/12/14 20:21
Acenaphthylene	U		1.5	38	µg/Kg-dry	1	04/12/14 20:21
Acetophenone	U		6.2	410	µg/Kg-dry	1	04/12/14 20:21
Anthracene	260		1.6	38	µg/Kg-dry	1	04/12/14 20:21
Atrazine	U		13	63	µg/Kg-dry	1	04/12/14 20:21
Benzaldehyde	U		16	410	µg/Kg-dry	1	04/12/14 20:21
Benzo(a)anthracene	240		1.6	38	µg/Kg-dry	1	04/12/14 20:21
Benzo(a)pyrene	210		2.7	38	µg/Kg-dry	1	04/12/14 20:21
Benzo(b)fluoranthene	290		2.4	38	µg/Kg-dry	1	04/12/14 20:21
Benzo(g,h,i)perylene	120		3.3	38	µg/Kg-dry	1	04/12/14 20:21
Benzo(k)fluoranthene	110		1.8	38	µg/Kg-dry	1	04/12/14 20:21
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	04/12/14 20:21
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	04/12/14 20:21
Bis(2-chloroisopropyl)ether	U		18	200	µg/Kg-dry	1	04/12/14 20:21
Bis(2-ethylhexyl)phthalate	1,800		14	410	µg/Kg-dry	1	04/12/14 20:21
Butyl benzyl phthalate	U		16	200	µg/Kg-dry	1	04/12/14 20:21
Caprolactam	U		18	410	µg/Kg-dry	1	04/12/14 20:21
Carbazole	380		12	200	µg/Kg-dry	1	04/12/14 20:21
Chrysene	260		2.0	38	µg/Kg-dry	1	04/12/14 20:21
Dibenzo(a,h)anthracene	60		3.1	38	µg/Kg-dry	1	04/12/14 20:21
Dibenzofuran	200	J	13	200	µg/Kg-dry	1	04/12/14 20:21
Diethyl phthalate	U		13	410	µg/Kg-dry	1	04/12/14 20:21
Dimethyl phthalate	U		14	410	µg/Kg-dry	1	04/12/14 20:21
Di-n-butyl phthalate	960		6.0	410	µg/Kg-dry	1	04/12/14 20:21
Di-n-octyl phthalate	U		14	200	µg/Kg-dry	1	04/12/14 20:21
Fluoranthene	890		2.9	38	µg/Kg-dry	1	04/12/14 20:21
Fluorene	480		2.8	38	µg/Kg-dry	1	04/12/14 20:21
Hexachlorobenzene	U		12	200	µg/Kg-dry	1	04/12/14 20:21

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-011
Collection Date: 04/03/14 09:45 AM

Work Order: 1404445
Lab ID: 1404445-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		14	63	µg/Kg-dry	1	04/12/14 20:21
Hexachlorocyclopentadiene	U		13	410	µg/Kg-dry	1	04/12/14 20:21
Hexachloroethane	U		19	200	µg/Kg-dry	1	04/12/14 20:21
Indeno(1,2,3-cd)pyrene	160		2.8	38	µg/Kg-dry	1	04/12/14 20:21
Isophorone	U		14	200	µg/Kg-dry	1	04/12/14 20:21
Naphthalene	130		3.1	38	µg/Kg-dry	1	04/12/14 20:21
Nitrobenzene	U		16	200	µg/Kg-dry	1	04/12/14 20:21
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	04/12/14 20:21
N-Nitrosodiphenylamine	U		74	200	µg/Kg-dry	1	04/12/14 20:21
Pentachlorophenol	U		8.1	25	µg/Kg-dry	1	04/12/14 20:21
Phenanthrene	1,400		1.7	38	µg/Kg-dry	1	04/12/14 20:21
Phenol	U		14	200	µg/Kg-dry	1	04/12/14 20:21
Pyrene	580		2.8	38	µg/Kg-dry	1	04/12/14 20:21
Surr: 2,4,6-Tribromophenol	67.1			34-140	%REC	1	04/12/14 20:21
Surr: 2-Fluorobiphenyl	59.7			12-100	%REC	1	04/12/14 20:21
Surr: 2-Fluorophenol	58.2			33-117	%REC	1	04/12/14 20:21
Surr: 4-Terphenyl-d14	65.2			25-137	%REC	1	04/12/14 20:21
Surr: Nitrobenzene-d5	58.6			37-107	%REC	1	04/12/14 20:21
Surr: Phenol-d6	61.0			40-106	%REC	1	04/12/14 20:21
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: BG
BatchID: 57410							
1,1,1-Trichloroethane	U		20	52	µg/Kg-dry	1	04/13/14 16:17
1,1,2,2-Tetrachloroethane	U		23	52	µg/Kg-dry	1	04/13/14 16:17
1,1,2-Trichloroethane	U		18	52	µg/Kg-dry	1	04/13/14 16:17
1,1,2-Trichlorotrifluoroethane	U		19	52	µg/Kg-dry	1	04/13/14 16:17
1,1-Dichloroethane	U		19	52	µg/Kg-dry	1	04/13/14 16:17
1,1-Dichloroethene	U		22	52	µg/Kg-dry	1	04/13/14 16:17
1,2,4-Trichlorobenzene	U		27	52	µg/Kg-dry	1	04/13/14 16:17
1,2-Dibromo-3-chloropropane	U		25	52	µg/Kg-dry	1	04/13/14 16:17
1,2-Dibromoethane	U		21	52	µg/Kg-dry	1	04/13/14 16:17
1,2-Dichlorobenzene	U		21	52	µg/Kg-dry	1	04/13/14 16:17
1,2-Dichloroethane	U		25	52	µg/Kg-dry	1	04/13/14 16:17
1,2-Dichloropropane	U		17	52	µg/Kg-dry	1	04/13/14 16:17
1,3-Dichlorobenzene	U		21	52	µg/Kg-dry	1	04/13/14 16:17
1,4-Dichlorobenzene	U		20	52	µg/Kg-dry	1	04/13/14 16:17
2-Butanone	330	J	130	350	µg/Kg-dry	1	04/13/14 16:17
2-Hexanone	U		13	52	µg/Kg-dry	1	04/13/14 16:17
4-Methyl-2-pentanone	U		18	52	µg/Kg-dry	1	04/13/14 16:17
Acetone	310	J	110	310	µg/Kg-dry	1	04/13/14 16:17

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-011
Collection Date: 04/03/14 09:45 AM

Work Order: 1404445
Lab ID: 1404445-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	130		21	52	µg/Kg-dry	1	04/13/14 16:17
Bromodichloromethane	U		12	52	µg/Kg-dry	1	04/13/14 16:17
Bromoform	U		10	52	µg/Kg-dry	1	04/13/14 16:17
Bromomethane	U		20	130	µg/Kg-dry	1	04/13/14 16:17
Carbon disulfide	63	J	26	70	µg/Kg-dry	1	04/13/14 16:17
Carbon tetrachloride	U		15	52	µg/Kg-dry	1	04/13/14 16:17
Chlorobenzene	U		21	52	µg/Kg-dry	1	04/13/14 16:17
Chloroethane	U		110	170	µg/Kg-dry	1	04/13/14 16:17
Chloroform	U		21	52	µg/Kg-dry	1	04/13/14 16:17
Chloromethane	U		29	170	µg/Kg-dry	1	04/13/14 16:17
cis-1,2-Dichloroethene	U		21	52	µg/Kg-dry	1	04/13/14 16:17
cis-1,3-Dichloropropene	U		18	52	µg/Kg-dry	1	04/13/14 16:17
Cyclohexane	U		23	52	µg/Kg-dry	1	04/13/14 16:17
Dibromochloromethane	U		9.7	52	µg/Kg-dry	1	04/13/14 16:17
Dichlorodifluoromethane	U		24	52	µg/Kg-dry	1	04/13/14 16:17
Ethylbenzene	1,100		19	52	µg/Kg-dry	1	04/13/14 16:17
Isopropylbenzene	160		22	52	µg/Kg-dry	1	04/13/14 16:17
Methyl acetate	200	J	70	350	µg/Kg-dry	1	04/13/14 16:17
Methyl tert-butyl ether	U		22	52	µg/Kg-dry	1	04/13/14 16:17
Methylcyclohexane	130	J	24	140	µg/Kg-dry	1	04/13/14 16:17
Methylene chloride	U		20	52	µg/Kg-dry	1	04/13/14 16:17
Styrene	U		19	52	µg/Kg-dry	1	04/13/14 16:17
Tetrachloroethene	U		23	52	µg/Kg-dry	1	04/13/14 16:17
Toluene	760		20	52	µg/Kg-dry	1	04/13/14 16:17
trans-1,2-Dichloroethene	U		16	52	µg/Kg-dry	1	04/13/14 16:17
trans-1,3-Dichloropropene	U		17	52	µg/Kg-dry	1	04/13/14 16:17
Trichloroethene	U		24	52	µg/Kg-dry	1	04/13/14 16:17
Trichlorofluoromethane	U		14	52	µg/Kg-dry	1	04/13/14 16:17
Vinyl chloride	U		24	52	µg/Kg-dry	1	04/13/14 16:17
Xylenes, Total	2,300		62	160	µg/Kg-dry	1	04/13/14 16:17
Surr: 1,2-Dichloroethane-d4	97.3			70-130	%REC	1	04/13/14 16:17
Surr: 4-Bromofluorobenzene	97.8			70-130	%REC	1	04/13/14 16:17
Surr: Dibromofluoromethane	98.6			70-130	%REC	1	04/13/14 16:17
Surr: Toluene-d8	100			70-130	%REC	1	04/13/14 16:17

CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: <u>57588</u>						
Cyanide, Total	0.31	J	0.029	0.63	mg/Kg-dry	04/16/14 16:03
MOISTURE			A2540 G			Analyst: AT
BatchID: <u>R138681</u>						

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-011
Collection Date: 04/03/14 09:45 AM

Work Order: 1404445
Lab ID: 1404445-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	21		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-012
Collection Date: 04/03/14 09:50 AM

Work Order: 1404445
Lab ID: 1404445-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
<u>BatchID: 57497</u>							
Mercury	0.26		0.00086	0.017	mg/Kg-dry	1	04/14/14 15:05
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/12/14	Analyst: RH
<u>BatchID: 57490</u>							
Antimony	17		0.0093	2.3	mg/Kg-dry	5	04/13/14 21:05
Arsenic	15		0.32	0.93	mg/Kg-dry	5	04/13/14 21:05
Barium	760		0.065	2.3	mg/Kg-dry	5	04/13/14 21:05
Beryllium	0.45	J	0.019	0.93	mg/Kg-dry	5	04/13/14 21:05
Cadmium	12		0.0093	0.93	mg/Kg-dry	5	04/13/14 21:05
Chromium	47		0.38	2.3	mg/Kg-dry	5	04/13/14 21:05
Cobalt	32		0.0093	2.3	mg/Kg-dry	5	04/13/14 21:05
Copper	600		0.46	2.3	mg/Kg-dry	5	04/13/14 21:05
Lead	580		0.0093	2.3	mg/Kg-dry	5	04/13/14 21:05
Manganese	740		0.21	2.3	mg/Kg-dry	5	04/13/14 21:05
Nickel	89		0.23	2.3	mg/Kg-dry	5	04/13/14 21:05
Selenium	0.91	J	0.30	1.9	mg/Kg-dry	5	04/13/14 21:05
Silver	3.5		0.0093	0.93	mg/Kg-dry	5	04/13/14 21:05
Thallium	0.063	J	0.056	2.3	mg/Kg-dry	5	04/13/14 21:05
Vanadium	12		0.14	2.3	mg/Kg-dry	5	04/13/14 21:05
<u>BatchID: 57490</u>							
Aluminum	11,000		5.9	47	mg/Kg-dry	50	04/15/14 14:09
Iron	97,000		78	370	mg/Kg-dry	50	04/15/14 14:09
Zinc	2,600		2.0	47	mg/Kg-dry	50	04/15/14 14:09
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/13/14	Analyst: RM
<u>BatchID: 57500</u>							
1,1'-Biphenyl	U		240	16,000	µg/Kg-dry	10	04/15/14 01:05
2,4,5-Trichlorophenol	U		410	7,900	µg/Kg-dry	10	04/15/14 01:05
2,4,6-Trichlorophenol	U		280	7,900	µg/Kg-dry	10	04/15/14 01:05
2,4-Dichlorophenol	U		480	7,900	µg/Kg-dry	10	04/15/14 01:05
2,4-Dimethylphenol	U		2,600	16,000	µg/Kg-dry	10	04/15/14 01:05
2,4-Dinitrophenol	U		1,500	33,000	µg/Kg-dry	10	04/15/14 01:05
2,4-Dinitrotoluene	U		520	7,900	µg/Kg-dry	10	04/15/14 01:05
2,6-Dinitrotoluene	U		850	7,900	µg/Kg-dry	10	04/15/14 01:05
2-Chloronaphthalene	U		77	3,900	µg/Kg-dry	10	04/15/14 01:05
2-Chlorophenol	U		490	7,900	µg/Kg-dry	10	04/15/14 01:05
2-Methylnaphthalene	U		140	3,900	µg/Kg-dry	10	04/15/14 01:05
2-Methylphenol	U		670	7,900	µg/Kg-dry	10	04/15/14 01:05

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-012
Collection Date: 04/03/14 09:50 AM

Work Order: 1404445
Lab ID: 1404445-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		640	33,000	µg/Kg-dry	10	04/15/14 01:05
2-Nitrophenol	U		550	7,900	µg/Kg-dry	10	04/15/14 01:05
3,3'-Dichlorobenzidine	U		20,000	33,000	µg/Kg-dry	10	04/15/14 01:05
3-Nitroaniline	U		560	33,000	µg/Kg-dry	10	04/15/14 01:05
4,6-Dinitro-2-methylphenol	U		1,400	16,000	µg/Kg-dry	10	04/15/14 01:05
4-Bromophenyl phenyl ether	U		440	7,900	µg/Kg-dry	10	04/15/14 01:05
4-Chloro-3-methylphenol	U		380	7,900	µg/Kg-dry	10	04/15/14 01:05
4-Chloroaniline	U		490	16,000	µg/Kg-dry	10	04/15/14 01:05
4-Chlorophenyl phenyl ether	U		480	7,900	µg/Kg-dry	10	04/15/14 01:05
4-Methylphenol	8,000		780	7,900	µg/Kg-dry	10	04/15/14 01:05
4-Nitroaniline	U		450	33,000	µg/Kg-dry	10	04/15/14 01:05
4-Nitrophenol	U		320	33,000	µg/Kg-dry	10	04/15/14 01:05
Acenaphthene	U		49	1,500	µg/Kg-dry	10	04/15/14 01:05
Acenaphthylene	U		60	1,500	µg/Kg-dry	10	04/15/14 01:05
Acetophenone	U		250	16,000	µg/Kg-dry	10	04/15/14 01:05
Anthracene	1,900		65	1,500	µg/Kg-dry	10	04/15/14 01:05
Atrazine	U		500	2,500	µg/Kg-dry	10	04/15/14 01:05
Benzaldehyde	U		620	16,000	µg/Kg-dry	10	04/15/14 01:05
Benzo(a)anthracene	2,400		65	1,500	µg/Kg-dry	10	04/15/14 01:05
Benzo(a)pyrene	2,400		110	1,500	µg/Kg-dry	10	04/15/14 01:05
Benzo(b)fluoranthene	2,800		96	1,500	µg/Kg-dry	10	04/15/14 01:05
Benzo(g,h,i)perylene	1,400	J	130	1,500	µg/Kg-dry	10	04/15/14 01:05
Benzo(k)fluoranthene	870	J	69	1,500	µg/Kg-dry	10	04/15/14 01:05
Bis(2-chloroethoxy)methane	U		520	7,900	µg/Kg-dry	10	04/15/14 01:05
Bis(2-chloroethyl)ether	U		510	7,900	µg/Kg-dry	10	04/15/14 01:05
Bis(2-chloroisopropyl)ether	U		690	7,900	µg/Kg-dry	10	04/15/14 01:05
Bis(2-ethylhexyl)phthalate	U		540	16,000	µg/Kg-dry	10	04/15/14 01:05
Butyl benzyl phthalate	U		620	7,900	µg/Kg-dry	10	04/15/14 01:05
Caprolactam	U		720	16,000	µg/Kg-dry	10	04/15/14 01:05
Carbazole	3,700	J	490	7,900	µg/Kg-dry	10	04/15/14 01:05
Chrysene	2,000		78	1,500	µg/Kg-dry	10	04/15/14 01:05
Dibenzo(a,h)anthracene	U		120	1,500	µg/Kg-dry	10	04/15/14 01:05
Dibenzofuran	1,800	J	510	7,900	µg/Kg-dry	10	04/15/14 01:05
Diethyl phthalate	U		520	16,000	µg/Kg-dry	10	04/15/14 01:05
Dimethyl phthalate	U		550	16,000	µg/Kg-dry	10	04/15/14 01:05
Di-n-butyl phthalate	4,000	J	240	16,000	µg/Kg-dry	10	04/15/14 01:05
Di-n-octyl phthalate	U		530	7,900	µg/Kg-dry	10	04/15/14 01:05
Fluoranthene	7,200		110	1,500	µg/Kg-dry	10	04/15/14 01:05
Fluorene	4,100		110	1,500	µg/Kg-dry	10	04/15/14 01:05
Hexachlorobenzene	U		460	7,900	µg/Kg-dry	10	04/15/14 01:05

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-012
Collection Date: 04/03/14 09:50 AM

Work Order: 1404445
Lab ID: 1404445-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		550	2,500	µg/Kg-dry	10	04/15/14 01:05
Hexachlorocyclopentadiene	U		520	16,000	µg/Kg-dry	10	04/15/14 01:05
Hexachloroethane	U		760	7,900	µg/Kg-dry	10	04/15/14 01:05
Indeno(1,2,3-cd)pyrene	2,300		110	1,500	µg/Kg-dry	10	04/15/14 01:05
Isophorone	U		550	7,900	µg/Kg-dry	10	04/15/14 01:05
Naphthalene	2,000		120	1,500	µg/Kg-dry	10	04/15/14 01:05
Nitrobenzene	U		640	7,900	µg/Kg-dry	10	04/15/14 01:05
N-Nitrosodi-n-propylamine	U		630	7,900	µg/Kg-dry	10	04/15/14 01:05
N-Nitrosodiphenylamine	U		2,900	7,900	µg/Kg-dry	10	04/15/14 01:05
Pentachlorophenol	U		320	990	µg/Kg-dry	10	04/15/14 01:05
Phenanthrene	8,800		66	1,500	µg/Kg-dry	10	04/15/14 01:05
Phenol	U		560	7,900	µg/Kg-dry	10	04/15/14 01:05
Pyrene	4,500		110	1,500	µg/Kg-dry	10	04/15/14 01:05
Surr: 2,4,6-Tribromophenol	155	S		34-140	%REC	10	04/15/14 01:05
Surr: 2-Fluorobiphenyl	101	S		12-100	%REC	10	04/15/14 01:05
Surr: 2-Fluorophenol	106			33-117	%REC	10	04/15/14 01:05
Surr: 4-Terphenyl-d14	140	S		25-137	%REC	10	04/15/14 01:05
Surr: Nitrobenzene-d5	164	S		37-107	%REC	10	04/15/14 01:05
Surr: Phenol-d6	109	S		40-106	%REC	10	04/15/14 01:05
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: BG
BatchID: 57410							
1,1,1-Trichloroethane	U		25	66	µg/Kg-dry	1	04/13/14 16:43
1,1,2,2-Tetrachloroethane	U		29	66	µg/Kg-dry	1	04/13/14 16:43
1,1,2-Trichloroethane	U		23	66	µg/Kg-dry	1	04/13/14 16:43
1,1,2-Trichlorotrifluoroethane	U		24	66	µg/Kg-dry	1	04/13/14 16:43
1,1-Dichloroethane	U		24	66	µg/Kg-dry	1	04/13/14 16:43
1,1-Dichloroethene	U		28	66	µg/Kg-dry	1	04/13/14 16:43
1,2,4-Trichlorobenzene	U		34	66	µg/Kg-dry	1	04/13/14 16:43
1,2-Dibromo-3-chloropropane	U		32	66	µg/Kg-dry	1	04/13/14 16:43
1,2-Dibromoethane	U		26	66	µg/Kg-dry	1	04/13/14 16:43
1,2-Dichlorobenzene	85		26	66	µg/Kg-dry	1	04/13/14 16:43
1,2-Dichloroethane	U		31	66	µg/Kg-dry	1	04/13/14 16:43
1,2-Dichloropropane	U		22	66	µg/Kg-dry	1	04/13/14 16:43
1,3-Dichlorobenzene	U		26	66	µg/Kg-dry	1	04/13/14 16:43
1,4-Dichlorobenzene	U		25	66	µg/Kg-dry	1	04/13/14 16:43
2-Butanone	660	J	160	680	µg/Kg-dry	1	04/13/14 16:43
2-Hexanone	U		16	66	µg/Kg-dry	1	04/13/14 16:43
4-Methyl-2-pentanone	U		22	66	µg/Kg-dry	1	04/13/14 16:43
Acetone	370	J	140	370	µg/Kg-dry	1	04/13/14 16:43

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-012
Collection Date: 04/03/14 09:50 AM

Work Order: 1404445
Lab ID: 1404445-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	87		26	66	µg/Kg-dry	1	04/13/14 16:43
Bromodichloromethane	U		15	66	µg/Kg-dry	1	04/13/14 16:43
Bromoform	U		13	66	µg/Kg-dry	1	04/13/14 16:43
Bromomethane	U		25	170	µg/Kg-dry	1	04/13/14 16:43
Carbon disulfide	120	J	33	130	µg/Kg-dry	1	04/13/14 16:43
Carbon tetrachloride	U		19	66	µg/Kg-dry	1	04/13/14 16:43
Chlorobenzene	U		27	66	µg/Kg-dry	1	04/13/14 16:43
Chloroethane	U		140	220	µg/Kg-dry	1	04/13/14 16:43
Chloroform	U		27	66	µg/Kg-dry	1	04/13/14 16:43
Chloromethane	U		37	220	µg/Kg-dry	1	04/13/14 16:43
cis-1,2-Dichloroethene	U		27	66	µg/Kg-dry	1	04/13/14 16:43
cis-1,3-Dichloropropene	U		23	66	µg/Kg-dry	1	04/13/14 16:43
Cyclohexane	U		30	66	µg/Kg-dry	1	04/13/14 16:43
Dibromochloromethane	U		12	66	µg/Kg-dry	1	04/13/14 16:43
Dichlorodifluoromethane	U		30	66	µg/Kg-dry	1	04/13/14 16:43
Ethylbenzene	120		25	66	µg/Kg-dry	1	04/13/14 16:43
Isopropylbenzene	32	J	28	66	µg/Kg-dry	1	04/13/14 16:43
Methyl acetate	210	J	89	440	µg/Kg-dry	1	04/13/14 16:43
Methyl tert-butyl ether	U		28	66	µg/Kg-dry	1	04/13/14 16:43
Methylcyclohexane	120	J	31	130	µg/Kg-dry	1	04/13/14 16:43
Methylene chloride	U		26	66	µg/Kg-dry	1	04/13/14 16:43
Styrene	U		25	66	µg/Kg-dry	1	04/13/14 16:43
Tetrachloroethene	U		29	66	µg/Kg-dry	1	04/13/14 16:43
Toluene	270		25	66	µg/Kg-dry	1	04/13/14 16:43
trans-1,2-Dichloroethene	U		20	66	µg/Kg-dry	1	04/13/14 16:43
trans-1,3-Dichloropropene	U		22	66	µg/Kg-dry	1	04/13/14 16:43
Trichloroethene	U		31	66	µg/Kg-dry	1	04/13/14 16:43
Trichlorofluoromethane	U		18	66	µg/Kg-dry	1	04/13/14 16:43
Vinyl chloride	U		30	66	µg/Kg-dry	1	04/13/14 16:43
Xylenes, Total	180	J	78	200	µg/Kg-dry	1	04/13/14 16:43
Surr: 1,2-Dichloroethane-d4	97.4			70-130	%REC	1	04/13/14 16:43
Surr: 4-Bromofluorobenzene	99.6			70-130	%REC	1	04/13/14 16:43
Surr: Dibromofluoromethane	97.8			70-130	%REC	1	04/13/14 16:43
Surr: Toluene-d8	99.6			70-130	%REC	1	04/13/14 16:43
CYANIDE, TOTAL			SW9012A			Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: 57588							
Cyanide, Total	0.24	J	0.029	0.62	mg/Kg-dry	1	04/16/14 16:03
MOISTURE			A2540 G				Analyst: AT
BatchID: R138681							

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-012
Collection Date: 04/03/14 09:50 AM

Work Order: 1404445
Lab ID: 1404445-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	19		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-007
Collection Date: 04/03/14 10:15 AM

Work Order: 1404445
Lab ID: 1404445-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID: 57496</u>							
Mercury	0.0010		0.00010	0.00020	mg/L	1	04/15/14 14:31
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID: 57496</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/15/14 14:33
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: ML
<u>BatchID: 57464</u>							
Antimony	0.0026	J	0.00018	0.010	mg/L	5	04/12/14 11:03
Arsenic	0.061		0.0029	0.025	mg/L	5	04/12/14 11:03
Barium	5.5		0.00032	0.50	mg/L	5	04/12/14 11:03
Beryllium	0.0060		0.00041	0.0050	mg/L	5	04/12/14 11:03
Cadmium	0.013		0.00022	0.0050	mg/L	5	04/12/14 11:03
Chromium	0.19		0.0014	0.050	mg/L	5	04/12/14 11:03
Cobalt	0.066	J	0.00020	0.10	mg/L	5	04/12/14 11:03
Copper	0.25		0.0026	0.020	mg/L	5	04/12/14 11:03
Iron	170		0.027	1.0	mg/L	5	04/12/14 11:03
Lead	1.7		0.00026	0.015	mg/L	5	04/12/14 11:03
Manganese	2.3		0.00027	0.25	mg/L	5	04/12/14 11:03
Nickel	0.20		0.0013	0.10	mg/L	5	04/12/14 11:03
Selenium	0.013	J	0.0032	0.025	mg/L	5	04/12/14 11:03
Silver	0.0014		0.00021	0.0010	mg/L	5	04/12/14 11:03
Thallium	0.0023	J	0.00031	0.010	mg/L	5	04/12/14 11:03
Vanadium	0.24		0.00082	0.020	mg/L	5	04/12/14 11:03
Zinc	2.4		0.0024	0.25	mg/L	5	04/12/14 11:03
<u>BatchID: 57464</u>							
Aluminum	100		0.039	2.5	mg/L	50	04/12/14 15:59
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID: 57465</u>							
Aluminum	0.16	J	0.0039	0.25	mg/L	5	04/12/14 13:26
Antimony	0.00075	J	0.00018	0.010	mg/L	5	04/12/14 13:26
Arsenic	0.0043	J	0.0029	0.025	mg/L	5	04/12/14 13:26
Barium	2.8		0.00032	0.50	mg/L	5	04/12/14 13:26
Beryllium	U		0.00041	0.0050	mg/L	5	04/15/14 06:57
Cadmium	U		0.00022	0.0050	mg/L	5	04/12/14 13:26
Chromium	0.0016	J	0.0014	0.050	mg/L	5	04/12/14 13:26
Cobalt	0.0064	J	0.00020	0.10	mg/L	5	04/15/14 06:57
Copper	U		0.0026	0.020	mg/L	5	04/15/14 06:57

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-007
Collection Date: 04/03/14 10:15 AM

Work Order: 1404445
Lab ID: 1404445-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron	27		0.027	1.0	mg/L	5	04/12/14 13:26
Lead	0.00047	J	0.00026	0.015	mg/L	5	04/12/14 13:26
Manganese	0.26		0.00027	0.25	mg/L	5	04/15/14 06:57
Nickel	0.0097	J	0.0013	0.10	mg/L	5	04/15/14 06:57
Selenium	U		0.0032	0.025	mg/L	5	04/12/14 13:26
Silver	U		0.00021	0.0010	mg/L	5	04/12/14 13:26
Thallium	U		0.00031	0.010	mg/L	5	04/12/14 13:26
Vanadium	0.0033	J	0.00082	0.020	mg/L	5	04/15/14 06:57
Zinc	0.0029	J	0.0024	0.25	mg/L	5	04/15/14 06:57
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/10/14			Analyst: RM
<u>BatchID: 57388</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/10/14 21:29
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/10/14 21:29
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/10/14 21:29
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/10/14 21:29
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/10/14 21:29
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/10/14 21:29
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/10/14 21:29
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/10/14 21:29
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/10/14 21:29
2-Chlorophenol	U		0.32	10	µg/L	1	04/10/14 21:29
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/10/14 21:29
2-Methylphenol	U		0.20	10	µg/L	1	04/10/14 21:29
2-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 21:29
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/10/14 21:29
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/10/14 21:29
3-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 21:29
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/10/14 21:29
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 21:29
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/10/14 21:29
4-Chloroaniline	U		0.32	10	µg/L	1	04/10/14 21:29
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 21:29
4-Methylphenol	U		0.20	10	µg/L	1	04/10/14 21:29
4-Nitroaniline	U		0.30	25	µg/L	1	04/10/14 21:29
4-Nitrophenol	U		0.51	25	µg/L	1	04/10/14 21:29
Acenaphthene	U		0.11	5.0	µg/L	1	04/10/14 21:29
Acenaphthylene	U		0.12	5.0	µg/L	1	04/10/14 21:29
Acetophenone	U		0.090	5.0	µg/L	1	04/10/14 21:29
Anthracene	U		0.72	5.0	µg/L	1	04/10/14 21:29

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-007
Collection Date: 04/03/14 10:15 AM

Work Order: 1404445
Lab ID: 1404445-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/10/14 21:29
Benzaldehyde	U		0.46	10	µg/L	1	04/10/14 21:29
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/10/14 21:29
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/10/14 21:29
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/10/14 21:29
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/10/14 21:29
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/10/14 21:29
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/10/14 21:29
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/10/14 21:29
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/10/14 21:29
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/10/14 21:29
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/10/14 21:29
Caprolactam	U		4.7	10	µg/L	1	04/10/14 21:29
Carbazole	U		0.16	10	µg/L	1	04/10/14 21:29
Chrysene	U		0.71	1.0	µg/L	1	04/10/14 21:29
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/10/14 21:29
Dibenzofuran	U		0.28	4.0	µg/L	1	04/10/14 21:29
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/10/14 21:29
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/10/14 21:29
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/10/14 21:29
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/10/14 21:29
Fluoranthene	U		0.77	1.0	µg/L	1	04/10/14 21:29
Fluorene	U		0.10	5.0	µg/L	1	04/10/14 21:29
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/10/14 21:29
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/10/14 21:29
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/10/14 21:29
Hexachloroethane	U		0.47	5.0	µg/L	1	04/10/14 21:29
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/10/14 21:29
Isophorone	U		0.30	5.0	µg/L	1	04/10/14 21:29
Naphthalene	U		0.12	5.0	µg/L	1	04/10/14 21:29
Nitrobenzene	U		0.33	3.0	µg/L	1	04/10/14 21:29
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/10/14 21:29
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/10/14 21:29
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/10/14 21:29
Phenanthrene	U		0.86	2.0	µg/L	1	04/10/14 21:29
Phenol	U		0.32	5.0	µg/L	1	04/10/14 21:29
Pyrene	U		0.65	5.0	µg/L	1	04/10/14 21:29
Surr: 2,4,6-Tribromophenol	85.2			32-115	%REC	1	04/10/14 21:29
Surr: 2-Fluorobiphenyl	60.0			32-100	%REC	1	04/10/14 21:29
Surr: 2-Fluorophenol	38.8			22-59	%REC	1	04/10/14 21:29

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-007
Collection Date: 04/03/14 10:15 AM

Work Order: 1404445
Lab ID: 1404445-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	75.0			23-112	%REC	1	04/10/14 21:29
Surr: Nitrobenzene-d5	64.6			31-93	%REC	1	04/10/14 21:29
Surr: Phenol-d6	26.1			13-36	%REC	1	04/10/14 21:29
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R138890							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:07
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/15/14 02:07
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:07
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/15/14 02:07
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/15/14 02:07
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 02:07
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/15/14 02:07
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/15/14 02:07
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/15/14 02:07
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/15/14 02:07
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:07
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/15/14 02:07
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 02:07
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 02:07
2-Butanone	U		0.64	25	µg/L	1	04/15/14 02:07
2-Hexanone	U		0.19	50	µg/L	1	04/15/14 02:07
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/15/14 02:07
Acetone	7.1	J	3.0	50	µg/L	1	04/15/14 02:07
Benzene	2.5		0.14	1.0	µg/L	1	04/15/14 02:07
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/15/14 02:07
Bromoform	U		0.18	1.0	µg/L	1	04/15/14 02:07
Bromomethane	U		0.38	5.0	µg/L	1	04/15/14 02:07
Carbon disulfide	U		0.26	5.0	µg/L	1	04/15/14 02:07
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/15/14 02:07
Chlorobenzene	1.2		0.12	1.0	µg/L	1	04/15/14 02:07
Chloroethane	U		0.25	5.0	µg/L	1	04/15/14 02:07
Chloroform	U		0.15	1.0	µg/L	1	04/15/14 02:07
Chloromethane	U		0.29	5.0	µg/L	1	04/15/14 02:07
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/15/14 02:07
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/15/14 02:07
Cyclohexane	U		0.20	1.0	µg/L	1	04/15/14 02:07
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/15/14 02:07
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/15/14 02:07
Ethylbenzene	0.84	J	0.12	1.0	µg/L	1	04/15/14 02:07

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-007
Collection Date: 04/03/14 10:15 AM

Work Order: 1404445
Lab ID: 1404445-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	1.9	J	0.11	5.0	µg/L	1	04/15/14 02:07
Methyl acetate	U		0.76	10	µg/L	1	04/15/14 02:07
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/15/14 02:07
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/15/14 02:07
Methylene chloride	U		0.75	5.0	µg/L	1	04/15/14 02:07
Styrene	U		0.12	1.0	µg/L	1	04/15/14 02:07
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/15/14 02:07
Toluene	0.54	J	0.13	1.0	µg/L	1	04/15/14 02:07
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 02:07
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/15/14 02:07
Trichloroethene	U		0.16	1.0	µg/L	1	04/15/14 02:07
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/15/14 02:07
Vinyl chloride	U		0.15	1.0	µg/L	1	04/15/14 02:07
Xylenes, Total	2.8	J	0.30	3.0	µg/L	1	04/15/14 02:07
Surr: 1,2-Dichloroethane-d4	99.9			70-120	%REC	1	04/15/14 02:07
Surr: 4-Bromofluorobenzene	89.2			75-120	%REC	1	04/15/14 02:07
Surr: Dibromofluoromethane	97.9			85-115	%REC	1	04/15/14 02:07
Surr: Toluene-d8	100			85-120	%REC	1	04/15/14 02:07
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/14/14		Analyst: JB
BatchID: <u>57542</u>							
Cyanide, Amenable	0.0025	J	0.0010	0.0050	mg/L	1	04/14/14 14:57

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-008
Collection Date: 04/03/14 10:20 AM

Work Order: 1404445
Lab ID: 1404445-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID:</u> 57496							
Mercury	0.00099		0.00010	0.00020	mg/L	1	04/15/14 14:35
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID:</u> 57496							
Mercury	U		0.00010	0.00020	mg/L	1	04/15/14 14:38
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID:</u> 57465							
Aluminum	79		0.0039	0.25	mg/L	5	04/15/14 08:58
Antimony	0.0021	J	0.00018	0.010	mg/L	5	04/15/14 08:58
Arsenic	0.042		0.0029	0.025	mg/L	5	04/15/14 08:58
Barium	4.9		0.00032	0.50	mg/L	5	04/15/14 08:58
Beryllium	0.0042	J	0.00041	0.0050	mg/L	5	04/15/14 08:58
Cadmium	0.011		0.00022	0.0050	mg/L	5	04/15/14 08:58
Chromium	0.14		0.0014	0.050	mg/L	5	04/15/14 08:58
Cobalt	0.048	J	0.00020	0.10	mg/L	5	04/15/14 08:58
Copper	0.20		0.0026	0.020	mg/L	5	04/15/14 08:58
Iron	130		0.027	1.0	mg/L	5	04/15/14 08:58
Lead	1.9		0.00026	0.015	mg/L	5	04/15/14 08:58
Manganese	1.7		0.00027	0.25	mg/L	5	04/16/14 04:10
Nickel	0.15		0.0013	0.10	mg/L	5	04/15/14 08:58
Selenium	U		0.0032	0.025	mg/L	5	04/15/14 08:58
Silver	0.0011		0.00021	0.0010	mg/L	5	04/15/14 08:58
Thallium	0.00095	J	0.00031	0.010	mg/L	5	04/15/14 08:58
Vanadium	0.17		0.00082	0.020	mg/L	5	04/16/14 04:10
Zinc	2.4		0.0024	0.25	mg/L	5	04/15/14 08:58
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID:</u> 57465							
Aluminum	0.13	J	0.0039	0.25	mg/L	5	04/15/14 07:03
Antimony	0.00043	J	0.00018	0.010	mg/L	5	04/15/14 07:03
Arsenic	0.0044	J	0.0029	0.025	mg/L	5	04/15/14 07:03
Barium	2.6		0.00032	0.50	mg/L	5	04/15/14 07:03
Beryllium	U		0.00041	0.0050	mg/L	5	04/15/14 07:03
Cadmium	U		0.00022	0.0050	mg/L	5	04/15/14 07:03
Chromium	0.0014	J	0.0014	0.050	mg/L	5	04/15/14 07:03
Cobalt	0.0066	J	0.00020	0.10	mg/L	5	04/15/14 07:03
Copper	U		0.0026	0.020	mg/L	5	04/15/14 07:03
Iron	27		0.027	1.0	mg/L	5	04/15/14 07:03

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-008
Collection Date: 04/03/14 10:20 AM

Work Order: 1404445
Lab ID: 1404445-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.00041	J	0.00026	0.015	mg/L	5	04/15/14 07:03
Manganese	0.25	J	0.00027	0.25	mg/L	5	04/15/14 07:03
Nickel	0.0096	J	0.0013	0.10	mg/L	5	04/15/14 07:03
Selenium	U		0.0032	0.025	mg/L	5	04/15/14 07:03
Silver	U		0.00021	0.0010	mg/L	5	04/15/14 07:03
Thallium	U		0.00031	0.010	mg/L	5	04/15/14 07:03
Vanadium	0.0033	J	0.00082	0.020	mg/L	5	04/15/14 07:03
Zinc	0.0025	J	0.0024	0.25	mg/L	5	04/15/14 07:03

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/10/14

Analyst: RM

BatchID: 57388

1,1'-Biphenyl	U	0.095	10	µg/L	1	04/10/14 21:50
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	04/10/14 21:50
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	04/10/14 21:50
2,4-Dichlorophenol	U	0.22	10	µg/L	1	04/10/14 21:50
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	04/10/14 21:50
2,4-Dinitrophenol	U	0.67	25	µg/L	1	04/10/14 21:50
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	04/10/14 21:50
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	04/10/14 21:50
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	04/10/14 21:50
2-Chlorophenol	U	0.32	10	µg/L	1	04/10/14 21:50
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	04/10/14 21:50
2-Methylphenol	U	0.20	10	µg/L	1	04/10/14 21:50
2-Nitroaniline	U	0.34	25	µg/L	1	04/10/14 21:50
2-Nitrophenol	U	0.28	5.0	µg/L	1	04/10/14 21:50
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	04/10/14 21:50
3-Nitroaniline	U	0.34	25	µg/L	1	04/10/14 21:50
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	04/10/14 21:50
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	04/10/14 21:50
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	04/10/14 21:50
4-Chloroaniline	U	0.32	10	µg/L	1	04/10/14 21:50
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	04/10/14 21:50
4-Methylphenol	U	0.20	10	µg/L	1	04/10/14 21:50
4-Nitroaniline	U	0.30	25	µg/L	1	04/10/14 21:50
4-Nitrophenol	U	0.51	25	µg/L	1	04/10/14 21:50
Acenaphthene	U	0.11	5.0	µg/L	1	04/10/14 21:50
Acenaphthylene	U	0.12	5.0	µg/L	1	04/10/14 21:50
Acetophenone	U	0.090	5.0	µg/L	1	04/10/14 21:50
Anthracene	U	0.72	5.0	µg/L	1	04/10/14 21:50
Atrazine	U	0.13	5.0	µg/L	1	04/10/14 21:50

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-008
Collection Date: 04/03/14 10:20 AM

Work Order: 1404445
Lab ID: 1404445-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	04/10/14 21:50
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/10/14 21:50
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/10/14 21:50
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/10/14 21:50
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/10/14 21:50
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/10/14 21:50
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/10/14 21:50
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/10/14 21:50
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/10/14 21:50
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/10/14 21:50
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/10/14 21:50
Caprolactam	U		4.7	10	µg/L	1	04/10/14 21:50
Carbazole	U		0.16	10	µg/L	1	04/10/14 21:50
Chrysene	U		0.71	1.0	µg/L	1	04/10/14 21:50
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/10/14 21:50
Dibenzofuran	U		0.28	4.0	µg/L	1	04/10/14 21:50
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/10/14 21:50
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/10/14 21:50
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/10/14 21:50
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/10/14 21:50
Fluoranthene	U		0.77	1.0	µg/L	1	04/10/14 21:50
Fluorene	U		0.10	5.0	µg/L	1	04/10/14 21:50
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/10/14 21:50
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/10/14 21:50
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/10/14 21:50
Hexachloroethane	U		0.47	5.0	µg/L	1	04/10/14 21:50
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/10/14 21:50
Isophorone	U		0.30	5.0	µg/L	1	04/10/14 21:50
Naphthalene	U		0.12	5.0	µg/L	1	04/10/14 21:50
Nitrobenzene	U		0.33	3.0	µg/L	1	04/10/14 21:50
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/10/14 21:50
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/10/14 21:50
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/10/14 21:50
Phenanthrene	U		0.86	2.0	µg/L	1	04/10/14 21:50
Phenol	U		0.32	5.0	µg/L	1	04/10/14 21:50
Pyrene	U		0.65	5.0	µg/L	1	04/10/14 21:50
Surr: 2,4,6-Tribromophenol	83.2			32-115	%REC	1	04/10/14 21:50
Surr: 2-Fluorobiphenyl	57.6			32-100	%REC	1	04/10/14 21:50
Surr: 2-Fluorophenol	36.0			22-59	%REC	1	04/10/14 21:50
Surr: 4-Terphenyl-d14	55.2			23-112	%REC	1	04/10/14 21:50

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-008
Collection Date: 04/03/14 10:20 AM

Work Order: 1404445
Lab ID: 1404445-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	65.3			31-93	%REC	1	04/10/14 21:50
Surr: Phenol-d6	25.6			13-36	%REC	1	04/10/14 21:50
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R138890							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:32
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/15/14 02:32
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:32
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/15/14 02:32
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/15/14 02:32
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 02:32
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/15/14 02:32
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/15/14 02:32
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/15/14 02:32
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/15/14 02:32
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:32
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/15/14 02:32
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 02:32
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 02:32
2-Butanone	U		0.64	25	µg/L	1	04/15/14 02:32
2-Hexanone	U		0.19	50	µg/L	1	04/15/14 02:32
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/15/14 02:32
Acetone	7.8	J	3.0	50	µg/L	1	04/15/14 02:32
Benzene	2.7		0.14	1.0	µg/L	1	04/15/14 02:32
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/15/14 02:32
Bromoform	U		0.18	1.0	µg/L	1	04/15/14 02:32
Bromomethane	U		0.38	5.0	µg/L	1	04/15/14 02:32
Carbon disulfide	U		0.26	5.0	µg/L	1	04/15/14 02:32
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/15/14 02:32
Chlorobenzene	1.4		0.12	1.0	µg/L	1	04/15/14 02:32
Chloroethane	U		0.25	5.0	µg/L	1	04/15/14 02:32
Chloroform	U		0.15	1.0	µg/L	1	04/15/14 02:32
Chloromethane	U		0.29	5.0	µg/L	1	04/15/14 02:32
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/15/14 02:32
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/15/14 02:32
Cyclohexane	1.4	J	0.20	2.0	µg/L	1	04/15/14 02:32
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/15/14 02:32
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/15/14 02:32
Ethylbenzene	0.86	J	0.12	1.0	µg/L	1	04/15/14 02:32
Isopropylbenzene	2.0	J	0.11	5.0	µg/L	1	04/15/14 02:32

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-008
Collection Date: 04/03/14 10:20 AM

Work Order: 1404445
Lab ID: 1404445-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	04/15/14 02:32
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/15/14 02:32
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/15/14 02:32
Methylene chloride	U		0.75	5.0	µg/L	1	04/15/14 02:32
Styrene	U		0.12	1.0	µg/L	1	04/15/14 02:32
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/15/14 02:32
Toluene	0.52	J	0.13	1.0	µg/L	1	04/15/14 02:32
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 02:32
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/15/14 02:32
Trichloroethene	U		0.16	1.0	µg/L	1	04/15/14 02:32
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/15/14 02:32
Vinyl chloride	U		0.15	1.0	µg/L	1	04/15/14 02:32
Xylenes, Total	2.8	J	0.30	3.0	µg/L	1	04/15/14 02:32
Surr: 1,2-Dichloroethane-d4	102			70-120	%REC	1	04/15/14 02:32
Surr: 4-Bromofluorobenzene	89.2			75-120	%REC	1	04/15/14 02:32
Surr: Dibromofluoromethane	102			85-115	%REC	1	04/15/14 02:32
Surr: Toluene-d8	101			85-120	%REC	1	04/15/14 02:32
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/14/14	Analyst: JB
BatchID: 57542							
Cyanide, Amenable	0.0063		0.0010	0.0050	mg/L	1	04/14/14 14:57

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-013
Collection Date: 04/03/14 11:35 AM

Work Order: 1404445
Lab ID: 1404445-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
<u>BatchID: 57497</u>							
Mercury	0.034		0.00090	0.018	mg/Kg-dry	1	04/14/14 15:07
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/12/14	Analyst: RH
<u>BatchID: 57490</u>							
Antimony	1.2	J	0.0072	1.8	mg/Kg-dry	5	04/13/14 21:11
Arsenic	3.7		0.25	0.72	mg/Kg-dry	5	04/13/14 21:11
Barium	59		0.050	1.8	mg/Kg-dry	5	04/13/14 21:11
Beryllium	0.19	J	0.014	0.72	mg/Kg-dry	5	04/13/14 21:11
Cadmium	0.66	J	0.0072	0.72	mg/Kg-dry	5	04/13/14 21:11
Chromium	9.1		0.30	1.8	mg/Kg-dry	5	04/13/14 21:11
Cobalt	4.1		0.0072	1.8	mg/Kg-dry	5	04/13/14 21:11
Copper	21		0.35	1.8	mg/Kg-dry	5	04/13/14 21:11
Iron	12,000		6.0	29	mg/Kg-dry	5	04/13/14 21:11
Lead	71		0.0072	1.8	mg/Kg-dry	5	04/13/14 21:11
Manganese	370		0.16	1.8	mg/Kg-dry	5	04/13/14 21:11
Nickel	12		0.18	1.8	mg/Kg-dry	5	04/13/14 21:11
Selenium	0.50	J	0.23	1.4	mg/Kg-dry	5	04/13/14 21:11
Silver	0.12	J	0.0072	0.72	mg/Kg-dry	5	04/13/14 21:11
Thallium	0.098	J	0.043	1.8	mg/Kg-dry	5	04/13/14 21:11
Vanadium	11		0.11	1.8	mg/Kg-dry	5	04/13/14 21:11
Zinc	93		0.15	3.6	mg/Kg-dry	5	04/13/14 21:11
<u>BatchID: 57490</u>							
Aluminum	3,900		4.5	36	mg/Kg-dry	50	04/15/14 14:15
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/13/14	Analyst: RM
<u>BatchID: 57500</u>							
1,1'-Biphenyl	U		5.5	360	µg/Kg-dry	1	04/14/14 17:55
2,4,5-Trichlorophenol	U		9.2	180	µg/Kg-dry	1	04/14/14 17:55
2,4,6-Trichlorophenol	U		6.2	180	µg/Kg-dry	1	04/14/14 17:55
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	04/14/14 17:55
2,4-Dimethylphenol	U		59	360	µg/Kg-dry	1	04/14/14 17:55
2,4-Dinitrophenol	U		33	730	µg/Kg-dry	1	04/14/14 17:55
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	04/14/14 17:55
2,6-Dinitrotoluene	U		19	180	µg/Kg-dry	1	04/14/14 17:55
2-Chloronaphthalene	U		1.7	88	µg/Kg-dry	1	04/14/14 17:55
2-Chlorophenol	U		11	180	µg/Kg-dry	1	04/14/14 17:55
2-Methylnaphthalene	U		3.1	88	µg/Kg-dry	1	04/14/14 17:55
2-Methylphenol	U		15	180	µg/Kg-dry	1	04/14/14 17:55

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-013
Collection Date: 04/03/14 11:35 AM

Work Order: 1404445
Lab ID: 1404445-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		14	730	µg/Kg-dry	1	04/14/14 17:55
2-Nitrophenol	U		12	180	µg/Kg-dry	1	04/14/14 17:55
3,3'-Dichlorobenzidine	U		460	730	µg/Kg-dry	1	04/14/14 17:55
3-Nitroaniline	U		12	730	µg/Kg-dry	1	04/14/14 17:55
4,6-Dinitro-2-methylphenol	U		31	360	µg/Kg-dry	1	04/14/14 17:55
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	04/14/14 17:55
4-Chloro-3-methylphenol	U		8.5	180	µg/Kg-dry	1	04/14/14 17:55
4-Chloroaniline	U		11	360	µg/Kg-dry	1	04/14/14 17:55
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	04/14/14 17:55
4-Methylphenol	70	J	18	180	µg/Kg-dry	1	04/14/14 17:55
4-Nitroaniline	U		10	730	µg/Kg-dry	1	04/14/14 17:55
4-Nitrophenol	U		7.3	730	µg/Kg-dry	1	04/14/14 17:55
Acenaphthene	U		1.1	33	µg/Kg-dry	1	04/14/14 17:55
Acenaphthylene	U		1.3	33	µg/Kg-dry	1	04/14/14 17:55
Acetophenone	U		5.5	360	µg/Kg-dry	1	04/14/14 17:55
Anthracene	U		1.5	33	µg/Kg-dry	1	04/14/14 17:55
Atrazine	U		11	55	µg/Kg-dry	1	04/14/14 17:55
Benzaldehyde	U		14	360	µg/Kg-dry	1	04/14/14 17:55
Benzo(a)anthracene	33	J	1.5	33	µg/Kg-dry	1	04/14/14 17:55
Benzo(a)pyrene	U		2.4	33	µg/Kg-dry	1	04/14/14 17:55
Benzo(b)fluoranthene	40		2.2	33	µg/Kg-dry	1	04/14/14 17:55
Benzo(g,h,i)perylene	U		2.9	33	µg/Kg-dry	1	04/14/14 17:55
Benzo(k)fluoranthene	U		1.6	33	µg/Kg-dry	1	04/14/14 17:55
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	04/14/14 17:55
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	04/14/14 17:55
Bis(2-chloroisopropyl)ether	U		15	180	µg/Kg-dry	1	04/14/14 17:55
Bis(2-ethylhexyl)phthalate	560		12	360	µg/Kg-dry	1	04/14/14 17:55
Butyl benzyl phthalate	140	J	14	180	µg/Kg-dry	1	04/14/14 17:55
Caprolactam	U		16	360	µg/Kg-dry	1	04/14/14 17:55
Carbazole	U		11	180	µg/Kg-dry	1	04/14/14 17:55
Chrysene	38		1.8	33	µg/Kg-dry	1	04/14/14 17:55
Dibenzo(a,h)anthracene	U		2.7	33	µg/Kg-dry	1	04/14/14 17:55
Dibenzofuran	U		11	180	µg/Kg-dry	1	04/14/14 17:55
Diethyl phthalate	U		12	360	µg/Kg-dry	1	04/14/14 17:55
Dimethyl phthalate	U		12	360	µg/Kg-dry	1	04/14/14 17:55
Di-n-butyl phthalate	U		5.3	360	µg/Kg-dry	1	04/14/14 17:55
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	04/14/14 17:55
Fluoranthene	68		2.6	33	µg/Kg-dry	1	04/14/14 17:55
Fluorene	U		2.5	33	µg/Kg-dry	1	04/14/14 17:55
Hexachlorobenzene	U		10	180	µg/Kg-dry	1	04/14/14 17:55

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-013
Collection Date: 04/03/14 11:35 AM

Work Order: 1404445
Lab ID: 1404445-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		12	55	µg/Kg-dry	1	04/14/14 17:55
Hexachlorocyclopentadiene	U		12	360	µg/Kg-dry	1	04/14/14 17:55
Hexachloroethane	U		17	180	µg/Kg-dry	1	04/14/14 17:55
Indeno(1,2,3-cd)pyrene	U		2.5	33	µg/Kg-dry	1	04/14/14 17:55
Isophorone	U		12	180	µg/Kg-dry	1	04/14/14 17:55
Naphthalene	U		2.7	33	µg/Kg-dry	1	04/14/14 17:55
Nitrobenzene	U		14	180	µg/Kg-dry	1	04/14/14 17:55
N-Nitrosodi-n-propylamine	U		14	180	µg/Kg-dry	1	04/14/14 17:55
N-Nitrosodiphenylamine	U		66	180	µg/Kg-dry	1	04/14/14 17:55
Pentachlorophenol	U		7.1	22	µg/Kg-dry	1	04/14/14 17:55
Phenanthrene	61		1.5	33	µg/Kg-dry	1	04/14/14 17:55
Phenol	U		13	180	µg/Kg-dry	1	04/14/14 17:55
Pyrene	57		2.5	33	µg/Kg-dry	1	04/14/14 17:55
Surr: 2,4,6-Tribromophenol	97.9			34-140	%REC	1	04/14/14 17:55
Surr: 2-Fluorobiphenyl	69.8			12-100	%REC	1	04/14/14 17:55
Surr: 2-Fluorophenol	79.1			33-117	%REC	1	04/14/14 17:55
Surr: 4-Terphenyl-d14	103			25-137	%REC	1	04/14/14 17:55
Surr: Nitrobenzene-d5	68.4			37-107	%REC	1	04/14/14 17:55
Surr: Phenol-d6	78.4			40-106	%REC	1	04/14/14 17:55
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: BG
BatchID: 57410							
1,1,1-Trichloroethane	U		13	33	µg/Kg-dry	1	04/13/14 17:08
1,1,2,2-Tetrachloroethane	U		15	33	µg/Kg-dry	1	04/13/14 17:08
1,1,2-Trichloroethane	U		12	33	µg/Kg-dry	1	04/13/14 17:08
1,1,2-Trichlorotrifluoroethane	U		12	33	µg/Kg-dry	1	04/13/14 17:08
1,1-Dichloroethane	U		12	33	µg/Kg-dry	1	04/13/14 17:08
1,1-Dichloroethene	U		14	33	µg/Kg-dry	1	04/13/14 17:08
1,2,4-Trichlorobenzene	U		17	33	µg/Kg-dry	1	04/13/14 17:08
1,2-Dibromo-3-chloropropane	U		16	33	µg/Kg-dry	1	04/13/14 17:08
1,2-Dibromoethane	U		13	33	µg/Kg-dry	1	04/13/14 17:08
1,2-Dichlorobenzene	U		13	33	µg/Kg-dry	1	04/13/14 17:08
1,2-Dichloroethane	U		16	33	µg/Kg-dry	1	04/13/14 17:08
1,2-Dichloropropane	U		11	33	µg/Kg-dry	1	04/13/14 17:08
1,3-Dichlorobenzene	U		13	33	µg/Kg-dry	1	04/13/14 17:08
1,4-Dichlorobenzene	U		13	33	µg/Kg-dry	1	04/13/14 17:08
2-Butanone	U		83	220	µg/Kg-dry	1	04/13/14 17:08
2-Hexanone	U		8.2	33	µg/Kg-dry	1	04/13/14 17:08
4-Methyl-2-pentanone	U		11	33	µg/Kg-dry	1	04/13/14 17:08
Acetone	U		71	110	µg/Kg-dry	1	04/13/14 17:08

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-013
Collection Date: 04/03/14 11:35 AM

Work Order: 1404445
Lab ID: 1404445-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		13	33	µg/Kg-dry	1	04/13/14 17:08
Bromodichloromethane	U		7.5	33	µg/Kg-dry	1	04/13/14 17:08
Bromoform	U		6.6	33	µg/Kg-dry	1	04/13/14 17:08
Bromomethane	U		13	83	µg/Kg-dry	1	04/13/14 17:08
Carbon disulfide	30	J	17	33	µg/Kg-dry	1	04/13/14 17:08
Carbon tetrachloride	U		9.5	33	µg/Kg-dry	1	04/13/14 17:08
Chlorobenzene	U		14	33	µg/Kg-dry	1	04/13/14 17:08
Chloroethane	U		71	110	µg/Kg-dry	1	04/13/14 17:08
Chloroform	U		14	33	µg/Kg-dry	1	04/13/14 17:08
Chloromethane	U		19	110	µg/Kg-dry	1	04/13/14 17:08
cis-1,2-Dichloroethene	U		14	33	µg/Kg-dry	1	04/13/14 17:08
cis-1,3-Dichloropropene	U		11	33	µg/Kg-dry	1	04/13/14 17:08
Cyclohexane	U		15	33	µg/Kg-dry	1	04/13/14 17:08
Dibromochloromethane	U		6.2	33	µg/Kg-dry	1	04/13/14 17:08
Dichlorodifluoromethane	U		15	33	µg/Kg-dry	1	04/13/14 17:08
Ethylbenzene	U		12	33	µg/Kg-dry	1	04/13/14 17:08
Isopropylbenzene	16	J	14	33	µg/Kg-dry	1	04/13/14 17:08
Methyl acetate	U		45	220	µg/Kg-dry	1	04/13/14 17:08
Methyl tert-butyl ether	U		14	33	µg/Kg-dry	1	04/13/14 17:08
Methylcyclohexane	U		15	33	µg/Kg-dry	1	04/13/14 17:08
Methylene chloride	U		13	33	µg/Kg-dry	1	04/13/14 17:08
Styrene	U		12	33	µg/Kg-dry	1	04/13/14 17:08
Tetrachloroethene	U		15	33	µg/Kg-dry	1	04/13/14 17:08
Toluene	U		13	33	µg/Kg-dry	1	04/13/14 17:08
trans-1,2-Dichloroethene	U		10	33	µg/Kg-dry	1	04/13/14 17:08
trans-1,3-Dichloropropene	U		11	33	µg/Kg-dry	1	04/13/14 17:08
Trichloroethene	U		16	33	µg/Kg-dry	1	04/13/14 17:08
Trichlorofluoromethane	U		9.2	33	µg/Kg-dry	1	04/13/14 17:08
Vinyl chloride	U		15	33	µg/Kg-dry	1	04/13/14 17:08
Xylenes, Total	U		39	100	µg/Kg-dry	1	04/13/14 17:08
Surr: 1,2-Dichloroethane-d4	97.0			70-130	%REC	1	04/13/14 17:08
Surr: 4-Bromofluorobenzene	99.4			70-130	%REC	1	04/13/14 17:08
Surr: Dibromofluoromethane	95.4			70-130	%REC	1	04/13/14 17:08
Surr: Toluene-d8	98.8			70-130	%REC	1	04/13/14 17:08
CYANIDE, TOTAL			SW9012A			Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: 57588							
Cyanide, Total	0.11	J	0.026	0.56	mg/Kg-dry	1	04/16/14 16:03
MOISTURE			A2540 G				Analyst: AT
BatchID: R138681							

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-013
Collection Date: 04/03/14 11:35 AM

Work Order: 1404445
Lab ID: 1404445-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	10		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-009
Collection Date: 04/03/14 12:00 PM

Work Order: 1404445
Lab ID: 1404445-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID: 57496</u>							
Mercury	0.0015		0.00010	0.00020	mg/L	1	04/15/14 14:47
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID: 57496</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/15/14 14:49
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID: 57465</u>							
Aluminum	41		0.0039	0.25	mg/L	5	04/15/14 09:04
Antimony	0.018		0.00018	0.010	mg/L	5	04/15/14 09:04
Arsenic	0.062		0.0029	0.025	mg/L	5	04/15/14 09:04
Barium	1.7		0.00032	0.50	mg/L	5	04/15/14 09:04
Beryllium	0.0017	J	0.00041	0.0050	mg/L	5	04/15/14 09:04
Cadmium	0.0063		0.00022	0.0050	mg/L	5	04/15/14 09:04
Chromium	0.15		0.0014	0.050	mg/L	5	04/15/14 09:04
Cobalt	0.038	J	0.00020	0.10	mg/L	5	04/15/14 09:04
Copper	0.55		0.0026	0.020	mg/L	5	04/15/14 09:04
Iron	120		0.027	1.0	mg/L	5	04/15/14 09:04
Lead	1.9		0.00026	0.015	mg/L	5	04/15/14 09:04
Manganese	2.6		0.00027	0.25	mg/L	5	04/16/14 04:16
Nickel	0.17		0.0013	0.10	mg/L	5	04/15/14 09:04
Selenium	U		0.0032	0.025	mg/L	5	04/15/14 09:04
Silver	0.0049		0.00021	0.0010	mg/L	5	04/15/14 09:04
Thallium	0.00083	J	0.00031	0.010	mg/L	5	04/15/14 09:04
Vanadium	0.076		0.00082	0.020	mg/L	5	04/15/14 09:04
Zinc	2.7		0.0024	0.25	mg/L	5	04/15/14 09:04
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID: 57465</u>							
Aluminum	0.066	J	0.0039	0.25	mg/L	5	04/15/14 07:09
Antimony	0.0015	J	0.00018	0.010	mg/L	5	04/15/14 07:09
Arsenic	0.024	J	0.0029	0.025	mg/L	5	04/15/14 07:09
Barium	0.64		0.00032	0.50	mg/L	5	04/15/14 07:09
Beryllium	U		0.00041	0.0050	mg/L	5	04/15/14 07:09
Cadmium	U		0.00022	0.0050	mg/L	5	04/15/14 07:09
Chromium	0.0035	J	0.0014	0.050	mg/L	5	04/15/14 07:09
Cobalt	0.0088	J	0.00020	0.10	mg/L	5	04/15/14 07:09
Copper	U		0.0026	0.020	mg/L	5	04/15/14 07:09
Iron	16		0.027	1.0	mg/L	5	04/15/14 07:09

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-009
Collection Date: 04/03/14 12:00 PM

Work Order: 1404445
Lab ID: 1404445-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.0031	J	0.00026	0.015	mg/L	5	04/15/14 07:09
Manganese	0.53		0.00027	0.25	mg/L	5	04/15/14 07:09
Nickel	0.031	J	0.0013	0.10	mg/L	5	04/15/14 07:09
Selenium	U		0.0032	0.025	mg/L	5	04/15/14 07:09
Silver	U		0.00021	0.0010	mg/L	5	04/15/14 07:09
Thallium	U		0.00031	0.010	mg/L	5	04/15/14 07:09
Vanadium	0.0011	J	0.00082	0.020	mg/L	5	04/15/14 07:09
Zinc	0.34		0.0024	0.25	mg/L	5	04/15/14 07:09
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3510 / 4/10/14		Analyst: RM
<u>BatchID: 57388</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/10/14 22:10
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/10/14 22:10
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/10/14 22:10
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/10/14 22:10
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/10/14 22:10
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/10/14 22:10
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/10/14 22:10
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/10/14 22:10
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/10/14 22:10
2-Chlorophenol	U		0.32	10	µg/L	1	04/10/14 22:10
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	04/10/14 22:10
2-Methylphenol	U		0.20	10	µg/L	1	04/10/14 22:10
2-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 22:10
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/10/14 22:10
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/10/14 22:10
3-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 22:10
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/10/14 22:10
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 22:10
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/10/14 22:10
4-Chloroaniline	U		0.32	10	µg/L	1	04/10/14 22:10
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 22:10
4-Methylphenol	U		0.20	10	µg/L	1	04/10/14 22:10
4-Nitroaniline	U		0.30	25	µg/L	1	04/10/14 22:10
4-Nitrophenol	U		0.51	25	µg/L	1	04/10/14 22:10
Acenaphthene	U		0.11	5.0	µg/L	1	04/10/14 22:10
Acenaphthylene	U		0.12	5.0	µg/L	1	04/10/14 22:10
Acetophenone	U		0.090	5.0	µg/L	1	04/10/14 22:10
Anthracene	U		0.72	5.0	µg/L	1	04/10/14 22:10
Atrazine	U		0.13	5.0	µg/L	1	04/10/14 22:10

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-009
Collection Date: 04/03/14 12:00 PM

Work Order: 1404445
Lab ID: 1404445-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	04/10/14 22:10
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/10/14 22:10
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/10/14 22:10
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/10/14 22:10
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/10/14 22:10
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/10/14 22:10
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/10/14 22:10
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/10/14 22:10
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/10/14 22:10
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/10/14 22:10
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/10/14 22:10
Caprolactam	U		4.7	10	µg/L	1	04/10/14 22:10
Carbazole	U		0.16	10	µg/L	1	04/10/14 22:10
Chrysene	U		0.71	1.0	µg/L	1	04/10/14 22:10
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/10/14 22:10
Dibenzofuran	U		0.28	4.0	µg/L	1	04/10/14 22:10
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/10/14 22:10
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/10/14 22:10
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/10/14 22:10
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/10/14 22:10
Fluoranthene	U		0.77	1.0	µg/L	1	04/10/14 22:10
Fluorene	U		0.10	5.0	µg/L	1	04/10/14 22:10
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/10/14 22:10
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/10/14 22:10
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/10/14 22:10
Hexachloroethane	U		0.47	5.0	µg/L	1	04/10/14 22:10
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/10/14 22:10
Isophorone	U		0.30	5.0	µg/L	1	04/10/14 22:10
Naphthalene	U		0.12	5.0	µg/L	1	04/10/14 22:10
Nitrobenzene	U		0.33	3.0	µg/L	1	04/10/14 22:10
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/10/14 22:10
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/10/14 22:10
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/10/14 22:10
Phenanthrene	U		0.86	2.0	µg/L	1	04/10/14 22:10
Phenol	U		0.32	5.0	µg/L	1	04/10/14 22:10
Pyrene	U		0.65	5.0	µg/L	1	04/10/14 22:10
Surr: 2,4,6-Tribromophenol	89.1			32-115	%REC	1	04/10/14 22:10
Surr: 2-Fluorobiphenyl	60.3			32-100	%REC	1	04/10/14 22:10
Surr: 2-Fluorophenol	41.8			22-59	%REC	1	04/10/14 22:10
Surr: 4-Terphenyl-d14	93.5			23-112	%REC	1	04/10/14 22:10

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-009
Collection Date: 04/03/14 12:00 PM

Work Order: 1404445
Lab ID: 1404445-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	68.5			31-93	%REC	1	04/10/14 22:10
Surr: Phenol-d6	28.4			13-36	%REC	1	04/10/14 22:10
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R138890							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:56
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/15/14 02:56
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:56
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/15/14 02:56
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/15/14 02:56
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 02:56
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/15/14 02:56
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/15/14 02:56
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/15/14 02:56
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/15/14 02:56
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/15/14 02:56
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/15/14 02:56
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 02:56
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 02:56
2-Butanone	U		0.64	25	µg/L	1	04/15/14 02:56
2-Hexanone	U		0.19	50	µg/L	1	04/15/14 02:56
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/15/14 02:56
Acetone	6.9	J	3.0	50	µg/L	1	04/15/14 02:56
Benzene	2.6		0.14	1.0	µg/L	1	04/15/14 02:56
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/15/14 02:56
Bromoform	U		0.18	1.0	µg/L	1	04/15/14 02:56
Bromomethane	U		0.38	5.0	µg/L	1	04/15/14 02:56
Carbon disulfide	1.3	J	0.26	5.0	µg/L	1	04/15/14 02:56
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/15/14 02:56
Chlorobenzene	U		0.12	1.0	µg/L	1	04/15/14 02:56
Chloroethane	U		0.25	5.0	µg/L	1	04/15/14 02:56
Chloroform	U		0.15	1.0	µg/L	1	04/15/14 02:56
Chloromethane	U		0.29	5.0	µg/L	1	04/15/14 02:56
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/15/14 02:56
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/15/14 02:56
Cyclohexane	U		0.20	1.0	µg/L	1	04/15/14 02:56
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/15/14 02:56
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/15/14 02:56
Ethylbenzene	0.84	J	0.12	1.0	µg/L	1	04/15/14 02:56
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/15/14 02:56

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-009
Collection Date: 04/03/14 12:00 PM

Work Order: 1404445
Lab ID: 1404445-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	04/15/14 02:56
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/15/14 02:56
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/15/14 02:56
Methylene chloride	U		0.75	5.0	µg/L	1	04/15/14 02:56
Styrene	U		0.12	1.0	µg/L	1	04/15/14 02:56
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/15/14 02:56
Toluene	0.82	J	0.13	1.0	µg/L	1	04/15/14 02:56
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 02:56
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/15/14 02:56
Trichloroethene	U		0.16	1.0	µg/L	1	04/15/14 02:56
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/15/14 02:56
Vinyl chloride	U		0.15	1.0	µg/L	1	04/15/14 02:56
Xylenes, Total	1.7	J	0.30	3.0	µg/L	1	04/15/14 02:56
Surr: 1,2-Dichloroethane-d4	102			70-120	%REC	1	04/15/14 02:56
Surr: 4-Bromofluorobenzene	89.4			75-120	%REC	1	04/15/14 02:56
Surr: Dibromofluoromethane	100			85-115	%REC	1	04/15/14 02:56
Surr: Toluene-d8	99.9			85-120	%REC	1	04/15/14 02:56
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/14/14	Analyst: JB
BatchID: 57542							
Cyanide, Amenable	0.0095		0.0010	0.0050	mg/L	1	04/14/14 14:57

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-014
Collection Date: 04/03/14 01:10 PM

Work Order: 1404445
Lab ID: 1404445-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
BatchID: <u>57497</u>							
Mercury	0.029		0.00076	0.015	mg/Kg-dry	1	04/14/14 15:10
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/12/14	Analyst: RH
BatchID: <u>57490</u>							
Antimony	0.19	J	0.0079	2.0	mg/Kg-dry	5	04/13/14 21:17
Arsenic	2.4		0.27	0.79	mg/Kg-dry	5	04/13/14 21:17
Barium	33		0.056	2.0	mg/Kg-dry	5	04/13/14 21:17
Beryllium	0.19	J	0.016	0.79	mg/Kg-dry	5	04/13/14 21:17
Cadmium	0.13	J	0.0079	0.79	mg/Kg-dry	5	04/13/14 21:17
Chromium	7.2		0.33	2.0	mg/Kg-dry	5	04/13/14 21:17
Cobalt	2.6		0.0079	2.0	mg/Kg-dry	5	04/13/14 21:17
Copper	8.0		0.39	2.0	mg/Kg-dry	5	04/13/14 21:17
Iron	8,700		6.6	32	mg/Kg-dry	5	04/13/14 21:17
Lead	8.1		0.0079	2.0	mg/Kg-dry	5	04/13/14 21:17
Manganese	120		0.17	2.0	mg/Kg-dry	5	04/13/14 21:17
Nickel	8.4		0.20	2.0	mg/Kg-dry	5	04/13/14 21:17
Selenium	0.48	J	0.25	1.6	mg/Kg-dry	5	04/13/14 21:17
Silver	0.014	J	0.0079	0.79	mg/Kg-dry	5	04/13/14 21:17
Thallium	0.062	J	0.048	2.0	mg/Kg-dry	5	04/13/14 21:17
Vanadium	12		0.12	2.0	mg/Kg-dry	5	04/13/14 21:17
Zinc	26		0.17	4.0	mg/Kg-dry	5	04/13/14 21:17
BatchID: <u>57490</u>							
Aluminum	4,100		5.0	40	mg/Kg-dry	50	04/15/14 14:21
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/13/14	Analyst: RM
BatchID: <u>57500</u>							
1,1'-Biphenyl	36	J	5.5	370	µg/Kg-dry	1	04/14/14 18:16
2,4,5-Trichlorophenol	U		9.2	180	µg/Kg-dry	1	04/14/14 18:16
2,4,6-Trichlorophenol	U		6.2	180	µg/Kg-dry	1	04/14/14 18:16
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	04/14/14 18:16
2,4-Dimethylphenol	U		59	370	µg/Kg-dry	1	04/14/14 18:16
2,4-Dinitrophenol	U		33	730	µg/Kg-dry	1	04/14/14 18:16
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	04/14/14 18:16
2,6-Dinitrotoluene	U		19	180	µg/Kg-dry	1	04/14/14 18:16
2-Chloronaphthalene	U		1.7	89	µg/Kg-dry	1	04/14/14 18:16
2-Chlorophenol	U		11	180	µg/Kg-dry	1	04/14/14 18:16
2-Methylnaphthalene	190		3.1	89	µg/Kg-dry	1	04/14/14 18:16
2-Methylphenol	U		15	180	µg/Kg-dry	1	04/14/14 18:16

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-014
Collection Date: 04/03/14 01:10 PM

Work Order: 1404445
Lab ID: 1404445-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		14	730	µg/Kg-dry	1	04/14/14 18:16
2-Nitrophenol	U		12	180	µg/Kg-dry	1	04/14/14 18:16
3,3'-Dichlorobenzidine	U		460	730	µg/Kg-dry	1	04/14/14 18:16
3-Nitroaniline	U		12	730	µg/Kg-dry	1	04/14/14 18:16
4,6-Dinitro-2-methylphenol	U		31	370	µg/Kg-dry	1	04/14/14 18:16
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	04/14/14 18:16
4-Chloro-3-methylphenol	U		8.5	180	µg/Kg-dry	1	04/14/14 18:16
4-Chloroaniline	U		11	370	µg/Kg-dry	1	04/14/14 18:16
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	04/14/14 18:16
4-Methylphenol	550		18	180	µg/Kg-dry	1	04/14/14 18:16
4-Nitroaniline	U		10	730	µg/Kg-dry	1	04/14/14 18:16
4-Nitrophenol	U		7.3	730	µg/Kg-dry	1	04/14/14 18:16
Acenaphthene	U		1.1	33	µg/Kg-dry	1	04/14/14 18:16
Acenaphthylene	U		1.3	33	µg/Kg-dry	1	04/14/14 18:16
Acetophenone	U		5.5	370	µg/Kg-dry	1	04/14/14 18:16
Anthracene	90		1.5	33	µg/Kg-dry	1	04/14/14 18:16
Atrazine	U		11	55	µg/Kg-dry	1	04/14/14 18:16
Benzaldehyde	U		14	370	µg/Kg-dry	1	04/14/14 18:16
Benzo(a)anthracene	330		1.5	33	µg/Kg-dry	1	04/14/14 18:16
Benzo(a)pyrene	U		2.4	33	µg/Kg-dry	1	04/14/14 18:16
Benzo(b)fluoranthene	U		2.2	33	µg/Kg-dry	1	04/14/14 18:16
Benzo(g,h,i)perylene	U		2.9	33	µg/Kg-dry	1	04/14/14 18:16
Benzo(k)fluoranthene	U		1.6	33	µg/Kg-dry	1	04/14/14 18:16
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	04/14/14 18:16
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	04/14/14 18:16
Bis(2-chloroisopropyl)ether	U		15	180	µg/Kg-dry	1	04/14/14 18:16
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	04/14/14 18:16
Caprolactam	U		16	370	µg/Kg-dry	1	04/14/14 18:16
Carbazole	U		11	180	µg/Kg-dry	1	04/14/14 18:16
Chrysene	860		1.8	33	µg/Kg-dry	1	04/14/14 18:16
Dibenzo(a,h)anthracene	U		2.7	33	µg/Kg-dry	1	04/14/14 18:16
Dibenzofuran	U		11	180	µg/Kg-dry	1	04/14/14 18:16
Diethyl phthalate	U		12	370	µg/Kg-dry	1	04/14/14 18:16
Dimethyl phthalate	U		12	370	µg/Kg-dry	1	04/14/14 18:16
Di-n-butyl phthalate	320	J	5.3	370	µg/Kg-dry	1	04/14/14 18:16
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	04/14/14 18:16
Fluoranthene	340		2.6	33	µg/Kg-dry	1	04/14/14 18:16
Fluorene	71		2.5	33	µg/Kg-dry	1	04/14/14 18:16
Hexachlorobenzene	U		10	180	µg/Kg-dry	1	04/14/14 18:16
Hexachlorobutadiene	U		12	55	µg/Kg-dry	1	04/14/14 18:16

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-014
Collection Date: 04/03/14 01:10 PM

Work Order: 1404445
Lab ID: 1404445-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	U		12	370	µg/Kg-dry	1	04/14/14 18:16
Hexachloroethane	U		17	180	µg/Kg-dry	1	04/14/14 18:16
Indeno(1,2,3-cd)pyrene	U		2.5	33	µg/Kg-dry	1	04/14/14 18:16
Isophorone	U		12	180	µg/Kg-dry	1	04/14/14 18:16
Naphthalene	230		2.7	33	µg/Kg-dry	1	04/14/14 18:16
Nitrobenzene	U		14	180	µg/Kg-dry	1	04/14/14 18:16
N-Nitrosodi-n-propylamine	U		14	180	µg/Kg-dry	1	04/14/14 18:16
N-Nitrosodiphenylamine	U		66	180	µg/Kg-dry	1	04/14/14 18:16
Pentachlorophenol	U		7.1	22	µg/Kg-dry	1	04/14/14 18:16
Phenanthrene	390		1.5	33	µg/Kg-dry	1	04/14/14 18:16
Phenol	U		13	180	µg/Kg-dry	1	04/14/14 18:16
Pyrene	460		2.5	33	µg/Kg-dry	1	04/14/14 18:16
Surr: 2,4,6-Tribromophenol	101			34-140	%REC	1	04/14/14 18:16
Surr: 2-Fluorobiphenyl	56.9			12-100	%REC	1	04/14/14 18:16
Surr: 2-Fluorophenol	84.1			33-117	%REC	1	04/14/14 18:16
Surr: 4-Terphenyl-d14	82.9			25-137	%REC	1	04/14/14 18:16
Surr: Nitrobenzene-d5	80.1			37-107	%REC	1	04/14/14 18:16
Surr: Phenol-d6	87.3			40-106	%REC	1	04/14/14 18:16
BatchID: 57500							
Bis(2-ethylhexyl)phthalate	1,100,000		12,000	370,000	µg/Kg-dry	1000	04/16/14 16:41
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: BG
BatchID: 57410							
1,1,1-Trichloroethane	U		13	34	µg/Kg-dry	1	04/13/14 17:34
1,1,2,2-Tetrachloroethane	U		15	34	µg/Kg-dry	1	04/13/14 17:34
1,1,2-Trichloroethane	U		12	34	µg/Kg-dry	1	04/13/14 17:34
1,1,2-Trichlorotrifluoroethane	U		12	34	µg/Kg-dry	1	04/13/14 17:34
1,1-Dichloroethane	U		12	34	µg/Kg-dry	1	04/13/14 17:34
1,1-Dichloroethene	U		14	34	µg/Kg-dry	1	04/13/14 17:34
1,2,4-Trichlorobenzene	U		17	34	µg/Kg-dry	1	04/13/14 17:34
1,2-Dibromo-3-chloropropane	U		16	34	µg/Kg-dry	1	04/13/14 17:34
1,2-Dibromoethane	U		13	34	µg/Kg-dry	1	04/13/14 17:34
1,2-Dichlorobenzene	U		13	34	µg/Kg-dry	1	04/13/14 17:34
1,2-Dichloroethane	U		16	34	µg/Kg-dry	1	04/13/14 17:34
1,2-Dichloropropane	U		11	34	µg/Kg-dry	1	04/13/14 17:34
1,3-Dichlorobenzene	U		14	34	µg/Kg-dry	1	04/13/14 17:34
1,4-Dichlorobenzene	33	J	13	34	µg/Kg-dry	1	04/13/14 17:34
2-Butanone	250	J	83	250	µg/Kg-dry	1	04/13/14 17:34
2-Hexanone	U		8.3	34	µg/Kg-dry	1	04/13/14 17:34
4-Methyl-2-pentanone	U		11	34	µg/Kg-dry	1	04/13/14 17:34

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-014
Collection Date: 04/03/14 01:10 PM

Work Order: 1404445
Lab ID: 1404445-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetone	95	J	71	110	µg/Kg-dry	1	04/13/14 17:34
Benzene	37		14	34	µg/Kg-dry	1	04/13/14 17:34
Bromodichloromethane	U		7.6	34	µg/Kg-dry	1	04/13/14 17:34
Bromoform	U		6.6	34	µg/Kg-dry	1	04/13/14 17:34
Bromomethane	U		13	84	µg/Kg-dry	1	04/13/14 17:34
Carbon disulfide	37	J	17	39	µg/Kg-dry	1	04/13/14 17:34
Carbon tetrachloride	U		9.6	34	µg/Kg-dry	1	04/13/14 17:34
Chlorobenzene	U		14	34	µg/Kg-dry	1	04/13/14 17:34
Chloroethane	U		72	110	µg/Kg-dry	1	04/13/14 17:34
Chloroform	U		14	34	µg/Kg-dry	1	04/13/14 17:34
Chloromethane	U		19	110	µg/Kg-dry	1	04/13/14 17:34
cis-1,2-Dichloroethene	U		14	34	µg/Kg-dry	1	04/13/14 17:34
cis-1,3-Dichloropropene	U		12	34	µg/Kg-dry	1	04/13/14 17:34
Cyclohexane	U		15	34	µg/Kg-dry	1	04/13/14 17:34
Dibromochloromethane	U		6.2	34	µg/Kg-dry	1	04/13/14 17:34
Dichlorodifluoromethane	U		15	34	µg/Kg-dry	1	04/13/14 17:34
Ethylbenzene	190		13	34	µg/Kg-dry	1	04/13/14 17:34
Isopropylbenzene	66		15	34	µg/Kg-dry	1	04/13/14 17:34
Methyl acetate	72	J	45	220	µg/Kg-dry	1	04/13/14 17:34
Methyl tert-butyl ether	U		14	34	µg/Kg-dry	1	04/13/14 17:34
Methylcyclohexane	U		16	34	µg/Kg-dry	1	04/13/14 17:34
Methylene chloride	U		13	34	µg/Kg-dry	1	04/13/14 17:34
Styrene	U		13	34	µg/Kg-dry	1	04/13/14 17:34
Tetrachloroethene	U		15	34	µg/Kg-dry	1	04/13/14 17:34
Toluene	630		13	34	µg/Kg-dry	1	04/13/14 17:34
trans-1,2-Dichloroethene	U		10	34	µg/Kg-dry	1	04/13/14 17:34
trans-1,3-Dichloropropene	U		11	34	µg/Kg-dry	1	04/13/14 17:34
Trichloroethene	U		16	34	µg/Kg-dry	1	04/13/14 17:34
Trichlorofluoromethane	U		9.3	34	µg/Kg-dry	1	04/13/14 17:34
Vinyl chloride	U		15	34	µg/Kg-dry	1	04/13/14 17:34
Xylenes, Total	610		40	100	µg/Kg-dry	1	04/13/14 17:34
Surr: 1,2-Dichloroethane-d4	96.7			70-130	%REC	1	04/13/14 17:34
Surr: 4-Bromofluorobenzene	97.7			70-130	%REC	1	04/13/14 17:34
Surr: Dibromofluoromethane	98.0			70-130	%REC	1	04/13/14 17:34
Surr: Toluene-d8	100			70-130	%REC	1	04/13/14 17:34
CYANIDE, TOTAL			SW9012A			Prep: SW9012A / 4/15/14	Analyst: JB
BatchID: 57588							
Cyanide, Total	0.066	J	0.026	0.56	mg/Kg-dry	1	04/16/14 16:03
MOISTURE			A2540 G				Analyst: AT

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-014
Collection Date: 04/03/14 01:10 PM

Work Order: 1404445
Lab ID: 1404445-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID: R138681</u>							
Moisture	11		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-010
Collection Date: 04/03/14 01:35 PM

Work Order: 1404445
Lab ID: 1404445-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID: 57496</u>							
Mercury	0.0033		0.00010	0.00020	mg/L	1	04/15/14 14:52
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID: 57496</u>							
Mercury	U		0.00010	0.00020	mg/L	1	04/15/14 14:54
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID: 57465</u>							
Antimony	0.026		0.00018	0.010	mg/L	5	04/15/14 09:10
Arsenic	0.13		0.0029	0.025	mg/L	5	04/15/14 09:10
Barium	6.1		0.00032	0.50	mg/L	5	04/15/14 09:10
Beryllium	0.0043	J	0.00041	0.0050	mg/L	5	04/15/14 09:10
Cadmium	0.053		0.00022	0.0050	mg/L	5	04/15/14 09:10
Chromium	0.43		0.0014	0.050	mg/L	5	04/15/14 09:10
Cobalt	0.095	J	0.00020	0.10	mg/L	5	04/15/14 09:10
Copper	1.3		0.0026	0.020	mg/L	5	04/15/14 09:10
Iron	550		0.027	1.0	mg/L	5	04/15/14 09:10
Manganese	6.0		0.00027	0.25	mg/L	5	04/16/14 04:21
Nickel	0.39		0.0013	0.10	mg/L	5	04/15/14 09:10
Selenium	0.0048	J	0.0032	0.025	mg/L	5	04/15/14 09:10
Silver	0.013		0.00021	0.0010	mg/L	5	04/15/14 09:10
Thallium	0.0014	J	0.00031	0.010	mg/L	5	04/15/14 09:10
Vanadium	0.20		0.00082	0.020	mg/L	5	04/16/14 04:21
<u>BatchID: 57465</u>							
Aluminum	210		0.20	12	mg/L	250	04/16/14 17:15
Lead	8.6		0.013	0.75	mg/L	250	04/16/14 17:15
Zinc	14		0.12	12	mg/L	250	04/16/14 17:15
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID: 57465</u>							
Aluminum	0.013	J	0.0039	0.25	mg/L	5	04/15/14 07:14
Antimony	0.0025	J	0.00018	0.010	mg/L	5	04/15/14 07:14
Arsenic	0.014	J	0.0029	0.025	mg/L	5	04/15/14 07:14
Barium	0.38	J	0.00032	0.50	mg/L	5	04/15/14 07:14
Beryllium	U		0.00041	0.0050	mg/L	5	04/15/14 07:14
Cadmium	U		0.00022	0.0050	mg/L	5	04/15/14 07:14
Chromium	U		0.0014	0.050	mg/L	5	04/15/14 07:14
Cobalt	0.0062	J	0.00020	0.10	mg/L	5	04/15/14 07:14
Copper	U		0.0026	0.020	mg/L	5	04/15/14 07:14

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-010
Collection Date: 04/03/14 01:35 PM

Work Order: 1404445
Lab ID: 1404445-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron	2.2		0.027	1.0	mg/L	5	04/15/14 07:14
Lead	0.00047	J	0.00026	0.015	mg/L	5	04/15/14 07:14
Manganese	0.43		0.00027	0.25	mg/L	5	04/15/14 07:14
Nickel	0.015	J	0.0013	0.10	mg/L	5	04/15/14 07:14
Selenium	U		0.0032	0.025	mg/L	5	04/15/14 07:14
Silver	U		0.00021	0.0010	mg/L	5	04/15/14 07:14
Thallium	U		0.00031	0.010	mg/L	5	04/15/14 07:14
Vanadium	U		0.00082	0.020	mg/L	5	04/15/14 07:14
Zinc	0.021	J	0.0024	0.25	mg/L	5	04/15/14 07:14
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270		Prep: SW3510 / 4/10/14		Analyst: RM
<u>BatchID: 57388</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/10/14 22:30
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/10/14 22:30
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/10/14 22:30
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/10/14 22:30
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/10/14 22:30
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/10/14 22:30
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/10/14 22:30
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/10/14 22:30
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/10/14 22:30
2-Chlorophenol	U		0.32	10	µg/L	1	04/10/14 22:30
2-Methylnaphthalene	1.5	J	0.13	5.0	µg/L	1	04/10/14 22:30
2-Methylphenol	U		0.20	10	µg/L	1	04/10/14 22:30
2-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 22:30
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/10/14 22:30
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/10/14 22:30
3-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 22:30
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/10/14 22:30
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 22:30
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/10/14 22:30
4-Chloroaniline	U		0.32	10	µg/L	1	04/10/14 22:30
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 22:30
4-Methylphenol	U		0.20	10	µg/L	1	04/10/14 22:30
4-Nitroaniline	U		0.30	25	µg/L	1	04/10/14 22:30
4-Nitrophenol	U		0.51	25	µg/L	1	04/10/14 22:30
Acenaphthene	U		0.11	5.0	µg/L	1	04/10/14 22:30
Acenaphthylene	U		0.12	5.0	µg/L	1	04/10/14 22:30
Acetophenone	U		0.090	5.0	µg/L	1	04/10/14 22:30
Anthracene	U		0.72	5.0	µg/L	1	04/10/14 22:30

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-010
Collection Date: 04/03/14 01:35 PM

Work Order: 1404445
Lab ID: 1404445-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/10/14 22:30
Benzaldehyde	U		0.46	10	µg/L	1	04/10/14 22:30
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/10/14 22:30
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/10/14 22:30
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/10/14 22:30
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/10/14 22:30
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/10/14 22:30
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/10/14 22:30
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/10/14 22:30
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/10/14 22:30
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/10/14 22:30
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/10/14 22:30
Caprolactam	U		4.7	10	µg/L	1	04/10/14 22:30
Carbazole	U		0.16	10	µg/L	1	04/10/14 22:30
Chrysene	U		0.71	1.0	µg/L	1	04/10/14 22:30
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/10/14 22:30
Dibenzofuran	U		0.28	4.0	µg/L	1	04/10/14 22:30
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/10/14 22:30
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/10/14 22:30
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/10/14 22:30
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/10/14 22:30
Fluoranthene	U		0.77	1.0	µg/L	1	04/10/14 22:30
Fluorene	U		0.10	5.0	µg/L	1	04/10/14 22:30
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/10/14 22:30
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/10/14 22:30
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/10/14 22:30
Hexachloroethane	U		0.47	5.0	µg/L	1	04/10/14 22:30
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/10/14 22:30
Isophorone	U		0.30	5.0	µg/L	1	04/10/14 22:30
Naphthalene	U		0.12	5.0	µg/L	1	04/10/14 22:30
Nitrobenzene	U		0.33	3.0	µg/L	1	04/10/14 22:30
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/10/14 22:30
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/10/14 22:30
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/10/14 22:30
Phenanthrene	U		0.86	2.0	µg/L	1	04/10/14 22:30
Phenol	U		0.32	5.0	µg/L	1	04/10/14 22:30
Pyrene	U		0.65	5.0	µg/L	1	04/10/14 22:30
Surr: 2,4,6-Tribromophenol	87.3			32-115	%REC	1	04/10/14 22:30
Surr: 2-Fluorobiphenyl	65.5			32-100	%REC	1	04/10/14 22:30
Surr: 2-Fluorophenol	45.5			22-59	%REC	1	04/10/14 22:30

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-010
Collection Date: 04/03/14 01:35 PM

Work Order: 1404445
Lab ID: 1404445-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	74.8			23-112	%REC	1	04/10/14 22:30
Surr: Nitrobenzene-d5	67.2			31-93	%REC	1	04/10/14 22:30
Surr: Phenol-d6	32.8			13-36	%REC	1	04/10/14 22:30
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R138890							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 03:20
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/15/14 03:20
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 03:20
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/15/14 03:20
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/15/14 03:20
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 03:20
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/15/14 03:20
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/15/14 03:20
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/15/14 03:20
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/15/14 03:20
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/15/14 03:20
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/15/14 03:20
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 03:20
1,4-Dichlorobenzene	0.98	J	0.15	1.0	µg/L	1	04/15/14 03:20
2-Butanone	2.2	J	0.64	25	µg/L	1	04/15/14 03:20
2-Hexanone	U		0.19	50	µg/L	1	04/15/14 03:20
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/15/14 03:20
Acetone	16	J	3.0	50	µg/L	1	04/15/14 03:20
Benzene	2.8		0.14	1.0	µg/L	1	04/15/14 03:20
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/15/14 03:20
Bromoform	U		0.18	1.0	µg/L	1	04/15/14 03:20
Bromomethane	U		0.38	5.0	µg/L	1	04/15/14 03:20
Carbon disulfide	1.4	J	0.26	5.0	µg/L	1	04/15/14 03:20
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/15/14 03:20
Chlorobenzene	0.96	J	0.12	1.0	µg/L	1	04/15/14 03:20
Chloroethane	U		0.25	5.0	µg/L	1	04/15/14 03:20
Chloroform	U		0.15	1.0	µg/L	1	04/15/14 03:20
Chloromethane	U		0.29	5.0	µg/L	1	04/15/14 03:20
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/15/14 03:20
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/15/14 03:20
Cyclohexane	U		0.20	1.0	µg/L	1	04/15/14 03:20
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/15/14 03:20
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/15/14 03:20
Ethylbenzene	U		0.12	1.0	µg/L	1	04/15/14 03:20

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-010
Collection Date: 04/03/14 01:35 PM

Work Order: 1404445
Lab ID: 1404445-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	1.6	J	0.11	5.0	µg/L	1	04/15/14 03:20
Methyl acetate	U		0.76	10	µg/L	1	04/15/14 03:20
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/15/14 03:20
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/15/14 03:20
Methylene chloride	U		0.75	5.0	µg/L	1	04/15/14 03:20
Styrene	U		0.12	1.0	µg/L	1	04/15/14 03:20
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/15/14 03:20
Toluene	0.38	J	0.13	1.0	µg/L	1	04/15/14 03:20
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 03:20
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/15/14 03:20
Trichloroethene	U		0.16	1.0	µg/L	1	04/15/14 03:20
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/15/14 03:20
Vinyl chloride	U		0.15	1.0	µg/L	1	04/15/14 03:20
Xylenes, Total	1.5	J	0.30	3.0	µg/L	1	04/15/14 03:20
Surr: 1,2-Dichloroethane-d4	99.1			70-120	%REC	1	04/15/14 03:20
Surr: 4-Bromofluorobenzene	92.0			75-120	%REC	1	04/15/14 03:20
Surr: Dibromofluoromethane	101			85-115	%REC	1	04/15/14 03:20
Surr: Toluene-d8	101			85-120	%REC	1	04/15/14 03:20
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/14/14	Analyst: JB
BatchID: <u>57542</u>							
Cyanide, Amenable	0.0052		0.0010	0.0050	mg/L	1	04/14/14 14:57

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-015
Collection Date: 04/03/14 02:45 PM

Work Order: 1404445
Lab ID: 1404445-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/14/14	Analyst: LR
BatchID: 57497							
Mercury	0.31		0.00094	0.019	mg/Kg-dry	1	04/14/14 15:12
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/12/14	Analyst: RH
BatchID: 57490							
Antimony	6.7		0.0081	2.0	mg/Kg-dry	5	04/13/14 21:23
Arsenic	11		0.28	0.81	mg/Kg-dry	5	04/13/14 21:23
Barium	390		0.057	2.0	mg/Kg-dry	5	04/13/14 21:23
Beryllium	0.66	J	0.016	0.81	mg/Kg-dry	5	04/13/14 21:23
Cadmium	5.0		0.0081	0.81	mg/Kg-dry	5	04/13/14 21:23
Chromium	36		0.33	2.0	mg/Kg-dry	5	04/13/14 21:23
Cobalt	6.2		0.0081	2.0	mg/Kg-dry	5	04/13/14 21:23
Copper	130		0.40	2.0	mg/Kg-dry	5	04/13/14 21:23
Iron	47,000		6.8	33	mg/Kg-dry	5	04/13/14 21:23
Nickel	140		0.20	2.0	mg/Kg-dry	5	04/13/14 21:23
Selenium	1.6	J	0.26	1.6	mg/Kg-dry	5	04/13/14 21:23
Silver	1.0		0.0081	0.81	mg/Kg-dry	5	04/13/14 21:23
Thallium	0.095	J	0.049	2.0	mg/Kg-dry	5	04/13/14 21:23
Vanadium	19		0.12	2.0	mg/Kg-dry	5	04/13/14 21:23
BatchID: 57490							
Aluminum	8,300		5.1	41	mg/Kg-dry	50	04/15/14 14:27
Lead	1,000		0.081	20	mg/Kg-dry	50	04/15/14 14:27
Manganese	1,100		1.8	20	mg/Kg-dry	50	04/15/14 14:27
Zinc	1,100		1.7	41	mg/Kg-dry	50	04/15/14 14:27
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/13/14	Analyst: RM
BatchID: 57500							
1,1'-Biphenyl	73	J	6.4	430	µg/Kg-dry	1	04/14/14 18:37
2,4,5-Trichlorophenol	U		11	210	µg/Kg-dry	1	04/14/14 18:37
2,4,6-Trichlorophenol	U		7.2	210	µg/Kg-dry	1	04/14/14 18:37
2,4-Dichlorophenol	U		13	210	µg/Kg-dry	1	04/14/14 18:37
2,4-Dimethylphenol	79	J	69	430	µg/Kg-dry	1	04/14/14 18:37
2,4-Dinitrophenol	U		39	850	µg/Kg-dry	1	04/14/14 18:37
2,4-Dinitrotoluene	U		14	210	µg/Kg-dry	1	04/14/14 18:37
2,6-Dinitrotoluene	U		22	210	µg/Kg-dry	1	04/14/14 18:37
2-Chloronaphthalene	U		2.0	100	µg/Kg-dry	1	04/14/14 18:37
2-Chlorophenol	U		13	210	µg/Kg-dry	1	04/14/14 18:37
2-Methylnaphthalene	150		3.6	100	µg/Kg-dry	1	04/14/14 18:37
2-Methylphenol	U		17	210	µg/Kg-dry	1	04/14/14 18:37

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-015
Collection Date: 04/03/14 02:45 PM

Work Order: 1404445
Lab ID: 1404445-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		17	850	µg/Kg-dry	1	04/14/14 18:37
2-Nitrophenol	U		14	210	µg/Kg-dry	1	04/14/14 18:37
3,3'-Dichlorobenzidine	U		530	850	µg/Kg-dry	1	04/14/14 18:37
3-Nitroaniline	U		15	850	µg/Kg-dry	1	04/14/14 18:37
4,6-Dinitro-2-methylphenol	U		36	430	µg/Kg-dry	1	04/14/14 18:37
4-Bromophenyl phenyl ether	U		12	210	µg/Kg-dry	1	04/14/14 18:37
4-Chloro-3-methylphenol	U		10	210	µg/Kg-dry	1	04/14/14 18:37
4-Chloroaniline	U		13	430	µg/Kg-dry	1	04/14/14 18:37
4-Chlorophenyl phenyl ether	U		13	210	µg/Kg-dry	1	04/14/14 18:37
4-Methylphenol	1,100		21	210	µg/Kg-dry	1	04/14/14 18:37
4-Nitroaniline	U		12	850	µg/Kg-dry	1	04/14/14 18:37
4-Nitrophenol	U		8.5	850	µg/Kg-dry	1	04/14/14 18:37
Acenaphthene	110		1.3	39	µg/Kg-dry	1	04/14/14 18:37
Acenaphthylene	150		1.6	39	µg/Kg-dry	1	04/14/14 18:37
Acetophenone	U		6.4	430	µg/Kg-dry	1	04/14/14 18:37
Anthracene	420		1.7	39	µg/Kg-dry	1	04/14/14 18:37
Atrazine	U		13	65	µg/Kg-dry	1	04/14/14 18:37
Benzaldehyde	U		16	430	µg/Kg-dry	1	04/14/14 18:37
Benzo(a)anthracene	960		1.7	39	µg/Kg-dry	1	04/14/14 18:37
Benzo(a)pyrene	980		2.8	39	µg/Kg-dry	1	04/14/14 18:37
Benzo(b)fluoranthene	1,200		2.5	39	µg/Kg-dry	1	04/14/14 18:37
Benzo(g,h,i)perylene	690		3.4	39	µg/Kg-dry	1	04/14/14 18:37
Benzo(k)fluoranthene	540		1.8	39	µg/Kg-dry	1	04/14/14 18:37
Bis(2-chloroethoxy)methane	U		14	210	µg/Kg-dry	1	04/14/14 18:37
Bis(2-chloroethyl)ether	U		13	210	µg/Kg-dry	1	04/14/14 18:37
Bis(2-chloroisopropyl)ether	U		18	210	µg/Kg-dry	1	04/14/14 18:37
Bis(2-ethylhexyl)phthalate	2,500		14	430	µg/Kg-dry	1	04/14/14 18:37
Butyl benzyl phthalate	200	J	16	210	µg/Kg-dry	1	04/14/14 18:37
Caprolactam	U		19	430	µg/Kg-dry	1	04/14/14 18:37
Carbazole	120	J	13	210	µg/Kg-dry	1	04/14/14 18:37
Chrysene	1,000		2.0	39	µg/Kg-dry	1	04/14/14 18:37
Dibenzo(a,h)anthracene	230		3.2	39	µg/Kg-dry	1	04/14/14 18:37
Dibenzofuran	94	J	13	210	µg/Kg-dry	1	04/14/14 18:37
Diethyl phthalate	U		14	430	µg/Kg-dry	1	04/14/14 18:37
Dimethyl phthalate	U		14	430	µg/Kg-dry	1	04/14/14 18:37
Di-n-butyl phthalate	220	J	6.2	430	µg/Kg-dry	1	04/14/14 18:37
Di-n-octyl phthalate	U		14	210	µg/Kg-dry	1	04/14/14 18:37
Fluorene	170		2.9	39	µg/Kg-dry	1	04/14/14 18:37
Hexachlorobenzene	U		12	210	µg/Kg-dry	1	04/14/14 18:37
Hexachlorobutadiene	U		14	65	µg/Kg-dry	1	04/14/14 18:37

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-015
Collection Date: 04/03/14 02:45 PM

Work Order: 1404445
Lab ID: 1404445-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	U		14	430	µg/Kg-dry	1	04/14/14 18:37
Hexachloroethane	U		20	210	µg/Kg-dry	1	04/14/14 18:37
Indeno(1,2,3-cd)pyrene	740		2.9	39	µg/Kg-dry	1	04/14/14 18:37
Isophorone	U		14	210	µg/Kg-dry	1	04/14/14 18:37
Naphthalene	270		3.2	39	µg/Kg-dry	1	04/14/14 18:37
Nitrobenzene	U		17	210	µg/Kg-dry	1	04/14/14 18:37
N-Nitrosodi-n-propylamine	U		16	210	µg/Kg-dry	1	04/14/14 18:37
N-Nitrosodiphenylamine	U		77	210	µg/Kg-dry	1	04/14/14 18:37
Pentachlorophenol	U		8.3	26	µg/Kg-dry	1	04/14/14 18:37
Phenanthrene	1,500		1.7	39	µg/Kg-dry	1	04/14/14 18:37
Phenol	140	J	15	210	µg/Kg-dry	1	04/14/14 18:37
Pyrene	1,900		2.9	39	µg/Kg-dry	1	04/14/14 18:37
Surr: 2,4,6-Tribromophenol	95.3			34-140	%REC	1	04/14/14 18:37
Surr: 2-Fluorobiphenyl	82.6			12-100	%REC	1	04/14/14 18:37
Surr: 2-Fluorophenol	87.8			33-117	%REC	1	04/14/14 18:37
Surr: 4-Terphenyl-d14	85.8			25-137	%REC	1	04/14/14 18:37
Surr: Nitrobenzene-d5	78.8			37-107	%REC	1	04/14/14 18:37
Surr: Phenol-d6	87.4			40-106	%REC	1	04/14/14 18:37
BatchID: 57500							
Fluoranthene	2,800		12	150	µg/Kg-dry	4	04/16/14 16:21
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/10/14		Analyst: BG
BatchID: 57410							
1,1,1-Trichloroethane	U		22	57	µg/Kg-dry	1	04/15/14 12:57
1,1,2,2-Tetrachloroethane	U		25	57	µg/Kg-dry	1	04/15/14 12:57
1,1,2-Trichloroethane	U		20	57	µg/Kg-dry	1	04/15/14 12:57
1,1,2-Trichlorotrifluoroethane	U		21	57	µg/Kg-dry	1	04/15/14 12:57
1,1-Dichloroethane	U		21	57	µg/Kg-dry	1	04/15/14 12:57
1,1-Dichloroethene	U		24	57	µg/Kg-dry	1	04/15/14 12:57
1,2,4-Trichlorobenzene	U		30	57	µg/Kg-dry	1	04/15/14 12:57
1,2-Dibromo-3-chloropropane	U		28	57	µg/Kg-dry	1	04/15/14 12:57
1,2-Dibromoethane	U		23	57	µg/Kg-dry	1	04/15/14 12:57
1,2-Dichlorobenzene	U		23	57	µg/Kg-dry	1	04/15/14 12:57
1,2-Dichloroethane	U		27	57	µg/Kg-dry	1	04/15/14 12:57
1,2-Dichloropropane	U		19	57	µg/Kg-dry	1	04/15/14 12:57
1,3-Dichlorobenzene	U		23	57	µg/Kg-dry	1	04/15/14 12:57
1,4-Dichlorobenzene	U		22	57	µg/Kg-dry	1	04/15/14 12:57
2-Butanone	U		140	380	µg/Kg-dry	1	04/15/14 12:57
2-Hexanone	U		14	57	µg/Kg-dry	1	04/15/14 12:57
4-Methyl-2-pentanone	U		19	57	µg/Kg-dry	1	04/15/14 12:57

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-015
Collection Date: 04/03/14 02:45 PM

Work Order: 1404445
Lab ID: 1404445-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetone	180	J	120	190	µg/Kg-dry	1	04/15/14 12:57
Benzene	800		23	57	µg/Kg-dry	1	04/15/14 12:57
Bromodichloromethane	U		13	57	µg/Kg-dry	1	04/15/14 12:57
Bromoform	U		11	57	µg/Kg-dry	1	04/15/14 12:57
Bromomethane	U		22	140	µg/Kg-dry	1	04/15/14 12:57
Carbon disulfide	51	J	28	57	µg/Kg-dry	1	04/15/14 12:57
Carbon tetrachloride	U		16	57	µg/Kg-dry	1	04/15/14 12:57
Chlorobenzene	81		23	57	µg/Kg-dry	1	04/15/14 12:57
Chloroethane	U		120	190	µg/Kg-dry	1	04/15/14 12:57
Chloroform	U		24	57	µg/Kg-dry	1	04/15/14 12:57
Chloromethane	U		32	190	µg/Kg-dry	1	04/15/14 12:57
cis-1,2-Dichloroethene	U		23	57	µg/Kg-dry	1	04/15/14 12:57
cis-1,3-Dichloropropene	U		20	57	µg/Kg-dry	1	04/15/14 12:57
Cyclohexane	250		26	57	µg/Kg-dry	1	04/15/14 12:57
Dibromochloromethane	U		11	57	µg/Kg-dry	1	04/15/14 12:57
Dichlorodifluoromethane	U		26	57	µg/Kg-dry	1	04/15/14 12:57
Ethylbenzene	3,600		21	57	µg/Kg-dry	1	04/15/14 12:57
Isopropylbenzene	250		25	57	µg/Kg-dry	1	04/15/14 12:57
Methyl acetate	U		77	380	µg/Kg-dry	1	04/15/14 12:57
Methyl tert-butyl ether	U		24	57	µg/Kg-dry	1	04/15/14 12:57
Methylcyclohexane	U		26	57	µg/Kg-dry	1	04/15/14 12:57
Methylene chloride	U		22	57	µg/Kg-dry	1	04/15/14 12:57
Styrene	U		21	57	µg/Kg-dry	1	04/15/14 12:57
Tetrachloroethene	U		25	57	µg/Kg-dry	1	04/15/14 12:57
Toluene	930		21	57	µg/Kg-dry	1	04/15/14 12:57
trans-1,2-Dichloroethene	U		18	57	µg/Kg-dry	1	04/15/14 12:57
trans-1,3-Dichloropropene	U		19	57	µg/Kg-dry	1	04/15/14 12:57
Trichloroethene	U		27	57	µg/Kg-dry	1	04/15/14 12:57
Trichlorofluoromethane	U		16	57	µg/Kg-dry	1	04/15/14 12:57
Vinyl chloride	U		26	57	µg/Kg-dry	1	04/15/14 12:57
Xylenes, Total	3,200		68	170	µg/Kg-dry	1	04/15/14 12:57
Surr: 1,2-Dichloroethane-d4	96.2			70-130	%REC	1	04/15/14 12:57
Surr: 4-Bromofluorobenzene	99.5			70-130	%REC	1	04/15/14 12:57
Surr: Dibromofluoromethane	99.0			70-130	%REC	1	04/15/14 12:57
Surr: Toluene-d8	98.1			70-130	%REC	1	04/15/14 12:57
CYANIDE, TOTAL			SW9012A		Prep: SW9012A / 4/15/14		Analyst: JB
BatchID: 57588							
Cyanide, Total	0.55	J	0.030	0.65	mg/Kg-dry	1	04/16/14 16:03
MOISTURE			A2540 G				Analyst: AT

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040314-ACN-015
Collection Date: 04/03/14 02:45 PM

Work Order: 1404445
Lab ID: 1404445-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID: R138681</u>							
Moisture	23		0.025	0.050	% of sample	1	04/09/14 13:54

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-011
Collection Date: 04/03/14 03:00 PM

Work Order: 1404445
Lab ID: 1404445-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID:</u> 57496							
Mercury	0.00072		0.00010	0.00020	mg/L	1	04/15/14 14:56
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/15/14	Analyst: LR
<u>BatchID:</u> 57496							
Mercury	U		0.00010	0.00020	mg/L	1	04/15/14 14:59
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID:</u> 57465							
Aluminum	16		0.0039	0.25	mg/L	5	04/15/14 09:15
Antimony	0.0092	J	0.00018	0.010	mg/L	5	04/15/14 09:15
Arsenic	0.045		0.0029	0.025	mg/L	5	04/15/14 09:15
Barium	3.0		0.00032	0.50	mg/L	5	04/15/14 09:15
Beryllium	0.00077	J	0.00041	0.0050	mg/L	5	04/15/14 09:15
Cadmium	0.012		0.00022	0.0050	mg/L	5	04/15/14 09:15
Chromium	0.096		0.0014	0.050	mg/L	5	04/15/14 09:15
Cobalt	0.022	J	0.00020	0.10	mg/L	5	04/15/14 09:15
Copper	0.76		0.0026	0.020	mg/L	5	04/15/14 09:15
Iron	110		0.027	1.0	mg/L	5	04/15/14 09:15
Lead	2.8		0.00026	0.015	mg/L	5	04/15/14 09:15
Manganese	1.0		0.00027	0.25	mg/L	5	04/16/14 06:13
Nickel	0.13		0.0013	0.10	mg/L	5	04/15/14 09:15
Selenium	U		0.0032	0.025	mg/L	5	04/15/14 09:15
Silver	0.0022		0.00021	0.0010	mg/L	5	04/15/14 09:15
Thallium	U		0.00031	0.010	mg/L	5	04/15/14 09:15
Vanadium	0.039		0.00082	0.020	mg/L	5	04/16/14 06:13
Zinc	3.2		0.0024	0.25	mg/L	5	04/15/14 09:15
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/11/14	Analyst: RH
<u>BatchID:</u> 57465							
Aluminum	0.075		0.00078	0.050	mg/L	1	04/17/14 16:56
Antimony	0.00061	J	0.000036	0.0020	mg/L	1	04/17/14 16:56
Arsenic	0.0023	J	0.00058	0.0050	mg/L	1	04/17/14 16:56
Beryllium	U		0.000082	0.0010	mg/L	1	04/17/14 16:56
Cadmium	U		0.000045	0.0010	mg/L	1	04/17/14 16:56
Chromium	0.0044	J	0.00027	0.010	mg/L	1	04/17/14 16:56
Cobalt	0.0046	J	0.000041	0.020	mg/L	1	04/17/14 16:56
Copper	0.0023	J	0.00053	0.0040	mg/L	1	04/17/14 16:56
Iron	25		0.0053	0.20	mg/L	1	04/17/14 16:56
Lead	0.0015	J	0.000051	0.0030	mg/L	1	04/17/14 16:56

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-011
Collection Date: 04/03/14 03:00 PM

Work Order: 1404445
Lab ID: 1404445-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Manganese	0.30		0.000054	0.050	mg/L	1	04/17/14 16:56
Nickel	0.011	J	0.00025	0.020	mg/L	1	04/17/14 16:56
Selenium	0.0011	J	0.00064	0.0050	mg/L	1	04/17/14 16:56
Silver	U		0.000042	0.00020	mg/L	1	04/17/14 16:56
Thallium	0.0015	J	0.000062	0.0020	mg/L	1	04/17/14 16:56
Vanadium	0.0011	J	0.00016	0.0040	mg/L	1	04/17/14 16:56
Zinc	0.0069	J	0.00048	0.050	mg/L	1	04/17/14 16:56
<u>BatchID: 57465</u>							
Barium	2.1		0.00032	0.50	mg/L	5	04/15/14 08:53
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/10/14			Analyst: RM
<u>BatchID: 57388</u>							
1,1'-Biphenyl	U		0.095	10	µg/L	1	04/10/14 22:51
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	04/10/14 22:51
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	04/10/14 22:51
2,4-Dichlorophenol	U		0.22	10	µg/L	1	04/10/14 22:51
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	04/10/14 22:51
2,4-Dinitrophenol	U		0.67	25	µg/L	1	04/10/14 22:51
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	04/10/14 22:51
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	04/10/14 22:51
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	04/10/14 22:51
2-Chlorophenol	U		0.32	10	µg/L	1	04/10/14 22:51
2-Methylnaphthalene	1.2	J	0.13	5.0	µg/L	1	04/10/14 22:51
2-Methylphenol	U		0.20	10	µg/L	1	04/10/14 22:51
2-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 22:51
2-Nitrophenol	U		0.28	5.0	µg/L	1	04/10/14 22:51
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	04/10/14 22:51
3-Nitroaniline	U		0.34	25	µg/L	1	04/10/14 22:51
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	04/10/14 22:51
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 22:51
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	04/10/14 22:51
4-Chloroaniline	U		0.32	10	µg/L	1	04/10/14 22:51
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	04/10/14 22:51
4-Methylphenol	U		0.20	10	µg/L	1	04/10/14 22:51
4-Nitroaniline	U		0.30	25	µg/L	1	04/10/14 22:51
4-Nitrophenol	U		0.51	25	µg/L	1	04/10/14 22:51
Acenaphthene	U		0.11	5.0	µg/L	1	04/10/14 22:51
Acenaphthylene	U		0.12	5.0	µg/L	1	04/10/14 22:51
Acetophenone	U		0.090	5.0	µg/L	1	04/10/14 22:51
Anthracene	U		0.72	5.0	µg/L	1	04/10/14 22:51

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-011
Collection Date: 04/03/14 03:00 PM

Work Order: 1404445
Lab ID: 1404445-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Atrazine	U		0.13	5.0	µg/L	1	04/10/14 22:51
Benzaldehyde	U		0.46	10	µg/L	1	04/10/14 22:51
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	04/10/14 22:51
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	04/10/14 22:51
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	04/10/14 22:51
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	04/10/14 22:51
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	04/10/14 22:51
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	04/10/14 22:51
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	04/10/14 22:51
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	04/10/14 22:51
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	04/10/14 22:51
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	04/10/14 22:51
Caprolactam	U		4.7	10	µg/L	1	04/10/14 22:51
Carbazole	U		0.16	10	µg/L	1	04/10/14 22:51
Chrysene	U		0.71	1.0	µg/L	1	04/10/14 22:51
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	04/10/14 22:51
Dibenzofuran	U		0.28	4.0	µg/L	1	04/10/14 22:51
Diethyl phthalate	U		0.24	5.0	µg/L	1	04/10/14 22:51
Dimethyl phthalate	U		0.27	5.0	µg/L	1	04/10/14 22:51
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	04/10/14 22:51
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	04/10/14 22:51
Fluoranthene	U		0.77	1.0	µg/L	1	04/10/14 22:51
Fluorene	U		0.10	5.0	µg/L	1	04/10/14 22:51
Hexachlorobenzene	U		0.22	0.50	µg/L	1	04/10/14 22:51
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	04/10/14 22:51
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	04/10/14 22:51
Hexachloroethane	U		0.47	5.0	µg/L	1	04/10/14 22:51
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	04/10/14 22:51
Isophorone	U		0.30	5.0	µg/L	1	04/10/14 22:51
Naphthalene	0.80	J	0.12	5.0	µg/L	1	04/10/14 22:51
Nitrobenzene	U		0.33	3.0	µg/L	1	04/10/14 22:51
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	04/10/14 22:51
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	04/10/14 22:51
Pentachlorophenol	U		0.22	1.0	µg/L	1	04/10/14 22:51
Phenanthrene	U		0.86	2.0	µg/L	1	04/10/14 22:51
Phenol	U		0.32	5.0	µg/L	1	04/10/14 22:51
Pyrene	U		0.65	5.0	µg/L	1	04/10/14 22:51
Surr: 2,4,6-Tribromophenol	78.3			32-115	%REC	1	04/10/14 22:51
Surr: 2-Fluorobiphenyl	60.5			32-100	%REC	1	04/10/14 22:51
Surr: 2-Fluorophenol	37.5			22-59	%REC	1	04/10/14 22:51

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-011
Collection Date: 04/03/14 03:00 PM

Work Order: 1404445
Lab ID: 1404445-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: 4-Terphenyl-d14	59.1			23-112	%REC	1	04/10/14 22:51
Surr: Nitrobenzene-d5	62.0			31-93	%REC	1	04/10/14 22:51
Surr: Phenol-d6	25.8			13-36	%REC	1	04/10/14 22:51
VOLATILE ORGANIC COMPOUNDS			SW8260	Analyst: RS			
BatchID: R138890							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 03:45
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/15/14 03:45
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/15/14 03:45
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/15/14 03:45
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/15/14 03:45
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 03:45
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/15/14 03:45
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/15/14 03:45
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/15/14 03:45
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/15/14 03:45
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/15/14 03:45
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/15/14 03:45
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/15/14 03:45
1,4-Dichlorobenzene	0.91	J	0.15	1.0	µg/L	1	04/15/14 03:45
2-Butanone	U		0.64	25	µg/L	1	04/15/14 03:45
2-Hexanone	U		0.19	50	µg/L	1	04/15/14 03:45
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/15/14 03:45
Acetone	11	J	3.0	50	µg/L	1	04/15/14 03:45
Benzene	17		0.14	1.0	µg/L	1	04/15/14 03:45
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/15/14 03:45
Bromoform	U		0.18	1.0	µg/L	1	04/15/14 03:45
Bromomethane	U		0.38	5.0	µg/L	1	04/15/14 03:45
Carbon disulfide	1.6	J	0.26	5.0	µg/L	1	04/15/14 03:45
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/15/14 03:45
Chlorobenzene	90		0.12	1.0	µg/L	1	04/15/14 03:45
Chloroethane	U		0.25	5.0	µg/L	1	04/15/14 03:45
Chloroform	U		0.15	1.0	µg/L	1	04/15/14 03:45
Chloromethane	U		0.29	5.0	µg/L	1	04/15/14 03:45
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/15/14 03:45
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/15/14 03:45
Cyclohexane	2.0	J	0.20	2.0	µg/L	1	04/15/14 03:45
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/15/14 03:45
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/15/14 03:45
Ethylbenzene	U		0.12	1.0	µg/L	1	04/15/14 03:45

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040314-ACN-011
Collection Date: 04/03/14 03:00 PM

Work Order: 1404445
Lab ID: 1404445-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Isopropylbenzene	2.0	J	0.11	5.0	µg/L	1	04/15/14 03:45
Methyl acetate	U		0.76	10	µg/L	1	04/15/14 03:45
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/15/14 03:45
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/15/14 03:45
Methylene chloride	U		0.75	5.0	µg/L	1	04/15/14 03:45
Styrene	U		0.12	1.0	µg/L	1	04/15/14 03:45
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/15/14 03:45
Toluene	0.30	J	0.13	1.0	µg/L	1	04/15/14 03:45
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/15/14 03:45
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/15/14 03:45
Trichloroethene	U		0.16	1.0	µg/L	1	04/15/14 03:45
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/15/14 03:45
Vinyl chloride	U		0.15	1.0	µg/L	1	04/15/14 03:45
Xylenes, Total	1.5	J	0.30	3.0	µg/L	1	04/15/14 03:45
Surr: 1,2-Dichloroethane-d4	106			70-120	%REC	1	04/15/14 03:45
Surr: 4-Bromofluorobenzene	90.4			75-120	%REC	1	04/15/14 03:45
Surr: Dibromofluoromethane	105			85-115	%REC	1	04/15/14 03:45
Surr: Toluene-d8	97.2			85-120	%REC	1	04/15/14 03:45
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/14/14	Analyst: JB
BatchID: 57542							
Cyanide, Amenable	0.0066		0.0010	0.0050	mg/L	1	04/14/14 14:57

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 04/03/14

Work Order: 1404445
Lab ID: 1404445-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: RS
<u>BatchID: R138835</u>							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	04/14/14 16:45
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	04/14/14 16:45
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	04/14/14 16:45
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	04/14/14 16:45
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	04/14/14 16:45
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	04/14/14 16:45
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	04/14/14 16:45
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	04/14/14 16:45
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	04/14/14 16:45
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	04/14/14 16:45
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	04/14/14 16:45
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	04/14/14 16:45
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/14/14 16:45
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	04/14/14 16:45
2-Butanone	U		0.64	25	µg/L	1	04/14/14 16:45
2-Hexanone	U		0.19	50	µg/L	1	04/14/14 16:45
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	04/14/14 16:45
Acetone	U		3.0	50	µg/L	1	04/14/14 16:45
Benzene	U		0.14	1.0	µg/L	1	04/14/14 16:45
Bromodichloromethane	U		0.22	1.0	µg/L	1	04/14/14 16:45
Bromoform	U		0.18	1.0	µg/L	1	04/14/14 16:45
Bromomethane	U		0.38	5.0	µg/L	1	04/14/14 16:45
Carbon disulfide	U		0.26	5.0	µg/L	1	04/14/14 16:45
Carbon tetrachloride	U		0.16	1.0	µg/L	1	04/14/14 16:45
Chlorobenzene	U		0.12	1.0	µg/L	1	04/14/14 16:45
Chloroethane	U		0.25	5.0	µg/L	1	04/14/14 16:45
Chloroform	U		0.15	1.0	µg/L	1	04/14/14 16:45
Chloromethane	U		0.29	5.0	µg/L	1	04/14/14 16:45
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	04/14/14 16:45
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	04/14/14 16:45
Cyclohexane	U		0.20	1.0	µg/L	1	04/14/14 16:45
Dibromochloromethane	U		0.12	5.0	µg/L	1	04/14/14 16:45
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	04/14/14 16:45
Ethylbenzene	U		0.12	1.0	µg/L	1	04/14/14 16:45
Isopropylbenzene	U		0.11	5.0	µg/L	1	04/14/14 16:45
Methyl acetate	U		0.76	10	µg/L	1	04/14/14 16:45
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	04/14/14 16:45

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

ALS Group USA, Corp

Date: 18-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 04/03/14

Work Order: 1404445
Lab ID: 1404445-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	1.0	µg/L	1	04/14/14 16:45
Methylene chloride	1.5	J	0.75	5.0	µg/L	1	04/14/14 16:45
Styrene	U		0.12	1.0	µg/L	1	04/14/14 16:45
Tetrachloroethene	U		0.098	1.0	µg/L	1	04/14/14 16:45
Toluene	U		0.13	1.0	µg/L	1	04/14/14 16:45
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	04/14/14 16:45
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	04/14/14 16:45
Trichloroethene	U		0.16	1.0	µg/L	1	04/14/14 16:45
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	04/14/14 16:45
Vinyl chloride	U		0.15	1.0	µg/L	1	04/14/14 16:45
Xylenes, Total	U		0.30	3.0	µg/L	1	04/14/14 16:45
Surr: 1,2-Dichloroethane-d4	98.4			70-120	%REC	1	04/14/14 16:45
Surr: 4-Bromofluorobenzene	86.4			75-120	%REC	1	04/14/14 16:45
Surr: Dibromofluoromethane	98.2			85-115	%REC	1	04/14/14 16:45
Surr: Toluene-d8	101			85-120	%REC	1	04/14/14 16:45

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

Client: The Mannik & Smith Group, Inc.

QC BATCH REPORT

Work Order: 1404445

Project: RACER - Van Buren Landfill (R2330012)

Batch ID: 57496

Instrument ID HG1

Method: SW7470

MBLK		Sample ID: MBLK-57496-57496				Units: mg/L		Analysis Date: 04/15/14 02:26 PM		
Client ID:		Run ID: HG1_140415B				SeqNo: 2714399		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.00020								

LCS		Sample ID: LCS-57496-57496				Units: mg/L		Analysis Date: 04/15/14 02:29 PM		
Client ID:		Run ID: HG1_140415B				SeqNo: 2714400		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.001882	0.00020	0.002	0	94.1	80-120	0			

MS		Sample ID: 1404445-10EMS				Units: mg/L		Analysis Date: 04/15/14 03:01 PM		
Client ID: W-R2330012-040314-ACN-011		Run ID: HG1_140415B				SeqNo: 2714427		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.001943	0.00020	0.002	-0.000013	97.8	75-125	0			

MSD		Sample ID: 1404445-10EMSD				Units: mg/L		Analysis Date: 04/15/14 03:03 PM		
Client ID: W-R2330012-040314-ACN-011		Run ID: HG1_140415B				SeqNo: 2714428		Prep Date: 04/15/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.001927	0.00020	0.002	-0.000013	97	75-125	0.001943	0.827	20	

The following samples were analyzed in this batch:

1404445-03D	1404445-03E	1404445-04D
1404445-04E	1404445-06D	1404445-06E
1404445-08D	1404445-08E	1404445-10D
1404445-10E		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57497** Instrument ID **HG1** Method: **SW7471**

Sample ID: MBLK-57497-57497					Units: mg/Kg		Analysis Date: 04/14/14 02:05 PM				
Client ID:			Run ID: HG1_140414A			SeqNo: 2711367		Prep Date: 04/14/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.0055	0.020								J	

LCS		Sample ID: LCS-57497-57497				Units: mg/Kg		Analysis Date: 04/14/14 02:08 PM		
Client ID:			Run ID: HG1_140414A			SeqNo: 2711368		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1802	0.020	0.1665	0	108	80-120	0			

MS				Sample ID: 1404589-03AMS				Units: mg/Kg			Analysis Date: 04/14/14 02:21 PM					
Client ID:				Run ID: HG1_140414A				SeqNo: 2711374			Prep Date: 04/14/14		DF: 1			
Analyte				Result		PQL	SPK Val	SPK Ref Value		%REC	Control Limit	RPD Ref Value		%RPD	RPD Limit	Qual
Mercury				0.1534		0.014	0.1163	0.02001		115	75-125	0				

MSD				Sample ID: 1404589-03AMSD				Units: mg/Kg			Analysis Date: 04/14/14 02:24 PM			
Client ID:				Run ID: HG1_140414A				SeqNo: 2711375			Prep Date: 04/14/14		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury				0.145		0.014	0.1144	0.02001	109	75-125	0.1534	5.64	35	

The following samples were analyzed in this batch:

1404445-01B	1404445-02B	1404445-05B
1404445-07B	1404445-09B	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57464** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57464-57464				Units: mg/L		Analysis Date: 04/12/14 10:51 AM		
Client ID:		Run ID: ICPMS1_140411A				SeqNo: 2709531		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	0.0006906	0.0050								J
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	0.008608	0.080								J
Lead	U	0.0050								
Manganese	0.0001323	0.0050								J
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

MBLK		Sample ID: MBLK-57464-57464					Units: mg/L		Analysis Date: 04/12/14 03:47 PM		
Client ID:			Run ID: ICPMS1_140412A			SeqNo: 2709696		Prep Date: 04/11/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	U	0.010									

MBLK		Sample ID: MBLK-57464-57464					Units: mg/L		Analysis Date: 04/15/14 12:26 PM		
Client ID:			Run ID: ICPMS1_140415A			SeqNo: 2714902		Prep Date: 04/11/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Beryllium	U	0.0020									

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57464** Instrument ID **ICPMS1** Method: **SW6020A**

LCS Sample ID: LCS-57464-57464				Units: mg/L			Analysis Date: 04/12/14 10:57 AM			
Client ID:		Run ID: ICPMS1_140411A		SeqNo: 2709532		Prep Date: 04/11/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09813	0.0050	0.1	0	98.1	80-120	0			
Arsenic	0.1013	0.0050	0.1	0	101	80-120	0			
Barium	0.09861	0.0050	0.1	0	98.6	80-120	0			
Cadmium	0.09979	0.0020	0.1	0	99.8	80-120	0			
Chromium	0.09754	0.0050	0.1	0	97.5	80-120	0			
Cobalt	0.09694	0.0050	0.1	0	96.9	80-120	0			
Copper	0.09744	0.0050	0.1	0	97.4	80-120	0			
Iron	10.2	0.080	10	0	102	80-120	0			
Lead	0.09819	0.0050	0.1	0	98.2	80-120	0			
Manganese	0.0985	0.0050	0.1	0	98.5	80-120	0			
Nickel	0.09652	0.0050	0.1	0	96.5	80-120	0			
Selenium	0.1004	0.0050	0.1	0	100	80-120	0			
Silver	0.09174	0.0050	0.1	0	91.7	80-120	0			
Thallium	0.09442	0.0050	0.1	0	94.4	80-120	0			
Vanadium	0.1014	0.0050	0.1	0	101	80-120	0			
Zinc	0.09943	0.010	0.1	0	99.4	80-120	0			

LCS Sample ID: LCS-57464-57464				Units: mg/L			Analysis Date: 04/12/14 03:53 PM			
Client ID:		Run ID: ICPMS1_140412A		SeqNo: 2709697		Prep Date: 04/11/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09056	0.010	0.1	0	90.6	80-120	0			

LCS Sample ID: LCS-57464-57464				Units: mg/L			Analysis Date: 04/15/14 12:32 PM			
Client ID:		Run ID: ICPMS1_140415A		SeqNo: 2714903		Prep Date: 04/11/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.09904	0.0020	0.1	0	99	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57464** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 1404471-06CMS			Units: mg/L		Analysis Date: 04/12/14 04:05 PM	
Client ID:				Run ID: ICPMS1_140412A			SeqNo: 2709699		Prep Date: 04/11/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1078	0.010	0.1	0.01622	91.6	75-125	0			
Antimony	0.09891	0.0050	0.1	0.0000379	98.9	75-125	0			
Arsenic	0.101	0.0050	0.1	0.001886	99.1	75-125	0			
Barium	0.1159	0.0050	0.1	0.02256	93.3	75-125	0			
Cadmium	0.09413	0.0020	0.1	0	94.1	75-125	0			
Chromium	0.09593	0.0050	0.1	0	95.9	75-125	0			
Cobalt	0.09172	0.0050	0.1	0.00005428	91.7	75-125	0			
Copper	0.0931	0.0050	0.1	0	93.1	75-125	0			
Iron	12.43	0.080	10	2.767	96.6	75-125	0			
Lead	0.09703	0.0050	0.1	0	97	75-125	0			
Manganese	0.4249	0.0050	0.1	0.3425	82.4	75-125	0			
Nickel	0.093	0.0050	0.1	0.0006353	92.4	75-125	0			
Selenium	0.09864	0.0050	0.1	0	98.6	75-125	0			
Silver	0.08943	0.0050	0.1	0	89.4	75-125	0			
Thallium	0.09505	0.0050	0.1	0	95	75-125	0			
Vanadium	0.0995	0.0050	0.1	0	99.5	75-125	0			
Zinc	0.09781	0.010	0.1	0.0007902	97	75-125	0			

MS				Sample ID: 1404471-06CMS			Units: mg/L		Analysis Date: 04/15/14 12:38 PM	
Client ID:				Run ID: ICPMS1_140415A			SeqNo: 2714904		Prep Date: 04/11/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.0942	0.0020	0.1	0	94.2	75-125	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57464** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1404471-06CMSD		Units: mg/L		Analysis Date: 04/12/14 04:11 PM		
Client ID:			Run ID: ICPMS1_140412A			SeqNo: 2709700		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1072	0.010	0.1	0.01622	91	75-125	0.1078	0.558	20	
Antimony	0.09922	0.0050	0.1	0.0000379	99.2	75-125	0.09891	0.313	20	
Arsenic	0.1005	0.0050	0.1	0.001886	98.6	75-125	0.101	0.496	20	
Barium	0.1167	0.0050	0.1	0.02256	94.1	75-125	0.1159	0.688	20	
Cadmium	0.09454	0.0020	0.1	0	94.5	75-125	0.09413	0.435	20	
Chromium	0.09557	0.0050	0.1	0	95.6	75-125	0.09593	0.376	20	
Cobalt	0.09208	0.0050	0.1	0.00005428	92	75-125	0.09172	0.392	20	
Copper	0.09433	0.0050	0.1	0	94.3	75-125	0.0931	1.31	20	
Iron	12.52	0.080	10	2.767	97.5	75-125	12.43	0.721	20	
Lead	0.09766	0.0050	0.1	0	97.7	75-125	0.09703	0.647	20	
Manganese	0.43	0.0050	0.1	0.3425	87.5	75-125	0.4249	1.19	20	
Nickel	0.09403	0.0050	0.1	0.0006353	93.4	75-125	0.093	1.1	20	
Selenium	0.09925	0.0050	0.1	0	99.2	75-125	0.09864	0.617	20	
Silver	0.0893	0.0050	0.1	0	89.3	75-125	0.08943	0.145	20	
Thallium	0.09564	0.0050	0.1	0	95.6	75-125	0.09505	0.619	20	
Vanadium	0.09938	0.0050	0.1	0	99.4	75-125	0.0995	0.121	20	
Zinc	0.09658	0.010	0.1	0.0007902	95.8	75-125	0.09781	1.27	20	

MSD					Sample ID: 1404471-06CMSD					Units: mg/L		Analysis Date: 04/15/14 12:44 PM	
Client ID:			Run ID: ICPMS1_140415A			SeqNo: 2714905		Prep Date: 04/11/14		DF: 1			
Analyte			Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Beryllium			0.09555	0.0020	0.1	0	95.6	75-125	0.0942	1.42	20		

The following samples were analyzed in this batch: 1404445-03D

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57465** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK		Sample ID: MBLK-57465-57465				Units: mg/L		Analysis Date: 04/12/14 08:18 AM		
Client ID:		Run ID: ICPMS2_140411A				SeqNo: 2709076		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	0.00008842	0.0050								J
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

LCS		Sample ID: LCS-57465-57465				Units: mg/L		Analysis Date: 04/12/14 08:41 AM		
Client ID:		Run ID: ICPMS2_140411A				SeqNo: 2709407		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09533	0.010	0.1	0	95.3	80-120	0			
Antimony	0.09727	0.0050	0.1	0	97.3	80-120	0			
Arsenic	0.09494	0.0050	0.1	0	94.9	80-120	0			
Barium	0.09382	0.0050	0.1	0	93.8	80-120	0			
Beryllium	0.1011	0.0020	0.1	0	101	80-120	0			
Cadmium	0.09566	0.0020	0.1	0	95.7	80-120	0			
Chromium	0.09212	0.0050	0.1	0	92.1	80-120	0			
Cobalt	0.09634	0.0050	0.1	0	96.3	80-120	0			
Copper	0.09743	0.0050	0.1	0	97.4	80-120	0			
Iron	9.847	0.080	10	0	98.5	80-120	0			
Lead	0.09505	0.0050	0.1	0	95	80-120	0			
Manganese	0.09613	0.0050	0.1	0	96.1	80-120	0			
Nickel	0.09535	0.0050	0.1	0	95.4	80-120	0			
Selenium	0.09583	0.0050	0.1	0	95.8	80-120	0			
Silver	0.09406	0.0050	0.1	0	94.1	80-120	0			
Thallium	0.0917	0.0050	0.1	0	91.7	80-120	0			
Vanadium	0.09721	0.0050	0.1	0	97.2	80-120	0			
Zinc	0.0986	0.010	0.1	0	98.6	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57465** Instrument ID **ICPMS2** Method: **SW6020A**

MS				Sample ID: 1404456-11CMS			Units: mg/L		Analysis Date: 04/12/14 08:55 AM	
Client ID:				Run ID: ICPMS2_140411A			SeqNo: 2709412		Prep Date: 04/11/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09794	0.010	0.1	0.004592	93.3	75-125	0			
Antimony	0.09725	0.0050	0.1	0.00007819	97.2	75-125	0			
Arsenic	0.1019	0.0050	0.1	0.005298	96.6	75-125	0			
Barium	0.1099	0.0050	0.1	0.01546	94.4	75-125	0			
Beryllium	0.09601	0.0020	0.1	0.00001396	96	75-125	0			
Cadmium	0.09444	0.0020	0.1	-0.00001767	94.5	75-125	0			
Chromium	0.09251	0.0050	0.1	0.002203	90.3	75-125	0			
Cobalt	0.09503	0.0050	0.1	0.0007886	94.2	75-125	0			
Copper	0.09726	0.0050	0.1	0.002912	94.3	75-125	0			
Iron	9.654	0.080	10	0.002948	96.5	75-125	0			
Lead	0.1044	0.0050	0.1	0.009833	94.6	75-125	0			
Manganese	0.1026	0.0050	0.1	0.007772	94.8	75-125	0			
Nickel	0.09608	0.0050	0.1	0.003917	92.2	75-125	0			
Selenium	0.09763	0.0050	0.1	0.0004184	97.2	75-125	0			
Silver	0.08946	0.0050	0.1	-7.266E-07	89.5	75-125	0			
Thallium	0.09105	0.0050	0.1	0.00006849	91	75-125	0			
Vanadium	0.09884	0.0050	0.1	0.0007161	98.1	75-125	0			
Zinc	0.1015	0.010	0.1	0.005653	95.8	75-125	0			

MSD				Sample ID: 1404456-11CMSD			Units: mg/L		Analysis Date: 04/12/14 09:01 AM	
Client ID:				Run ID: ICPMS2_140411A			SeqNo: 2709415		Prep Date: 04/11/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09613	0.010	0.1	0.004592	91.5	75-125	0.09794	1.87	20	
Antimony	0.0975	0.0050	0.1	0.00007819	97.4	75-125	0.09725	0.257	20	
Arsenic	0.1018	0.0050	0.1	0.005298	96.5	75-125	0.1019	0.0982	20	
Barium	0.1086	0.0050	0.1	0.01546	93.1	75-125	0.1099	1.19	20	
Beryllium	0.09523	0.0020	0.1	0.00001396	95.2	75-125	0.09601	0.816	20	
Cadmium	0.09425	0.0020	0.1	-0.00001767	94.3	75-125	0.09444	0.201	20	
Chromium	0.09217	0.0050	0.1	0.002203	90	75-125	0.09251	0.368	20	
Cobalt	0.09402	0.0050	0.1	0.0007886	93.2	75-125	0.09503	1.07	20	
Copper	0.09575	0.0050	0.1	0.002912	92.8	75-125	0.09726	1.56	20	
Iron	9.61	0.080	10	0.002948	96.1	75-125	9.654	0.457	20	
Lead	0.1032	0.0050	0.1	0.009833	93.4	75-125	0.1044	1.16	20	
Manganese	0.1007	0.0050	0.1	0.007772	92.9	75-125	0.1026	1.87	20	
Nickel	0.09503	0.0050	0.1	0.003917	91.1	75-125	0.09608	1.1	20	
Selenium	0.09601	0.0050	0.1	0.0004184	95.6	75-125	0.09763	1.67	20	
Silver	0.08913	0.0050	0.1	-7.266E-07	89.1	75-125	0.08946	0.37	20	
Thallium	0.09108	0.0050	0.1	0.00006849	91	75-125	0.09105	0.0329	20	
Vanadium	0.09778	0.0050	0.1	0.0007161	97.1	75-125	0.09884	1.08	20	
Zinc	0.1007	0.010	0.1	0.005653	95	75-125	0.1015	0.791	20	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57465** Instrument ID **ICPMS2** Method: **SW6020A**

The following samples were analyzed in this batch:	1404445-03E	1404445-04D	1404445-04E
	1404445-06D	1404445-06E	1404445-08D
	1404445-08E	1404445-10D	1404445-10E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57469-57469				Units: mg/Kg		Analysis Date: 04/12/14 06:53 AM		
Client ID:		Run ID: ICPMS1_140411A				SeqNo: 2709488		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.25								
Arsenic	U	0.25								
Barium	U	0.25								
Beryllium	U	0.10								
Cadmium	U	0.10								
Chromium	U	0.25								
Cobalt	U	0.25								
Copper	U	0.25								
Iron	1.526	4.0								J
Lead	U	0.25								
Manganese	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Thallium	U	0.25								
Vanadium	U	0.25								

MBLK		Sample ID: MBLK-57469-57469				Units: mg/Kg		Analysis Date: 04/14/14 10:04 AM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710798		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.4809	0.50								J
Zinc	0.03354	0.50								J

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57469-57469				Units: mg/Kg		Analysis Date: 04/12/14 06:59 AM		
Client ID:		Run ID: ICPMS1_140411A				SeqNo: 2709489		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	4.866	0.25	5	0	97.3	80-120	0			
Arsenic	4.504	0.25	5	0	90.1	80-120	0			
Barium	4.872	0.25	5	0	97.4	80-120	0			
Beryllium	4.805	0.10	5	0	96.1	80-120	0			
Cadmium	4.807	0.10	5	0	96.1	80-120	0			
Chromium	4.745	0.25	5	0	94.9	80-120	0			
Cobalt	4.754	0.25	5	0	95.1	80-120	0			
Copper	4.764	0.25	5	0	95.3	80-120	0			
Iron	492.6	4.0	500	0	98.5	80-120	0			
Lead	4.919	0.25	5	0	98.4	80-120	0			
Manganese	4.801	0.25	5	0	96	80-120	0			
Nickel	4.666	0.25	5	0	93.3	80-120	0			
Selenium	4.401	0.25	5	0	88	80-120	0			
Silver	4.77	0.25	5	0	95.4	80-120	0			
Thallium	4.734	0.25	5	0	94.7	80-120	0			
Vanadium	4.83	0.25	5	0	96.6	80-120	0			

LCS		Sample ID: LCS-57469-57469				Units: mg/Kg		Analysis Date: 04/14/14 10:11 AM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710799		Prep Date: 04/11/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	4.621	0.50	5	0	92.4	80-120	0			
Zinc	4.554	0.50	5	0	91.1	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

MS Sample ID: 1404472-11BMS				Units: mg/Kg			Analysis Date: 04/12/14 07:40 AM			
Client ID:		Run ID: ICPMS1_140411A		SeqNo: 2709496		Prep Date: 04/11/14		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	6.805	1.5	7.429	0.0857	90.4	75-125	0			
Arsenic	16.7	1.5	7.429	11.02	76.4	75-125	0			
Barium	59.26	1.5	7.429	50.06	124	75-125	0			O
Beryllium	7.302	0.59	7.429	0.314	94.1	75-125	0			
Cadmium	7.744	0.59	7.429	0.1453	102	75-125	0			
Chromium	18.85	1.5	7.429	8.582	138	75-125	0			S
Cobalt	10.94	1.5	7.429	3.167	105	75-125	0			
Copper	12.49	1.5	7.429	4.648	106	75-125	0			
Iron	14610	24	742.9	13810	107	75-125	0			O
Lead	17.31	1.5	7.429	10.65	89.6	75-125	0			
Manganese	201.7	1.5	7.429	181.6	270	75-125	0			SO
Nickel	15.29	1.5	7.429	6.033	125	75-125	0			
Selenium	7.432	1.5	7.429	0.5952	92	75-125	0			
Silver	7.18	1.5	7.429	0.02079	96.4	75-125	0			
Thallium	7.251	1.5	7.429	0.07307	96.6	75-125	0			
Vanadium	26.89	1.5	7.429	15.1	159	75-125	0			S

MS Sample ID: 1404472-11BMS				Units: mg/Kg			Analysis Date: 04/13/14 04:01 PM			
Client ID:		Run ID: ICPMS1_140412A		SeqNo: 2710472		Prep Date: 04/11/14		DF: 40		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	8318	30	7.429	6143	29300	75-125	0			SO

MS Sample ID: 1404472-11BMS				Units: mg/Kg			Analysis Date: 04/14/14 10:23 AM			
Client ID:		Run ID: ICPMS1_140412A		SeqNo: 2710801		Prep Date: 04/11/14		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	37.89	3.0	7.429	26.03	160	75-125	0			S

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57469** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1404472-11BMSD		Units: mg/Kg		Analysis Date: 04/12/14 08:04 AM		
Client ID:			Run ID: ICPMS1_140411A		SeqNo: 2709500		Prep Date: 04/11/14		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	6.132	1.5	7.508	0.0857	80.5	75-125	6.805	10.4	25	
Arsenic	16.16	1.5	7.508	11.02	68.4	75-125	16.7	3.32	25	S
Barium	58.38	1.5	7.508	50.06	111	75-125	59.26	1.49	25	O
Beryllium	6.949	0.60	7.508	0.314	88.4	75-125	7.302	4.95	25	
Cadmium	7.432	0.60	7.508	0.1453	97.1	75-125	7.744	4.11	25	
Chromium	17.6	1.5	7.508	8.582	120	75-125	18.85	6.85	25	
Cobalt	10.55	1.5	7.508	3.167	98.4	75-125	10.94	3.57	25	
Copper	11.72	1.5	7.508	4.648	94.2	75-125	12.49	6.36	25	
Iron	13840	24	750.8	13810	3.05	75-125	14610	5.4	25	SO
Lead	16.47	1.5	7.508	10.65	77.5	75-125	17.31	4.97	25	
Manganese	216	1.5	7.508	181.6	458	75-125	201.7	6.87	25	SO
Nickel	14.41	1.5	7.508	6.033	112	75-125	15.29	5.93	25	
Selenium	7.3	1.5	7.508	0.5952	89.3	75-125	7.432	1.79	25	
Silver	6.886	1.5	7.508	0.02079	91.4	75-125	7.18	4.18	25	
Thallium	6.919	1.5	7.508	0.07307	91.2	75-125	7.251	4.69	25	
Vanadium	25.28	1.5	7.508	15.1	136	75-125	26.89	6.17	25	S
Zinc	36.4	3.0	7.508	26.3	134	75-125	40	9.43	25	BS

MSD					Sample ID: 1404472-11BMSD				Units: mg/Kg		Analysis Date: 04/13/14 04:25 PM	
Client ID:			Run ID: ICPMS1_140412A			SeqNo: 2710481		Prep Date: 04/11/14		DF: 40		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum		8330	30	7.508	6143	29100	75-125	8389	0.705	25	SO	

The following samples were analyzed in this batch: 1404445-01B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57490-57490				Units: mg/Kg		Analysis Date: 04/13/14 08:47 PM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710584		Prep Date: 04/12/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.25								
Arsenic	U	0.25								
Barium	U	0.25								
Beryllium	U	0.10								
Cadmium	U	0.10								
Chromium	U	0.25								
Cobalt	U	0.25								
Copper	U	0.25								
Iron	U	4.0								
Lead	0.00151	0.25								J
Manganese	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Thallium	U	0.25								
Vanadium	U	0.25								
Zinc	0.04558	0.50								J

MBLK					Sample ID: MBLK-57490-57490					Units: mg/Kg			Analysis Date: 04/15/14 01:50 PM				
Client ID:					Run ID: ICPMS1_140415A					SeqNo: 2714936			Prep Date: 04/12/14			DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value		%REC	Control Limit	RPD Ref Value		%RPD	RPD Limit	Qual
Aluminum					U		0.50										

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57490-57490				Units: mg/Kg		Analysis Date: 04/13/14 08:53 PM		
Client ID:		Run ID: ICPMS1_140412A				SeqNo: 2710586		Prep Date: 04/12/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	4.776	0.25	5	0	95.5	80-120	0			
Arsenic	4.586	0.25	5	0	91.7	80-120	0			
Barium	4.779	0.25	5	0	95.6	80-120	0			
Beryllium	4.764	0.10	5	0	95.3	80-120	0			
Cadmium	4.73	0.10	5	0	94.6	80-120	0			
Chromium	4.918	0.25	5	0	98.4	80-120	0			
Cobalt	4.862	0.25	5	0	97.2	80-120	0			
Copper	4.904	0.25	5	0	98.1	80-120	0			
Iron	508	4.0	500	0	102	80-120	0			
Lead	4.838	0.25	5	0	96.8	80-120	0			
Manganese	4.901	0.25	5	0	98	80-120	0			
Nickel	4.904	0.25	5	0	98.1	80-120	0			
Selenium	4.354	0.25	5	0	87.1	80-120	0			
Silver	4.628	0.25	5	0	92.6	80-120	0			
Thallium	4.658	0.25	5	0	93.2	80-120	0			
Vanadium	5.01	0.25	5	0	100	80-120	0			
Zinc	4.686	0.50	5	0	93.7	80-120	0			

LCS		Sample ID: LCS-57490-57490				Units: mg/Kg		Analysis Date: 04/15/14 01:57 PM		
Client ID:		Run ID: ICPMS1_140415A				SeqNo: 2714937		Prep Date: 04/12/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	5.03	0.50	5	0	101	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 1404478-21AMS		Units: mg/Kg		Analysis Date: 04/13/14 09:35 PM		
Client ID:			Run ID: ICPMS1_140412A		SeqNo: 2710605		Prep Date: 04/12/14		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	6.273	1.6	6.579	0.07859	94.2	75-125	0			
Arsenic	7.78	1.6	6.579	1.351	97.7	75-125	0			
Barium	20.66	1.6	6.579	10.46	155	75-125	0			S
Beryllium	6.03	0.66	6.579	0.08684	90.3	75-125	0			
Cadmium	6.365	0.66	6.579	0.08072	95.5	75-125	0			
Chromium	14.27	1.6	6.579	4.767	144	75-125	0			S
Cobalt	8.484	1.6	6.579	1.887	100	75-125	0			
Copper	10.26	1.6	6.579	3.893	96.8	75-125	0			
Iron	5747	26	657.9	4275	224	75-125	0			SO
Lead	9.845	1.6	6.579	3.64	94.3	75-125	0			
Manganese	121.9	1.6	6.579	104.2	270	75-125	0			SO
Nickel	12.66	1.6	6.579	5.01	116	75-125	0			
Selenium	5.957	1.6	6.579	0.3188	85.7	75-125	0			
Silver	5.872	1.6	6.579	0.0001772	89.2	75-125	0			
Thallium	6.092	1.6	6.579	0.02043	92.3	75-125	0			
Vanadium	17.79	1.6	6.579	8.052	148	75-125	0			S
Zinc	21.87	3.3	6.579	14.02	119	75-125	0			

MS					Sample ID: 1404478-21AMS			Units: mg/Kg		Analysis Date: 04/15/14 02:39 PM		
Client ID:			Run ID: ICPMS1_140415A			SeqNo: 2714947		Prep Date: 04/12/14		DF: 50		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Aluminum	3161	33	6.579	1943	18500	75-125	0			SO		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57490** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1404478-21AMSD		Units: mg/Kg		Analysis Date: 04/13/14 09:41 PM		
Client ID:			Run ID: ICPMS1_140412A			SeqNo: 2710607		Prep Date: 04/12/14		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	6.402	1.7	6.693	0.07859	94.5	75-125	6.273	2.04	25	
Arsenic	7.748	1.7	6.693	1.351	95.6	75-125	7.78	0.412	25	
Barium	18.07	1.7	6.693	10.46	114	75-125	20.66	13.4	25	
Beryllium	6.118	0.67	6.693	0.08684	90.1	75-125	6.03	1.45	25	
Cadmium	6.479	0.67	6.693	0.08072	95.6	75-125	6.365	1.78	25	
Chromium	12.16	1.7	6.693	4.767	110	75-125	14.27	16	25	
Cobalt	8.256	1.7	6.693	1.887	95.2	75-125	8.484	2.71	25	
Copper	10.1	1.7	6.693	3.893	92.7	75-125	10.26	1.57	25	
Iron	5335	27	669.3	4275	158	75-125	5747	7.44	25	SO
Lead	9.183	1.7	6.693	3.64	82.8	75-125	9.845	6.96	25	
Manganese	103.7	1.7	6.693	104.2	-7.58	75-125	121.9	16.2	25	SO
Nickel	11.46	1.7	6.693	5.01	96.4	75-125	12.66	9.99	25	
Selenium	6.265	1.7	6.693	0.3188	88.8	75-125	5.957	5.04	25	
Silver	6.004	1.7	6.693	0.0001772	89.7	75-125	5.872	2.23	25	
Thallium	6.001	1.7	6.693	0.02043	89.3	75-125	6.092	1.51	25	
Vanadium	17.21	1.7	6.693	8.052	137	75-125	17.79	3.34	25	S
Zinc	21.32	3.3	6.693	14.02	109	75-125	21.87	2.56	25	

MSD					Sample ID: 1404478-21AMSD			Units: mg/Kg		Analysis Date: 04/15/14 03:04 PM		
Client ID:			Run ID: ICPMS1_140415A			SeqNo: 2714956		Prep Date: 04/12/14		DF: 50		
Analyte			Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum			2950	33	6.693	1943	15000	75-125	3161	6.89	25	SO

The following samples were analyzed in this batch:

1404445-02B	1404445-05B	1404445-07B
1404445-09B		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57388** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKW1-57388-57388				Units: µg/L		Analysis Date: 04/11/14 02:33 PM		
Client ID:		Run ID: SVMS8_140411A				SeqNo: 2708542		Prep Date: 04/10/14		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	1.0								
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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57388	Instrument ID SVMS8	Method: SW8270						
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>	<i>36.04</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>72.1</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>33.55</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>21.38</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>42.8</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>49.6</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>35.16</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>70.3</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>12.77</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>25.5</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57388** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-57388-57388				Units: µg/L		Analysis Date: 04/10/14 05:21 PM		
Client ID:		Run ID: SVMS8_140410A				SeqNo: 2708545		Prep Date: 04/10/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	14.94	5.0	20	0	74.7	50-110	0			
2,4,6-Trichlorophenol	14.75	5.0	20	0	73.8	50-115	0			
2,4-Dichlorophenol	15.01	10	20	0	75	50-105	0			
2,4-Dimethylphenol	11.66	5.0	20	0	58.3	30-110	0			
2,4-Dinitrophenol	8.57	5.0	20	0	42.8	15-140	0			
2,4-Dinitrotoluene	15.35	5.0	20	0	76.8	50-120	0			
2,6-Dinitrotoluene	15.78	5.0	20	0	78.9	50-115	0			
2-Chloronaphthalene	16.45	5.0	20	0	82.2	50-105	0			
2-Chlorophenol	14.69	5.0	20	0	73.4	35-105	0			
2-Methylnaphthalene	15.26	5.0	20	0	76.3	45-105	0			
2-Methylphenol	12.07	5.0	20	0	60.4	40-110	0			
2-Nitroaniline	14.59	20	20	0	73	50-115	0			J
2-Nitrophenol	14.78	5.0	20	0	73.9	40-115	0			
3-Nitroaniline	14.57	20	20	0	72.8	20-125	0			J
4,6-Dinitro-2-methylphenol	11.99	20	20	0	60	40-130	0			J
4-Bromophenyl phenyl ether	17.1	5.0	20	0	85.5	50-115	0			
4-Chloro-3-methylphenol	14.04	5.0	20	0	70.2	45-110	0			
4-Chloroaniline	14.8	20	20	0	74	15-110	0			J
4-Chlorophenyl phenyl ether	15.88	5.0	20	0	79.4	50-110	0			
4-Methylphenol	10.7	5.0	20	0	53.5	30-110	0			
4-Nitroaniline	14.23	20	20	0	71.2	35-150	0			J
4-Nitrophenol	4.72	20	20	0	23.6	1-58	0			J
Acenaphthene	14.98	5.0	20	0	74.9	45-110	0			
Acenaphthylene	16.54	5.0	20	0	82.7	50-105	0			
Anthracene	17.33	5.0	20	0	86.6	55-110	0			
Benzo(a)anthracene	15.78	5.0	20	0	78.9	55-110	0			
Benzo(a)pyrene	16.8	5.0	20	0	84	55-110	0			
Benzo(b)fluoranthene	17.87	5.0	20	0	89.4	45-120	0			
Benzo(g,h,i)perylene	18.01	5.0	20	0	90	40-125	0			
Benzo(k)fluoranthene	17.79	5.0	20	0	89	45-125	0			
Bis(2-chloroethoxy)methane	15.79	5.0	20	0	79	45-105	0			
Bis(2-chloroethyl)ether	16.5	5.0	20	0	82.5	35-110	0			
Bis(2-chloroisopropyl)ether	15.72	5.0	20	0	78.6	25-130	0			
Bis(2-ethylhexyl)phthalate	14.76	5.0	20	0	73.8	40-125	0			
Butyl benzyl phthalate	14.27	5.0	20	0	71.4	45-115	0			
Carbazole	17.82	10	20	0	89.1	50-150	0			
Chrysene	17.7	5.0	20	0	88.5	55-110	0			
Dibenzo(a,h)anthracene	17.73	5.0	20	0	88.6	40-125	0			
Dibenzofuran	15.93	5.0	20	0	79.6	55-105	0			
Diethyl phthalate	16.7	20	20	0	83.5	40-120	0			J
Dimethyl phthalate	16.73	20	20	0	83.6	25-125	0			J
Di-n-butyl phthalate	16.34	5.0	20	0	81.7	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57388		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	14.38	5.0	20	0	71.9	35-135	0	
Fluoranthene	18.35	5.0	20	0	91.8	55-115	0	
Fluorene	16.02	5.0	20	0	80.1	50-110	0	
Hexachlorobenzene	16.35	5.0	20	0	81.8	50-110	0	
Hexachlorobutadiene	13.7	5.0	20	0	68.5	25-105	0	
Hexachlorocyclopentadiene	9.71	20	20	0	48.6	25-105	0	J
Hexachloroethane	14.38	5.0	20	0	71.9	30-95	0	
Indeno(1,2,3-cd)pyrene	17.87	5.0	20	0	89.4	45-125	0	
Isophorone	14.8	5.0	20	0	74	50-110	0	
Naphthalene	15.04	5.0	20	0	75.2	40-100	0	
Nitrobenzene	15.26	5.0	20	0	76.3	45-110	0	
N-Nitrosodi-n-propylamine	16.57	5.0	20	0	82.8	35-130	0	
N-Nitrosodiphenylamine	17.09	5.0	20	0	85.4	50-110	0	
Pentachlorophenol	13.12	20	20	0	65.6	40-115	0	J
Phenanthrene	16.42	5.0	20	0	82.1	50-115	0	
Phenol	5.31	5.0	20	0	26.6	12-43	0	
Pyrene	18.58	5.0	20	0	92.9	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>47.06</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>94.1</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>35.52</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>71</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>20.69</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>41.4</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>49.62</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>38.68</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>77.4</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>13.39</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>26.8</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57388** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1404398-01A MS			Units: µg/L		Analysis Date: 04/10/14 06:24 PM	
Client ID:				Run ID: SVMS8_140410A			SeqNo: 2708548		Prep Date: 04/10/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	142.7	50	200	0	71.4	50-110	0			
2,4,6-Trichlorophenol	138.5	50	200	0	69.2	50-115	0			
2,4-Dichlorophenol	137.8	100	200	0	68.9	50-105	0			
2,4-Dimethylphenol	120.4	50	200	0	60.2	30-110	0			
2,4-Dinitrophenol	129.1	50	200	0	64.6	15-140	0			
2,4-Dinitrotoluene	150.4	50	200	0	75.2	50-120	0			
2,6-Dinitrotoluene	156.2	50	200	0	78.1	50-115	0			
2-Chloronaphthalene	149.1	50	200	0	74.6	50-105	0			
2-Chlorophenol	140.1	50	200	0	70	35-105	0			
2-Methylnaphthalene	146	50	200	0	73	45-105	0			
2-Methylphenol	123.3	50	200	0	61.6	40-110	0			
2-Nitroaniline	150.3	200	200	0	75.2	50-115	0			J
2-Nitrophenol	138.3	50	200	0	69.2	40-115	0			
3-Nitroaniline	150.5	200	200	0	75.2	20-125	0			J
4,6-Dinitro-2-methylphenol	147	200	200	0	73.5	40-130	0			J
4-Bromophenyl phenyl ether	157.6	50	200	0	78.8	50-115	0			
4-Chloro-3-methylphenol	138.1	50	200	0	69	45-110	0			
4-Chloroaniline	146.7	200	200	0	73.4	15-110	0			J
4-Chlorophenyl phenyl ether	145.1	50	200	0	72.6	50-110	0			
4-Methylphenol	113.8	50	200	0	56.9	30-110	0			
4-Nitroaniline	146.9	200	200	0	73.4	35-150	0			J
4-Nitrophenol	48.7	200	200	0	24.4	1-58	0			J
Acenaphthene	142.6	50	200	0	71.3	45-110	0			
Acenaphthylene	153	50	200	0	76.5	50-105	0			
Anthracene	162.2	50	200	0	81.1	55-110	0			
Benzo(a)anthracene	152.4	50	200	0	76.2	55-110	0			
Benzo(a)pyrene	162.1	50	200	0	81	55-110	0			
Benzo(b)fluoranthene	161.2	50	200	0	80.6	45-120	0			
Benzo(g,h,i)perylene	161.6	50	200	0	80.8	40-125	0			
Benzo(k)fluoranthene	171	50	200	0	85.5	45-125	0			
Bis(2-chloroethoxy)methane	149.2	50	200	0	74.6	45-105	0			
Bis(2-chloroethyl)ether	148.6	50	200	0	74.3	35-110	0			
Bis(2-chloroisopropyl)ether	147.3	50	200	0	73.6	25-130	0			
Bis(2-ethylhexyl)phthalate	155.5	50	200	0	77.8	40-125	0			
Butyl benzyl phthalate	152.9	50	200	0	76.4	45-115	0			
Carbazole	168.5	100	200	0	84.2	50-150	0			
Chrysene	164.3	50	200	0	82.2	55-110	0			
Dibenzo(a,h)anthracene	161.3	50	200	0	80.6	40-125	0			
Dibenzofuran	145.6	50	200	0	72.8	55-105	0			
Diethyl phthalate	160.5	200	200	0	80.2	40-120	0			J
Dimethyl phthalate	158.7	200	200	0	79.4	25-125	0			J
Di-n-butyl phthalate	160.2	50	200	0	80.1	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57388		Instrument ID SVMS8		Method: SW8270			
Di-n-octyl phthalate	161	50	200	0	80.5	35-135	0
Fluoranthene	169.3	50	200	0	84.6	55-115	0
Fluorene	149.1	50	200	0	74.6	50-110	0
Hexachlorobenzene	147.7	50	200	0	73.8	50-110	0
Hexachlorobutadiene	129.1	50	200	0	64.6	25-105	0
Hexachlorocyclopentadiene	99.4	200	200	0	49.7	25-105	0 J
Hexachloroethane	135.7	50	200	0	67.8	30-95	0
Indeno(1,2,3-cd)pyrene	162.7	50	200	0	81.4	45-125	0
Isophorone	144.1	50	200	0	72	50-110	0
Naphthalene	140	50	200	0	70	40-100	0
Nitrobenzene	142	50	200	0	71	45-110	0
N-Nitrosodi-n-propylamine	164.9	50	200	0	82.4	35-130	0
N-Nitrosodiphenylamine	161	50	200	0	80.5	50-110	0
Pentachlorophenol	139	200	200	0	69.5	40-115	0 J
Phenanthrene	151.4	50	200	0	75.7	50-115	0
Phenol	52.5	50	200	0	26.2	12-43	0
Pyrene	177.7	50	200	0	88.8	50-130	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>382.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>76.5</i>	<i>38-115</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>334.8</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>67</i>	<i>32-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>206.3</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>41.3</i>	<i>22-59</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>486.3</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>97.3</i>	<i>23-112</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>367.9</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>73.6</i>	<i>31-93</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>132.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>26.5</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57388** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 1404398-01A MSD				Units: µg/L		Analysis Date: 04/10/14 06:45 PM	
Client ID:			Run ID: SVMS8_140410A			SeqNo: 2708549		Prep Date: 04/10/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	140.9	50	200	0	70.4	50-110	142.7	1.27	30		
2,4,6-Trichlorophenol	138.4	50	200	0	69.2	50-115	138.5	0.0722	30		
2,4-Dichlorophenol	137.4	100	200	0	68.7	50-105	137.8	0.291	30		
2,4-Dimethylphenol	119.1	50	200	0	59.6	30-110	120.4	1.09	30		
2,4-Dinitrophenol	130.8	50	200	0	65.4	15-140	129.1	1.31	30		
2,4-Dinitrotoluene	158.9	50	200	0	79.4	50-120	150.4	5.5	30		
2,6-Dinitrotoluene	151.7	50	200	0	75.8	50-115	156.2	2.92	30		
2-Chloronaphthalene	148.7	50	200	0	74.4	50-105	149.1	0.269	30		
2-Chlorophenol	139.7	50	200	0	69.8	35-105	140.1	0.286	30		
2-Methylnaphthalene	143	50	200	0	71.5	45-105	146	2.08	30		
2-Methylphenol	127.3	50	200	0	63.6	40-110	123.3	3.19	30		
2-Nitroaniline	148.2	200	200	0	74.1	50-115	150.3	0	30	J	
2-Nitrophenol	142.2	50	200	0	71.1	40-115	138.3	2.78	30		
3-Nitroaniline	155.5	200	200	0	77.8	20-125	150.5	0	30	J	
4,6-Dinitro-2-methylphenol	151.8	200	200	0	75.9	40-130	147	0	30	J	
4-Bromophenyl phenyl ether	149.8	50	200	0	74.9	50-115	157.6	5.07	30		
4-Chloro-3-methylphenol	143.1	50	200	0	71.6	45-110	138.1	3.56	30		
4-Chloroaniline	150.3	200	200	0	75.2	15-110	146.7	0	30	J	
4-Chlorophenyl phenyl ether	146.8	50	200	0	73.4	50-110	145.1	1.16	30		
4-Methylphenol	115.9	50	200	0	58	30-110	113.8	1.83	30		
4-Nitroaniline	156.6	200	200	0	78.3	35-150	146.9	0	30	J	
4-Nitrophenol	56.5	200	200	0	28.2	1-58	48.7	0	0	J	
Acenaphthene	144.7	50	200	0	72.4	45-110	142.6	1.46	30		
Acenaphthylene	149.2	50	200	0	74.6	50-105	153	2.51	30		
Anthracene	159.8	50	200	0	79.9	55-110	162.2	1.49	30		
Benzo(a)anthracene	153.2	50	200	0	76.6	55-110	152.4	0.524	30		
Benzo(a)pyrene	162.7	50	200	0	81.4	55-110	162.1	0.369	30		
Benzo(b)fluoranthene	167.4	50	200	0	83.7	45-120	161.2	3.77	30		
Benzo(g,h,i)perylene	148.7	50	200	0	74.4	40-125	161.6	8.31	30		
Benzo(k)fluoranthene	177.8	50	200	0	88.9	45-125	171	3.9	30		
Bis(2-chloroethoxy)methane	150.5	50	200	0	75.2	45-105	149.2	0.868	30		
Bis(2-chloroethyl)ether	148.6	50	200	0	74.3	35-110	148.6	0	30		
Bis(2-chloroisopropyl)ether	149.9	50	200	0	75	25-130	147.3	1.75	30		
Bis(2-ethylhexyl)phthalate	159.7	50	200	0	79.8	40-125	155.5	2.66	30		
Butyl benzyl phthalate	157.9	50	200	0	79	45-115	152.9	3.22	30		
Carbazole	170.9	100	200	0	85.4	50-150	168.5	1.41	30		
Chrysene	162.8	50	200	0	81.4	55-110	164.3	0.917	30		
Dibenzo(a,h)anthracene	149.8	50	200	0	74.9	40-125	161.3	7.39	30		
Dibenzofuran	148	50	200	0	74	55-105	145.6	1.63	30		
Diethyl phthalate	164.9	200	200	0	82.4	40-120	160.5	0	30	J	
Dimethyl phthalate	160	200	200	0	80	25-125	158.7	0	30	J	
Di-n-butyl phthalate	168	50	200	0	84	55-115	160.2	4.75	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57388		Instrument ID SVMS8		Method: SW8270					
Di-n-octyl phthalate	177.2	50	200	0	88.6	35-135	161	9.58	30
Fluoranthene	176.6	50	200	0	88.3	55-115	169.3	4.22	30
Fluorene	151.6	50	200	0	75.8	50-110	149.1	1.66	30
Hexachlorobenzene	144	50	200	0	72	50-110	147.7	2.54	30
Hexachlorobutadiene	127.6	50	200	0	63.8	25-105	129.1	1.17	30
Hexachlorocyclopentadiene	101.9	200	200	0	51	25-105	99.4	0	30 J
Hexachloroethane	135.9	50	200	0	68	30-95	135.7	0.147	30
Indeno(1,2,3-cd)pyrene	153.6	50	200	0	76.8	45-125	162.7	5.75	30
Isophorone	145.7	50	200	0	72.8	50-110	144.1	1.1	30
Naphthalene	138.6	50	200	0	69.3	40-100	140	1.01	30
Nitrobenzene	143.5	50	200	0	71.8	45-110	142	1.05	30
N-Nitrosodi-n-propylamine	168.2	50	200	0	84.1	35-130	164.9	1.98	30
N-Nitrosodiphenylamine	154.7	50	200	0	77.4	50-110	161	3.99	30
Pentachlorophenol	146.4	200	200	0	73.2	40-115	139	0	30 J
Phenanthrene	148.7	50	200	0	74.4	50-115	151.4	1.8	30
Phenol	52.3	50	200	0	26.2	12-43	52.5	0.382	30
Pyrene	176.8	50	200	0	88.4	50-130	177.7	0.508	30
<i>Surr: 2,4,6-Tribromophenol</i>	376.8	0	500	0	75.4	38-115	382.5	1.5	40
<i>Surr: 2-Fluorobiphenyl</i>	321.8	0	500	0	64.4	32-100	334.8	3.96	40
<i>Surr: 2-Fluorophenol</i>	207	0	500	0	41.4	22-59	206.3	0.339	40
<i>Surr: 4-Terphenyl-d14</i>	481	0	500	0	96.2	23-112	486.3	1.1	40
<i>Surr: Nitrobenzene-d5</i>	359.1	0	500	0	71.8	31-93	367.9	2.42	40
<i>Surr: Phenol-d6</i>	133.8	0	500	0	26.8	13-36	132.4	1.05	40

The following samples were analyzed in this batch:

1404445-03B	1404445-04B	1404445-06B
1404445-08B	1404445-10B	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57443-57443				Units: µg/Kg		Analysis Date: 04/12/14 01:42 PM		
Client ID:		Run ID: SVMS8_140412A				SeqNo: 2710983		Prep Date: 04/11/14		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	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
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	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443	Instrument ID SVMS8	Method: SW8270					
Chrysene	U	6.7					
Dibenzo(a,h)anthracene	U	6.7					
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	6.7					
Fluorene	U	6.7					
Hexachlorobenzene	U	160					
Hexachlorobutadiene	U	160					
Hexachlorocyclopentadiene	U	330					
Hexachloroethane	U	160					
Indeno(1,2,3-cd)pyrene	U	6.7					
Isophorone	U	160					
Naphthalene	U	6.7					
Nitrobenzene	U	160					
N-Nitrosodi-n-propylamine	U	160					
N-Nitrosodiphenylamine	U	160					
Pentachlorophenol	U	330					
Phenanthrene	U	6.7					
Phenol	U	160					
Pyrene	U	6.7					
<i>Surr: 2,4,6-Tribromophenol</i>	892	0	1667	0	53.5	34-140	0
<i>Surr: 2-Fluorobiphenyl</i>	1197	0	1667	0	71.8	12-100	0
<i>Surr: 2-Fluorophenol</i>	1169	0	1667	0	70.1	33-117	0
<i>Surr: 4-Terphenyl-d14</i>	1717	0	1667	0	103	25-137	0
<i>Surr: Nitrobenzene-d5</i>	1212	0	1667	0	72.7	37-107	0
<i>Surr: Phenol-d6</i>	1257	0	1667	0	75.4	40-106	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

LCS				Sample ID: SLCSS1-57443-57443			Units: µg/Kg		Analysis Date: 04/12/14 02:03 PM		
Client ID:		Run ID: SVMS8_140412A			SeqNo: 2710984		Prep Date: 04/11/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	577.7	160	666.7	0	86.6	50-110	0				
2,4,6-Trichlorophenol	558.3	160	666.7	0	83.7	45-110	0				
2,4-Dichlorophenol	542	160	666.7	0	81.3	45-110	0				
2,4-Dimethylphenol	475.3	330	666.7	0	71.3	30-105	0				
2,4-Dinitrophenol	514	660	666.7	0	77.1	15-130	0			J	
2,4-Dinitrotoluene	558.3	160	666.7	0	83.7	50-115	0				
2,6-Dinitrotoluene	567.3	160	666.7	0	85.1	50-110	0				
2-Chloronaphthalene	586	6.7	666.7	0	87.9	45-105	0				
2-Chlorophenol	565.7	160	666.7	0	84.8	45-105	0				
2-Methylnaphthalene	543.7	6.7	666.7	0	81.5	45-105	0				
2-Methylphenol	562.7	160	666.7	0	84.4	40-105	0				
2-Nitroaniline	544.7	660	666.7	0	81.7	45-120	0			J	
2-Nitrophenol	536.7	160	666.7	0	80.5	40-110	0				
3-Nitroaniline	336	660	666.7	0	50.4	25-150	0			J	
4-Bromophenyl phenyl ether	613.7	160	666.7	0	92	45-115	0				
4-Chloro-3-methylphenol	555.3	160	666.7	0	83.3	45-115	0				
4-Chloroaniline	320	660	666.7	0	48	15-110	0			J	
4-Chlorophenyl phenyl ether	562.3	160	666.7	0	84.3	45-110	0				
4-Methylphenol	568	160	666.7	0	85.2	40-105	0				
4-Nitroaniline	391.7	660	666.7	0	58.7	35-150	0			J	
4-Nitrophenol	639.3	660	666.7	0	95.9	15-140	0			J	
Acenaphthene	553.3	6.7	666.7	0	83	45-110	0				
Acenaphthylene	580	6.7	666.7	0	87	45-105	0				
Anthracene	615	6.7	666.7	0	92.2	55-105	0				
Benzo(a)anthracene	596	6.7	666.7	0	89.4	50-110	0				
Benzo(a)pyrene	634	6.7	666.7	0	95.1	50-110	0				
Benzo(b)fluoranthene	654.3	6.7	666.7	0	98.1	45-115	0				
Benzo(g,h,i)perylene	606.3	6.7	666.7	0	90.9	40-125	0				
Benzo(k)fluoranthene	667	6.7	666.7	0	100	45-115	0				
Bis(2-chloroethoxy)methane	558.7	160	666.7	0	83.8	45-110	0				
Bis(2-chloroethyl)ether	618.3	160	666.7	0	92.7	40-105	0				
Bis(2-chloroisopropyl)ether	523.3	160	666.7	0	78.5	20-115	0				
Bis(2-ethylhexyl)phthalate	639.3	330	666.7	0	95.9	45-125	0				
Butyl benzyl phthalate	641.3	160	666.7	0	96.2	50-125	0				
Carbazole	624	160	666.7	0	93.6	50-150	0				
Chrysene	637.3	6.7	666.7	0	95.6	55-110	0				
Dibenzo(a,h)anthracene	626.3	6.7	666.7	0	93.9	40-125	0				
Dibenzofuran	554.3	160	666.7	0	83.1	50-105	0				
Diethyl phthalate	608.7	330	666.7	0	91.3	50-115	0				
Dimethyl phthalate	597.7	330	666.7	0	89.6	50-110	0				
Di-n-butyl phthalate	641.7	330	666.7	0	96.2	55-110	0				
Di-n-octyl phthalate	691	160	666.7	0	104	40-130	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	639.3	6.7	666.7	0	95.9	55-115	0
Fluorene	558.7	6.7	666.7	0	83.8	50-110	0
Hexachlorobenzene	605	160	666.7	0	90.7	45-120	0
Hexachlorobutadiene	552.3	160	666.7	0	82.8	40-115	0
Hexachlorocyclopentadiene	529.3	330	666.7	0	79.4	40-115	0
Hexachloroethane	537.7	160	666.7	0	80.6	35-110	0
Indeno(1,2,3-cd)pyrene	635.3	6.7	666.7	0	95.3	40-120	0
Isophorone	540.3	160	666.7	0	81	45-110	0
Naphthalene	533	6.7	666.7	0	79.9	40-105	0
Nitrobenzene	531.7	160	666.7	0	79.7	40-115	0
N-Nitrosodi-n-propylamine	601.3	160	666.7	0	90.2	40-115	0
N-Nitrosodiphenylamine	622.3	160	666.7	0	93.3	50-115	0
Pentachlorophenol	572	330	666.7	0	85.8	25-120	0
Phenanthrene	577.7	6.7	666.7	0	86.6	50-110	0
Phenol	611	160	666.7	0	91.6	40-100	0
Pyrene	712	6.7	666.7	0	107	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1531</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>91.9</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1335</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>80.1</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1479</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>88.7</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1898</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>114</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1425</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>85.5</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1474</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>88.4</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

MS Sample ID: 1404544-01C MS				Units: µg/Kg			Analysis Date: 04/12/14 04:10 PM			
Client ID:		Run ID: SVMS8_140412A		SeqNo: 2710990		Prep Date: 04/11/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1160	310	1288	0	90.1	50-110	0			
2,4,6-Trichlorophenol	1122	310	1288	0	87.1	45-110	0			
2,4-Dichlorophenol	978	310	1288	0	75.9	45-110	0			
2,4-Dimethylphenol	690.8	640	1288	0	53.6	30-105	0			
2,4-Dinitrophenol	1002	1,300	1288	0	77.8	15-130	0			J
2,4-Dinitrotoluene	1104	310	1288	0	85.7	50-115	0			
2,6-Dinitrotoluene	1105	310	1288	0	85.8	50-110	0			
2-Chloronaphthalene	1045	13	1288	0	81.1	45-105	0			
2-Chlorophenol	902	310	1288	0	70	45-105	0			
2-Methylnaphthalene	940	13	1288	35.24	70.3	45-105	0			
2-Methylphenol	947.1	310	1288	0	73.5	40-105	0			
2-Nitroaniline	1139	1,300	1288	0	88.4	45-120	0			J
2-Nitrophenol	860.8	310	1288	0	66.8	40-110	0			
3-Nitroaniline	752	1,300	1288	0	58.4	25-110	0			J
4-Bromophenyl phenyl ether	1253	310	1288	0	97.3	45-115	0			
4-Chloro-3-methylphenol	1058	310	1288	0	82.2	45-115	0			
4-Chloroaniline	296.2	1,300	1288	0	23	15-110	0			J
4-Chlorophenyl phenyl ether	1099	310	1288	0	85.3	45-110	0			
4-Methylphenol	936.8	310	1288	0	72.7	40-105	0			
4-Nitroaniline	873.7	1,300	1288	0	67.8	35-150	0			J
4-Nitrophenol	1263	1,300	1288	0	98	15-140	0			J
Acenaphthene	1061	13	1288	0	82.4	45-110	0			
Acenaphthylene	1070	13	1288	0	83.1	45-105	0			
Anthracene	1200	13	1288	0	93.2	55-105	0			
Benzo(a)anthracene	1168	13	1288	0	90.7	50-110	0			
Benzo(a)pyrene	1243	13	1288	0	96.5	50-110	0			
Benzo(b)fluoranthene	1233	13	1288	0	95.7	45-115	0			
Benzo(g,h,i)perylene	1350	13	1288	0	105	40-125	0			
Benzo(k)fluoranthene	1192	13	1288	0	92.5	45-115	0			
Bis(2-chloroethoxy)methane	894.3	310	1288	0	69.4	45-110	0			
Bis(2-chloroethyl)ether	815.1	310	1288	0	63.3	40-105	0			
Bis(2-chloroisopropyl)ether	879.5	310	1288	0	68.3	20-115	0			
Bis(2-ethylhexyl)phthalate	1344	640	1288	0	104	45-125	0			
Butyl benzyl phthalate	1338	310	1288	0	104	50-125	0			
Carbazole	1133	310	1288	0	88	50-150	0			
Chrysene	1210	13	1288	0	93.9	55-110	0			
Dibenzo(a,h)anthracene	1294	13	1288	0	100	40-125	0			
Dibenzofuran	1100	310	1288	0	85.4	50-105	0			
Diethyl phthalate	1175	640	1288	0	91.2	50-115	0			
Dimethyl phthalate	1142	640	1288	0	88.7	50-110	0			
Di-n-butyl phthalate	1288	640	1288	0	100	55-110	0			
Di-n-octyl phthalate	1472	310	1288	0	114	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	1279	13	1288	35.24	96.6	55-115	0
Fluorene	1095	13	1288	0	85	50-110	0
Hexachlorobenzene	1162	310	1288	0	90.2	45-120	0
Hexachlorobutadiene	848.6	310	1288	0	65.9	40-115	0
Hexachlorocyclopentadiene	918.7	640	1288	0	71.3	40-115	0
Hexachloroethane	837	310	1288	0	65	35-110	0
Indeno(1,2,3-cd)pyrene	1405	13	1288	0	109	40-120	0
Isophorone	888.5	310	1288	0	69	45-110	0
Naphthalene	874.3	13	1288	24.47	66	40-105	0
Nitrobenzene	839.6	310	1288	0	65.2	40-115	0
N-Nitrosodi-n-propylamine	972.2	310	1288	0	75.5	40-115	0
N-Nitrosodiphenylamine	1197	310	1288	0	92.9	50-115	0
Pentachlorophenol	1170	640	1288	0	90.9	25-120	0
Phenanthrene	1183	13	1288	37.85	88.9	50-110	0
Phenol	958.7	310	1288	0	74.4	40-100	0
Pyrene	1388	13	1288	30.67	105	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2933</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>91.1</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2340</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>72.7</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>2214</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>68.8</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3506</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>109</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2201</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>68.4</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>2335</i>	<i>0</i>	<i>3219</i>	<i>0</i>	<i>72.5</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57443** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 1404544-01C MSD		Units: µg/Kg		Analysis Date: 04/12/14 04:31 PM		
Client ID:		Run ID: SVMS8_140412A			SeqNo: 2710993		Prep Date: 04/11/14		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1184	320	1313	0	90.1	50-110	1160	2.03	30	
2,4,6-Trichlorophenol	1135	320	1313	0	86.4	45-110	1122	1.16	30	
2,4-Dichlorophenol	1003	320	1313	0	76.4	45-110	978	2.56	30	
2,4-Dimethylphenol	709.2	650	1313	0	54	30-105	690.8	2.62	30	
2,4-Dinitrophenol	999.4	1,300	1313	0	76.1	15-130	1002	0	30	J
2,4-Dinitrotoluene	1138	320	1313	0	86.6	50-115	1104	3.07	30	
2,6-Dinitrotoluene	1120	320	1313	0	85.2	50-110	1105	1.27	30	
2-Chloronaphthalene	1093	13	1313	0	83.2	45-105	1045	4.52	30	
2-Chlorophenol	941.6	320	1313	0	71.7	45-105	902	4.3	30	
2-Methylnaphthalene	978.4	13	1313	35.24	71.8	45-105	940	4	30	
2-Methylphenol	977.1	320	1313	0	74.4	40-105	947.1	3.12	30	
2-Nitroaniline	1184	1,300	1313	0	90.1	45-120	1139	0	30	J
2-Nitrophenol	899.6	320	1313	0	68.5	40-110	860.8	4.41	30	
3-Nitroaniline	811.6	1,300	1313	0	61.8	25-110	752	0	30	J
4-Bromophenyl phenyl ether	1253	320	1313	0	95.4	45-115	1253	0.00195	30	
4-Chloro-3-methylphenol	1112	320	1313	0	84.6	45-115	1058	4.91	30	
4-Chloroaniline	365.7	1,300	1313	0	27.8	15-110	296.2	0	30	J
4-Chlorophenyl phenyl ether	1123	320	1313	0	85.5	45-110	1099	2.15	30	
4-Methylphenol	974.5	320	1313	0	74.2	40-105	936.8	3.94	30	
4-Nitroaniline	950.2	1,300	1313	0	72.3	35-150	873.7	0	30	J
4-Nitrophenol	1306	1,300	1313	0	99.4	15-140	1263	3.39	30	
Acenaphthene	1061	13	1313	0	80.8	45-110	1061	0.00924	30	
Acenaphthylene	1094	13	1313	0	83.3	45-105	1070	2.21	30	
Anthracene	1215	13	1313	0	92.5	55-105	1200	1.22	30	
Benzo(a)anthracene	1210	13	1313	0	92.1	50-110	1168	3.56	30	
Benzo(a)pyrene	1275	13	1313	0	97.1	50-110	1243	2.54	30	
Benzo(b)fluoranthene	1273	13	1313	0	96.9	45-115	1233	3.22	30	
Benzo(g,h,i)perylene	1367	13	1313	0	104	40-125	1350	1.25	30	
Benzo(k)fluoranthene	1196	13	1313	0	91.1	45-115	1192	0.391	30	
Bis(2-chloroethoxy)methane	897	320	1313	0	68.3	45-110	894.3	0.3	30	
Bis(2-chloroethyl)ether	842.5	320	1313	0	64.1	40-105	815.1	3.3	30	
Bis(2-chloroisopropyl)ether	887.8	320	1313	0	67.6	20-115	879.5	0.94	30	
Bis(2-ethylhexyl)phthalate	1407	650	1313	0	107	45-125	1344	4.57	30	
Butyl benzyl phthalate	1383	320	1313	0	105	50-125	1338	3.31	30	
Carbazole	1192	320	1313	0	90.8	50-150	1133	5.1	30	
Chrysene	1209	13	1313	0	92	55-110	1210	0.073	30	
Dibenzo(a,h)anthracene	1420	13	1313	0	108	40-125	1294	9.25	30	
Dibenzofuran	1102	320	1313	0	83.9	50-105	1100	0.14	30	
Diethyl phthalate	1202	650	1313	0	91.5	50-115	1175	2.24	30	
Dimethyl phthalate	1164	650	1313	0	88.6	50-110	1142	1.86	30	
Di-n-butyl phthalate	1317	650	1313	0	100	55-110	1288	2.17	30	
Di-n-octyl phthalate	1523	320	1313	0	116	40-130	1472	3.45	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57443		Instrument ID SVMS8		Method: SW8270					
Fluoranthene	1310	13	1313	35.24	97.1	55-115	1279	2.42	30
Fluorene	1085	13	1313	0	82.6	50-110	1095	0.894	30
Hexachlorobenzene	1229	320	1313	0	93.6	45-120	1162	5.61	30
Hexachlorobutadiene	877.9	320	1313	0	66.8	40-115	848.6	3.4	30
Hexachlorocyclopentadiene	982.3	650	1313	0	74.8	40-115	918.7	6.69	30
Hexachloroethane	856.3	320	1313	0	65.2	35-110	837	2.28	30
Indeno(1,2,3-cd)pyrene	1455	13	1313	0	111	40-120	1405	3.47	30
Isophorone	920.6	320	1313	0	70.1	45-110	888.5	3.55	30
Naphthalene	882.5	13	1313	24.47	65.3	40-105	874.3	0.934	30
Nitrobenzene	878.6	320	1313	0	66.9	40-115	839.6	4.54	30
N-Nitrosodi-n-propylamine	1009	320	1313	0	76.8	40-115	972.2	3.74	30
N-Nitrosodiphenylamine	1215	320	1313	0	92.5	50-115	1197	1.54	30
Pentachlorophenol	1169	650	1313	0	89	25-120	1170	0.0861	30
Phenanthrene	1181	13	1313	37.85	87.1	50-110	1183	0.12	30
Phenol	985.6	320	1313	0	75	40-100	958.7	2.77	30
Pyrene	1413	13	1313	30.67	105	45-125	1388	1.78	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3040</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>92.6</i>	<i>34-140</i>	<i>2933</i>	<i>3.58</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2386</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>72.7</i>	<i>12-100</i>	<i>2340</i>	<i>1.97</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>2273</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>69.2</i>	<i>33-117</i>	<i>2214</i>	<i>2.61</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3608</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>110</i>	<i>25-137</i>	<i>3506</i>	<i>2.85</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2325</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>70.8</i>	<i>37-107</i>	<i>2201</i>	<i>5.47</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>2422</i>	<i>0</i>	<i>3283</i>	<i>0</i>	<i>73.8</i>	<i>40-106</i>	<i>2335</i>	<i>3.67</i>	<i>40</i>

The following samples were analyzed in this batch: 1404445-01B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57500** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57500-57500				Units: µg/Kg		Analysis Date: 04/14/14 03:52 PM		
Client ID:		Run ID: SVMS8_140414A		SeqNo: 2713691		Prep Date: 04/13/14		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	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
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	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57500		Instrument ID SVMS8		Method: SW8270				
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
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	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	160						
Naphthalene	U	6.7						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	6.7						
Phenol	U	160						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1308</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>78.5</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>1207</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>72.4</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>1333</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>80</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>1836</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>110</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>1246</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>74.8</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>1299</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>77.9</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57500** Instrument ID **SVMS8** Method: **SW8270**

LCS				Sample ID: SLCSS1-57500-57500			Units: µg/Kg		Analysis Date: 04/14/14 04:13 PM	
Client ID:				Run ID: SVMS8_140414A			SeqNo: 2713692		Prep Date: 04/13/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	602.7	160	666.7	0	90.4	50-110	0			
2,4,6-Trichlorophenol	555.3	160	666.7	0	83.3	45-110	0			
2,4-Dichlorophenol	486	160	666.7	0	72.9	45-110	0			
2,4-Dimethylphenol	428.3	330	666.7	0	64.2	30-105	0			
2,4-Dinitrophenol	553.3	660	666.7	0	83	15-130	0			J
2,4-Dinitrotoluene	600.3	160	666.7	0	90	50-115	0			
2,6-Dinitrotoluene	597.3	160	666.7	0	89.6	50-110	0			
2-Chloronaphthalene	528	6.7	666.7	0	79.2	45-105	0			
2-Chlorophenol	488.7	160	666.7	0	73.3	45-105	0			
2-Methylnaphthalene	485	6.7	666.7	0	72.7	45-105	0			
2-Methylphenol	489	160	666.7	0	73.3	40-105	0			
2-Nitroaniline	589.7	660	666.7	0	88.4	45-120	0			J
2-Nitrophenol	491.7	160	666.7	0	73.7	40-110	0			
3-Nitroaniline	374.3	660	666.7	0	56.1	25-150	0			J
4-Bromophenyl phenyl ether	657	160	666.7	0	98.5	45-115	0			
4-Chloro-3-methylphenol	562.3	160	666.7	0	84.3	45-115	0			
4-Chloroaniline	330.7	660	666.7	0	49.6	15-110	0			J
4-Chlorophenyl phenyl ether	562	160	666.7	0	84.3	45-110	0			
4-Methylphenol	491.7	160	666.7	0	73.7	40-105	0			
4-Nitroaniline	483	660	666.7	0	72.4	35-150	0			J
4-Nitrophenol	630.3	660	666.7	0	94.5	15-140	0			J
Acenaphthene	510	6.7	666.7	0	76.5	45-110	0			
Acenaphthylene	528.7	6.7	666.7	0	79.3	45-105	0			
Anthracene	639.3	6.7	666.7	0	95.9	55-105	0			
Benzo(a)anthracene	639.7	6.7	666.7	0	95.9	50-110	0			
Benzo(a)pyrene	697	6.7	666.7	0	105	50-110	0			
Benzo(b)fluoranthene	658.7	6.7	666.7	0	98.8	45-115	0			
Benzo(g,h,i)perylene	692	6.7	666.7	0	104	40-125	0			
Benzo(k)fluoranthene	675.7	6.7	666.7	0	101	45-115	0			
Bis(2-chloroethoxy)methane	482	160	666.7	0	72.3	45-110	0			
Bis(2-chloroethyl)ether	481.7	160	666.7	0	72.2	40-105	0			
Bis(2-chloroisopropyl)ether	400.7	160	666.7	0	60.1	20-115	0			
Bis(2-ethylhexyl)phthalate	724.7	330	666.7	0	109	45-125	0			
Butyl benzyl phthalate	705.7	160	666.7	0	106	50-125	0			
Carbazole	663	160	666.7	0	99.4	50-150	0			
Chrysene	628.3	6.7	666.7	0	94.2	55-110	0			
Dibenzo(a,h)anthracene	745.3	6.7	666.7	0	112	40-125	0			
Dibenzofuran	535.7	160	666.7	0	80.3	50-105	0			
Diethyl phthalate	633	330	666.7	0	94.9	50-115	0			
Dimethyl phthalate	585.7	330	666.7	0	87.8	50-110	0			
Di-n-butyl phthalate	681.3	330	666.7	0	102	55-110	0			
Di-n-octyl phthalate	889	160	666.7	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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57500		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	722	6.7	666.7	0	108	55-115	0
Fluorene	542	6.7	666.7	0	81.3	50-110	0
Hexachlorobenzene	610.7	160	666.7	0	91.6	45-120	0
Hexachlorobutadiene	475	160	666.7	0	71.2	40-115	0
Hexachlorocyclopentadiene	321	330	666.7	0	48.1	40-115	0
Hexachloroethane	446.3	160	666.7	0	66.9	35-110	0
Indeno(1,2,3-cd)pyrene	745.3	6.7	666.7	0	112	40-120	0
Isophorone	468.7	160	666.7	0	70.3	45-110	0
Naphthalene	450.7	6.7	666.7	0	67.6	40-105	0
Nitrobenzene	465	160	666.7	0	69.7	40-115	0
N-Nitrosodi-n-propylamine	515.3	160	666.7	0	77.3	40-115	0
N-Nitrosodiphenylamine	618	160	666.7	0	92.7	50-115	0
Pentachlorophenol	566.7	330	666.7	0	85	25-120	0
Phenanthrene	600.7	6.7	666.7	0	90.1	50-110	0
Phenol	511	160	666.7	0	76.6	40-100	0
Pyrene	675.3	6.7	666.7	0	101	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1579</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>94.7</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1152</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>69.1</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1244</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>74.6</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1752</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>105</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1198</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>71.9</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1220</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>73.2</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57500** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1404445-05B MS			Units: µg/Kg		Analysis Date: 04/14/14 05:14 PM	
Client ID: S-R2330012-040314-ACN-013				Run ID: SVMS8_140414A			SeqNo: 2713693		Prep Date: 04/13/14	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1276	320	1314	0	97	50-110	0			
2,4,6-Trichlorophenol	1179	320	1314	0	89.7	45-110	0			
2,4-Dichlorophenol	1060	320	1314	0	80.6	45-110	0			
2,4-Dimethylphenol	1036	650	1314	0	78.8	30-105	0			
2,4-Dinitrophenol	633.5	1,300	1314	0	48.2	15-130	0			J
2,4-Dinitrotoluene	1164	320	1314	0	88.5	50-115	0			
2,6-Dinitrotoluene	1140	320	1314	0	86.7	50-110	0			
2-Chloronaphthalene	1080	13	1314	0	82.1	45-105	0			
2-Chlorophenol	1010	320	1314	0	76.8	45-105	0			
2-Methylnaphthalene	1031	13	1314	0	78.4	45-105	0			
2-Methylphenol	1020	320	1314	0	77.6	40-105	0			
2-Nitroaniline	1213	1,300	1314	0	92.3	45-120	0			J
2-Nitrophenol	1009	320	1314	0	76.8	40-110	0			
3-Nitroaniline	984.5	1,300	1314	0	74.9	25-110	0			J
4-Bromophenyl phenyl ether	1296	320	1314	0	98.6	45-115	0			
4-Chloro-3-methylphenol	1234	320	1314	0	93.9	45-115	0			
4-Chloroaniline	691.4	1,300	1314	0	52.6	15-110	0			J
4-Chlorophenyl phenyl ether	1151	320	1314	0	87.5	45-110	0			
4-Methylphenol	1104	320	1314	62.55	79.2	40-105	0			
4-Nitroaniline	1190	1,300	1314	0	90.5	35-150	0			J
4-Nitrophenol	1285	1,300	1314	0	97.8	15-140	0			J
Acenaphthene	1027	13	1314	0	78.1	45-110	0			
Acenaphthylene	1128	13	1314	0	85.8	45-105	0			
Anthracene	1261	13	1314	0	95.9	55-105	0			
Benzo(a)anthracene	1256	13	1314	29.46	93.3	50-110	0			
Benzo(a)pyrene	1315	13	1314	0	100	50-110	0			
Benzo(b)fluoranthene	1233	13	1314	36.07	91.1	45-115	0			
Benzo(g,h,i)perylene	1324	13	1314	0	101	40-125	0			
Benzo(k)fluoranthene	1248	13	1314	0	94.9	45-115	0			
Bis(2-chloroethoxy)methane	1011	320	1314	0	76.9	45-110	0			
Bis(2-chloroethyl)ether	931.3	320	1314	0	70.8	40-105	0			
Bis(2-chloroisopropyl)ether	853	320	1314	0	64.9	20-115	0			
Bis(2-ethylhexyl)phthalate	2275	650	1314	503.7	135	45-125	0			S
Butyl benzyl phthalate	1418	320	1314	127.4	98.2	50-125	0			
Carbazole	1274	320	1314	0	96.9	50-150	0			
Chrysene	1242	13	1314	34.42	91.9	55-110	0			
Dibenzo(a,h)anthracene	1387	13	1314	0	106	40-125	0			
Dibenzofuran	1120	320	1314	0	85.2	50-105	0			
Diethyl phthalate	1249	650	1314	0	95	50-115	0			
Dimethyl phthalate	1165	650	1314	0	88.6	50-110	0			
Di-n-butyl phthalate	1341	650	1314	0	102	55-110	0			
Di-n-octyl phthalate	1701	320	1314	0	129	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57500		Instrument ID SVMS8		Method: SW8270			
Fluoranthene	1434	13	1314	60.9	104	55-115	0
Fluorene	1147	13	1314	0	87.3	50-110	0
Hexachlorobenzene	1249	320	1314	0	95	45-120	0
Hexachlorobutadiene	985.8	320	1314	0	75	40-115	0
Hexachlorocyclopentadiene	283.9	650	1314	0	21.6	40-115	0
Hexachloroethane	990.4	320	1314	0	75.3	35-110	0
Indeno(1,2,3-cd)pyrene	1410	13	1314	0	107	40-120	0
Isophorone	966.1	320	1314	0	73.5	45-110	0
Naphthalene	954.3	13	1314	0	72.6	40-105	0
Nitrobenzene	985.1	320	1314	0	74.9	40-115	0
N-Nitrosodi-n-propylamine	1071	320	1314	0	81.4	40-115	0
N-Nitrosodiphenylamine	1297	320	1314	0	98.7	50-115	0
Pentachlorophenol	1166	650	1314	0	88.7	25-120	0
Phenanthrene	1193	13	1314	54.61	86.6	50-110	0
Phenol	1088	320	1314	0	82.7	40-100	0
Pyrene	1383	13	1314	50.97	101	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	3216	0	3286	0	97.9	34-140	0
<i>Surr: 2-Fluorobiphenyl</i>	2353	0	3286	0	71.6	12-100	0
<i>Surr: 2-Fluorophenol</i>	2518	0	3286	0	76.6	33-117	0
<i>Surr: 4-Terphenyl-d14</i>	3471	0	3286	0	106	25-137	0
<i>Surr: Nitrobenzene-d5</i>	2485	0	3286	0	75.6	37-107	0
<i>Surr: Phenol-d6</i>	2505	0	3286	0	76.2	40-106	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57500** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 1404445-05B MSD			Units: µg/Kg		Analysis Date: 04/14/14 05:35 PM	
Client ID: S-R2330012-040314-ACN-013				Run ID: SVMS8_140414A			SeqNo: 2713694		Prep Date: 04/13/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1207	300	1264	0	95.4	50-110	1276	5.57	30	
2,4,6-Trichlorophenol	1122	300	1264	0	88.7	45-110	1179	4.97	30	
2,4-Dichlorophenol	1010	300	1264	0	79.9	45-110	1060	4.84	30	
2,4-Dimethylphenol	1002	630	1264	0	79.2	30-105	1036	3.34	30	
2,4-Dinitrophenol	585.9	1,300	1264	0	46.3	15-130	633.5	0	30	J
2,4-Dinitrotoluene	1145	300	1264	0	90.5	50-115	1164	1.67	30	
2,6-Dinitrotoluene	1125	300	1264	0	89	50-110	1140	1.34	30	
2-Chloronaphthalene	1035	13	1264	0	81.9	45-105	1080	4.21	30	
2-Chlorophenol	980.3	300	1264	0	77.5	45-105	1010	3	30	
2-Methylnaphthalene	988.5	13	1264	0	78.2	45-105	1031	4.22	30	
2-Methylphenol	998.6	300	1264	0	79	40-105	1020	2.12	30	
2-Nitroaniline	1162	1,300	1264	0	91.9	45-120	1213	0	30	J
2-Nitrophenol	931.6	300	1264	0	73.7	40-110	1009	8.02	30	
3-Nitroaniline	955	1,300	1264	0	75.5	25-110	984.5	0	30	J
4-Bromophenyl phenyl ether	1259	300	1264	0	99.6	45-115	1296	2.9	30	
4-Chloro-3-methylphenol	1201	300	1264	0	95	45-115	1234	2.69	30	
4-Chloroaniline	652.9	1,300	1264	0	51.6	15-110	691.4	0	30	J
4-Chlorophenyl phenyl ether	1136	300	1264	0	89.8	45-110	1151	1.31	30	
4-Methylphenol	1078	300	1264	62.55	80.3	40-105	1104	2.37	30	
4-Nitroaniline	1136	1,300	1264	0	89.8	35-150	1190	0	30	J
4-Nitrophenol	1220	1,300	1264	0	96.5	15-140	1285	0	30	J
Acenaphthene	975.9	13	1264	0	77.2	45-110	1027	5.13	30	
Acenaphthylene	1086	13	1264	0	85.9	45-105	1128	3.85	30	
Anthracene	1216	13	1264	0	96.2	55-105	1261	3.64	30	
Benzo(a)anthracene	1213	13	1264	29.46	93.6	50-110	1256	3.49	30	
Benzo(a)pyrene	1277	13	1264	0	101	50-110	1315	2.91	30	
Benzo(b)fluoranthene	1216	13	1264	36.07	93.3	45-115	1233	1.38	30	
Benzo(g,h,i)perylene	1231	13	1264	0	97.3	40-125	1324	7.29	30	
Benzo(k)fluoranthene	1156	13	1264	0	91.4	45-115	1248	7.66	30	
Bis(2-chloroethoxy)methane	937.9	300	1264	0	74.2	45-110	1011	7.54	30	
Bis(2-chloroethyl)ether	886.7	300	1264	0	70.1	40-105	931.3	4.9	30	
Bis(2-chloroisopropyl)ether	806.5	300	1264	0	63.8	20-115	853	5.61	30	
Bis(2-ethylhexyl)phthalate	2153	630	1264	503.7	130	45-125	2275	5.51	30	S
Butyl benzyl phthalate	1380	300	1264	127.4	99.1	50-125	1418	2.71	30	
Carbazole	1208	300	1264	0	95.6	50-150	1274	5.25	30	
Chrysene	1176	13	1264	34.42	90.3	55-110	1242	5.5	30	
Dibenzo(a,h)anthracene	1331	13	1264	0	105	40-125	1387	4.14	30	
Dibenzofuran	1050	300	1264	0	83.1	50-105	1120	6.4	30	
Diethyl phthalate	1196	630	1264	0	94.6	50-115	1249	4.33	30	
Dimethyl phthalate	1126	630	1264	0	89	50-110	1165	3.45	30	
Di-n-butyl phthalate	1280	630	1264	0	101	55-110	1341	4.64	30	
Di-n-octyl phthalate	1629	300	1264	0	129	40-130	1701	4.33	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57500		Instrument ID SVMS8		Method: SW8270					
Fluoranthene	1361	13	1264	60.9	103	55-115	1434	5.2	30
Fluorene	1087	13	1264	0	86	50-110	1147	5.4	30
Hexachlorobenzene	1201	300	1264	0	95	45-120	1249	3.9	30
Hexachlorobutadiene	951.2	300	1264	0	75.2	40-115	985.8	3.57	30
Hexachlorocyclopentadiene	261.7	630	1264	0	20.7	40-115	283.9	0	30 JS
Hexachloroethane	999.2	300	1264	0	79	35-110	990.4	0.888	30
Indeno(1,2,3-cd)pyrene	1387	13	1264	0	110	40-120	1410	1.65	30
Isophorone	938.6	300	1264	0	74.2	45-110	966.1	2.89	30
Naphthalene	903.2	13	1264	0	71.4	40-105	954.3	5.5	30
Nitrobenzene	920.9	300	1264	0	72.8	40-115	985.1	6.74	30
N-Nitrosodi-n-propylamine	1030	300	1264	0	81.4	40-115	1071	3.9	30
N-Nitrosodiphenylamine	1210	300	1264	0	95.7	50-115	1297	6.99	30
Pentachlorophenol	1107	630	1264	0	87.6	25-120	1166	5.15	30
Phenanthrene	1154	13	1264	54.61	87	50-110	1193	3.3	30
Phenol	1064	300	1264	0	84.1	40-100	1088	2.23	30
Pyrene	1314	13	1264	50.97	99.9	45-125	1383	5.15	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3069</i>	<i>0</i>	<i>3160</i>	<i>0</i>	<i>97.1</i>	<i>34-140</i>	<i>3216</i>	<i>4.68</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2287</i>	<i>0</i>	<i>3160</i>	<i>0</i>	<i>72.4</i>	<i>12-100</i>	<i>2353</i>	<i>2.85</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>2432</i>	<i>0</i>	<i>3160</i>	<i>0</i>	<i>77</i>	<i>33-117</i>	<i>2518</i>	<i>3.46</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3305</i>	<i>0</i>	<i>3160</i>	<i>0</i>	<i>105</i>	<i>25-137</i>	<i>3471</i>	<i>4.89</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2392</i>	<i>0</i>	<i>3160</i>	<i>0</i>	<i>75.7</i>	<i>37-107</i>	<i>2485</i>	<i>3.8</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>2437</i>	<i>0</i>	<i>3160</i>	<i>0</i>	<i>77.1</i>	<i>40-106</i>	<i>2505</i>	<i>2.73</i>	<i>40</i>

The following samples were analyzed in this batch:

1404445-02B
1404445-09B

1404445-05B

1404445-07B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

MBLK		Sample ID: MBLK-57410-57410				Units: µg/Kg		Analysis Date: 04/10/14 01:29 PM		
Client ID:		Run ID: VMS5_140410A				SeqNo: 2707557		Prep Date: 04/10/14		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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410		Instrument ID VMS5		Method: SW8260B				
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					
Surr: 1,2-Dichloroethane-d4		980.5	0	1000	0	98	70-130	0
Surr: 4-Bromofluorobenzene		962.5	0	1000	0	96.2	70-130	0
Surr: Dibromofluoromethane		975.5	0	1000	0	97.6	70-130	0
Surr: Toluene-d8		1016	0	1000	0	102	70-130	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

LCS Sample ID: LCS-57410-57410				Units: µg/Kg			Analysis Date: 04/10/14 12:12 PM			
Client ID:		Run ID: VMS5_140410A		SeqNo: 2707555		Prep Date: 04/10/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1102	30	1000	0	110	70-135	0			
1,1,2,2-Tetrachloroethane	1084	30	1000	0	108	55-130	0			
1,1,2-Trichloroethane	1054	30	1000	0	105	60-125	0			
1,1-Dichloroethane	1116	30	1000	0	112	75-125	0			
1,1-Dichloroethene	1240	30	1000	0	124	65-135	0			
1,2,4-Trichlorobenzene	989	30	1000	0	98.9	65-130	0			
1,2-Dibromo-3-chloropropane	964.5	30	1000	0	96.4	40-135	0			
1,2-Dibromoethane	1212	30	1000	0	121	75-125	0			
1,2-Dichlorobenzene	1007	30	1000	0	101	75-120	0			
1,2-Dichloroethane	1024	30	1000	0	102	70-135	0			
1,2-Dichloropropane	1001	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	1036	30	1000	0	104	70-125	0			
1,4-Dichlorobenzene	1006	30	1000	0	101	70-125	0			
2-Butanone	1372	200	1000	0	137	30-160	0			
2-Hexanone	1170	30	1000	0	117	45-145	0			
4-Methyl-2-pentanone	1543	30	1000	0	154	96-168	0			
Acetone	1543	100	1000	0	154	20-160	0			
Benzene	1091	30	1000	0	109	75-125	0			
Bromodichloromethane	1044	30	1000	0	104	70-130	0			
Bromoform	801.5	30	1000	0	80.2	55-135	0			
Bromomethane	1464	75	1000	0	146	30-160	0			
Carbon disulfide	1186	30	1000	0	119	45-160	0			
Carbon tetrachloride	1088	30	1000	0	109	65-135	0			
Chlorobenzene	1059	30	1000	0	106	75-125	0			
Chloroethane	1386	100	1000	0	139	40-155	0			
Chloroform	1073	30	1000	0	107	70-125	0			
Chloromethane	1283	100	1000	0	128	50-130	0			
cis-1,2-Dichloroethene	1107	30	1000	0	111	65-125	0			
cis-1,3-Dichloropropene	1086	30	1000	0	109	70-125	0			
Dibromochloromethane	835	30	1000	0	83.5	65-135	0			
Dichlorodifluoromethane	1182	30	1000	0	118	35-135	0			
Ethylbenzene	1103	30	1000	0	110	75-125	0			
Isopropylbenzene	1118	30	1000	0	112	75-130	0			
Methyl tert-butyl ether	1108	30	1000	0	111	75-125	0			
Methylene chloride	1186	30	1000	0	119	55-145	0			
Styrene	1128	30	1000	0	113	75-125	0			
Tetrachloroethene	1084	30	1000	0	108	64-140	0			
Toluene	1076	30	1000	0	108	70-125	0			
trans-1,2-Dichloroethene	1172	30	1000	0	117	65-135	0			
trans-1,3-Dichloropropene	1071	30	1000	0	107	65-125	0			
Trichloroethene	1090	30	1000	0	109	75-125	0			
Trichlorofluoromethane	1269	30	1000	0	127	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410	Instrument ID VMS5		Method: SW8260B					
Vinyl chloride	1280	30	1000	0	128	60-125	0	S
Xylenes, Total	3285	90	3000	0	110	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</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: 4-Bromofluorobenzene</i>	<i>975.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.6</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1004</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>1017</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

MS Sample ID: 1404444-01A MS				Units: µg/Kg			Analysis Date: 04/13/14 01:17 AM			
Client ID:		Run ID: VMS9_140412A		SeqNo: 2710295		Prep Date: 04/10/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1156	30	1000	0	116	70-135	0			
1,1,2,2-Tetrachloroethane	875.5	30	1000	0	87.6	55-130	0			
1,1,2-Trichloroethane	917	30	1000	0	91.7	60-125	0			
1,1-Dichloroethane	1063	30	1000	0	106	75-125	0			
1,1-Dichloroethene	1242	30	1000	0	124	65-135	0			
1,2,4-Trichlorobenzene	971	30	1000	0	97.1	65-130	0			
1,2-Dibromo-3-chloropropane	879.5	30	1000	0	88	40-135	0			
1,2-Dibromoethane	982.5	30	1000	0	98.2	75-125	0			
1,2-Dichlorobenzene	991	30	1000	0	99.1	75-120	0			
1,2-Dichloroethane	990.5	30	1000	0	99	70-135	0			
1,2-Dichloropropane	1005	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	1064	30	1000	0	106	70-125	0			
1,4-Dichlorobenzene	996.5	30	1000	0	99.6	70-125	0			
2-Butanone	813.5	200	1000	0	81.4	30-160	0			
2-Hexanone	846	30	1000	0	84.6	45-145	0			
4-Methyl-2-pentanone	1197	30	1000	0	120	89-161	0			
Acetone	1184	100	1000	32	115	20-160	0			
Benzene	1118	30	1000	0	112	75-125	0			
Bromodichloromethane	949.5	30	1000	0	95	70-130	0			
Bromoform	783	30	1000	0	78.3	55-135	0			
Bromomethane	1241	75	1000	0	124	30-160	0			
Carbon disulfide	1218	30	1000	0	122	45-160	0			
Carbon tetrachloride	1090	30	1000	0	109	65-135	0			
Chlorobenzene	1016	30	1000	0	102	75-125	0			
Chloroethane	1280	100	1000	0	128	40-155	0			
Chloroform	1034	30	1000	0	103	70-125	0			
Chloromethane	773	100	1000	42.5	73	50-130	0			
cis-1,2-Dichloroethene	1077	30	1000	0	108	65-125	0			
cis-1,3-Dichloropropene	946.5	30	1000	0	94.6	70-125	0			
Dibromochloromethane	751.5	30	1000	0	75.2	65-135	0			
Dichlorodifluoromethane	828	30	1000	0	82.8	35-135	0			
Ethylbenzene	1012	30	1000	0	101	75-125	0			
Isopropylbenzene	983.5	30	1000	0	98.4	75-130	0			
Methyl tert-butyl ether	954.5	30	1000	0	95.4	75-125	0			
Methylene chloride	1074	30	1000	0	107	55-145	0			
Styrene	931.5	30	1000	0	93.2	75-125	0			
Tetrachloroethene	1293	30	1000	0	129	64-140	0			
Toluene	1098	30	1000	0	110	70-125	0			
trans-1,2-Dichloroethene	1126	30	1000	0	113	65-135	0			
trans-1,3-Dichloropropene	849	30	1000	0	84.9	65-125	0			
Trichloroethene	1133	30	1000	0	113	75-125	0			
Trichlorofluoromethane	1116	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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410		Instrument ID VMS5		Method: SW8260B			
Vinyl chloride	948.5	30	1000	0	94.8	60-125	0
Xylenes, Total	2980	90	3000	0	99.3	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>982.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>948.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.8</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>979.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>1004</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57410** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 1404444-01A MSD			Units: µg/Kg		Analysis Date: 04/13/14 01:41 AM	
Client ID:				Run ID: VMS9_140412A			SeqNo: 2710296		Prep Date: 04/10/14	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1130	30	1000	0	113	70-135	1156	2.28	30	
1,1,2,2-Tetrachloroethane	895.5	30	1000	0	89.6	55-130	875.5	2.26	30	
1,1,2-Trichloroethane	904.5	30	1000	0	90.4	60-125	917	1.37	30	
1,1-Dichloroethane	1094	30	1000	0	109	75-125	1063	2.87	30	
1,1-Dichloroethene	1182	30	1000	0	118	65-135	1242	4.87	30	
1,2,4-Trichlorobenzene	951	30	1000	0	95.1	65-130	971	2.08	30	
1,2-Dibromo-3-chloropropane	857	30	1000	0	85.7	40-135	879.5	2.59	30	
1,2-Dibromoethane	977.5	30	1000	0	97.8	75-125	982.5	0.51	30	
1,2-Dichlorobenzene	1012	30	1000	0	101	75-120	991	2.05	30	
1,2-Dichloroethane	969.5	30	1000	0	97	70-135	990.5	2.14	30	
1,2-Dichloropropane	1004	30	1000	0	100	70-120	1005	0.149	30	
1,3-Dichlorobenzene	1053	30	1000	0	105	70-125	1064	1.04	30	
1,4-Dichlorobenzene	1007	30	1000	0	101	70-125	996.5	1.05	30	
2-Butanone	861.5	200	1000	0	86.2	30-160	813.5	5.73	30	
2-Hexanone	901	30	1000	0	90.1	45-145	846	6.3	30	
4-Methyl-2-pentanone	1211	30	1000	0	121	89-161	1197	1.16	30	
Acetone	1164	100	1000	32	113	20-160	1184	1.62	30	
Benzene	1106	30	1000	0	111	75-125	1118	1.12	30	
Bromodichloromethane	926	30	1000	0	92.6	70-130	949.5	2.51	30	
Bromoform	829	30	1000	0	82.9	55-135	783	5.71	30	
Bromomethane	966	75	1000	0	96.6	30-160	1241	24.9	30	
Carbon disulfide	1224	30	1000	0	122	45-160	1218	0.41	30	
Carbon tetrachloride	1004	30	1000	0	100	65-135	1090	8.31	30	
Chlorobenzene	1042	30	1000	0	104	75-125	1016	2.53	30	
Chloroethane	987.5	100	1000	0	98.8	40-155	1280	25.8	30	
Chloroform	1016	30	1000	0	102	70-125	1034	1.8	30	
Chloromethane	834	100	1000	42.5	79.2	50-130	773	7.59	30	
cis-1,2-Dichloroethene	1073	30	1000	0	107	65-125	1077	0.372	30	
cis-1,3-Dichloropropene	928.5	30	1000	0	92.8	70-125	946.5	1.92	30	
Dibromochloromethane	742	30	1000	0	74.2	65-135	751.5	1.27	30	
Dichlorodifluoromethane	841.5	30	1000	0	84.2	35-135	828	1.62	30	
Ethylbenzene	1023	30	1000	0	102	75-125	1012	1.13	30	
Isopropylbenzene	998.5	30	1000	0	99.8	75-130	983.5	1.51	30	
Methyl tert-butyl ether	982.5	30	1000	0	98.2	75-125	954.5	2.89	30	
Methylene chloride	1092	30	1000	0	109	55-145	1074	1.75	30	
Styrene	961	30	1000	0	96.1	75-125	931.5	3.12	30	
Tetrachloroethene	1270	30	1000	0	127	64-140	1293	1.83	30	
Toluene	1119	30	1000	0	112	70-125	1098	1.89	30	
trans-1,2-Dichloroethene	1159	30	1000	0	116	65-135	1126	2.93	30	
trans-1,3-Dichloropropene	884	30	1000	0	88.4	65-125	849	4.04	30	
Trichloroethene	1093	30	1000	0	109	75-125	1133	3.59	30	
Trichlorofluoromethane	1103	30	1000	0	110	25-185	1116	1.17	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57410	Instrument ID VMS5			Method: SW8260B					
Vinyl chloride	944	30	1000	0	94.4	60-125	948.5	0.476	30
Xylenes, Total	3027	90	3000	0	101	75-125	2980	1.56	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>958.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95.8</i>	<i>70-130</i>	<i>982.5</i>	<i>2.47</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>977</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.7</i>	<i>70-130</i>	<i>948.5</i>	<i>2.96</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>984.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>979.5</i>	<i>0.509</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>1010</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>1004</i>	<i>0.596</i>	<i>30</i>

The following samples were analyzed in this batch:	1404445-01A	1404445-02A	1404445-05A	
	1404445-07A	1404445-09A		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VBULKW1-140414-R138835A				Units: µg/L		Analysis Date: 04/14/14 11:52 AM		
Client ID:		Run ID: VMS9_140414A				SeqNo: 2712209		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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A	Instrument ID VMS9	Method: SW8260						
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>18.83</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.2</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>17.23</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>86.2</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>18.99</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>20.53</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

LCS				Sample ID: VLCSW1-140414-R138835A			Units: µg/L		Analysis Date: 04/14/14 10:14 AM	
Client ID:				Run ID: VMS9_140414A			SeqNo: 2712208		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	21.3	1.0	20	0	106	65-130	0			
1,1,2,2-Tetrachloroethane	17.22	1.0	20	0	86.1	65-130	0			
1,1,2-Trichloroethane	18.3	1.0	20	0	91.5	75-125	0			
1,1-Dichloroethane	20.82	1.0	20	0	104	70-135	0			
1,1-Dichloroethene	22.92	1.0	20	0	115	70-130	0			
1,2,4-Trichlorobenzene	20.79	1.0	20	0	104	65-135	0			
1,2-Dibromo-3-chloropropane	17.91	1.0	20	0	89.6	50-130	0			
1,2-Dibromoethane	19.47	1.0	20	0	97.4	87-179	0			
1,2-Dichlorobenzene	21.02	1.0	20	0	105	70-120	0			
1,2-Dichloroethane	18.29	1.0	20	0	91.4	87-179	0			
1,2-Dichloropropane	18.71	2.0	20	0	93.6	75-125	0			
1,3-Dichlorobenzene	22.67	2.0	20	0	113	75-125	0			
1,4-Dichlorobenzene	21.84	2.0	20	0	109	75-125	0			
2-Butanone	18.15	5.0	20	0	90.8	30-150	0			
2-Hexanone	18.13	5.0	20	0	90.6	55-130	0			
4-Methyl-2-pentanone	23.26	5.0	20	0	116	77-178	0			
Acetone	19.39	20	20	0	97	40-140	0			J
Benzene	22.46	1.0	20	0	112	80-120	0			
Bromodichloromethane	18.26	1.0	20	0	91.3	75-120	0			
Bromoform	16.5	1.0	20	0	82.5	70-130	0			
Bromomethane	18.84	1.0	20	0	94.2	30-145	0			
Carbon disulfide	24.41	2.5	20	0	122	35-165	0			
Carbon tetrachloride	19.74	1.0	20	0	98.7	65-140	0			
Chlorobenzene	21.48	1.0	20	0	107	80-120	0			
Chloroethane	19.59	1.0	20	0	98	60-135	0			
Chloroform	19.8	1.0	20	0	99	65-135	0			
Chloromethane	17.02	1.0	20	0	85.1	70-125	0			
cis-1,2-Dichloroethene	20.34	1.0	20	0	102	70-125	0			
cis-1,3-Dichloropropene	18.8	1.0	20	0	94	70-130	0			
Dibromochloromethane	15.6	1.0	20	0	78	60-135	0			
Dichlorodifluoromethane	15.82	1.0	20	0	79.1	30-155	0			
Ethylbenzene	21.65	1.0	20	0	108	75-125	0			
Isopropylbenzene	21.77	1.0	20	0	109	75-125	0			
Methyl tert-butyl ether	17.79	5.0	20	0	89	65-125	0			
Methylene chloride	19.5	5.0	20	0	97.5	55-140	0			
Styrene	19.87	1.0	20	0	99.4	65-135	0			
Tetrachloroethene	26.14	2.0	20	0	131	45-150	0			
Toluene	23.65	1.0	20	0	118	75-120	0			
trans-1,2-Dichloroethene	22.19	1.0	20	0	111	60-140	0			
trans-1,3-Dichloropropene	19.04	1.0	20	0	95.2	55-140	0			
Trichloroethene	22.08	1.0	20	0	110	70-125	0			
Trichlorofluoromethane	20.34	1.0	20	0	102	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A		Instrument ID VMS9		Method: SW8260			
Vinyl chloride	18.41	1.0	20	0	92	50-145	0
Xylenes, Total	63.93	3.0	60	0	107	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>90.7</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.2</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>18.89</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.4</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.81</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 1404297-05A MS			Units: µg/L		Analysis Date: 04/14/14 08:25 PM	
Client ID:				Run ID: VMS9_140414A			SeqNo: 2712219		Prep Date:	
									DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	98.95	5.0	100	0	99	65-130	0			
1,1,2,2-Tetrachloroethane	84.85	5.0	100	0	84.8	65-130	0			
1,1,2-Trichloroethane	92.15	5.0	100	0	92.2	75-125	0			
1,1-Dichloroethane	109	5.0	100	0	109	70-135	0			
1,1-Dichloroethene	114.4	5.0	100	0	114	70-130	0			
1,2,4-Trichlorobenzene	74.4	5.0	100	0	74.4	65-135	0			
1,2-Dibromo-3-chloropropane	74.85	5.0	100	0	74.8	50-130	0			
1,2-Dibromoethane	99.8	5.0	100	0	99.8	81-158	0			
1,2-Dichlorobenzene	93.4	5.0	100	0	93.4	70-120	0			
1,2-Dichloroethane	96.75	5.0	100	0	96.8	70-130	0			
1,2-Dichloropropane	97.2	10	100	0	97.2	75-125	0			
1,3-Dichlorobenzene	101.4	10	100	0	101	75-125	0			
1,4-Dichlorobenzene	94.8	10	100	0	94.8	75-125	0			
2-Butanone	92.4	25	100	0	92.4	30-150	0			
2-Hexanone	81.3	25	100	0	81.3	55-130	0			
4-Methyl-2-pentanone	110.3	25	100	0	110	73-162	0			
Acetone	241.3	100	100	114.4	127	40-140	0			
Benzene	105.4	5.0	100	0	105	80-120	0			
Bromodichloromethane	94.95	5.0	100	0	95	75-120	0			
Bromoform	78	5.0	100	0	78	70-130	0			
Bromomethane	97.5	5.0	100	0	97.5	30-145	0			
Carbon disulfide	116.8	12	100	0	117	35-165	0			
Carbon tetrachloride	86.1	5.0	100	0	86.1	65-140	0			
Chlorobenzene	101	5.0	100	0	101	80-120	0			
Chloroethane	95.85	5.0	100	0	95.8	60-135	0			
Chloroform	100.5	5.0	100	0	100	65-135	0			
Chloromethane	77.5	5.0	100	0	77.5	70-125	0			
cis-1,2-Dichloroethene	103.3	5.0	100	0	103	70-125	0			
cis-1,3-Dichloropropene	93.45	5.0	100	0	93.4	70-130	0			
Dibromochloromethane	78.9	5.0	100	0	78.9	60-135	0			
Dichlorodifluoromethane	68.75	5.0	100	0	68.8	30-155	0			
Ethylbenzene	96.2	5.0	100	0	96.2	75-125	0			
Isopropylbenzene	96.55	5.0	100	0	96.6	75-125	0			
Methyl tert-butyl ether	101.9	25	100	0	102	65-125	0			
Methylene chloride	111.9	25	100	0	112	55-140	0			
Styrene	92	5.0	100	0	92	65-135	0			
Tetrachloroethene	119.2	10	100	0	119	45-150	0			
Toluene	110.6	5.0	100	0	111	75-120	0			
trans-1,2-Dichloroethene	111.4	5.0	100	0	111	60-140	0			
trans-1,3-Dichloropropene	90.45	5.0	100	0	90.4	55-140	0			
Trichloroethene	105.4	5.0	100	0	105	70-125	0			
Trichlorofluoromethane	96.7	5.0	100	0	96.7	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	84.95	5.0	100	0	85	50-145	0
Xylenes, Total	295.1	15	300	0	98.4	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>97.8</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>97.8</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.35</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>99.4</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>102.2</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>102</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>105.7</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>106</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138835A** Instrument ID **VMS9** Method: **SW8260**

MSD				Sample ID: 1404297-05A MSD		Units: µg/L		Analysis Date: 04/14/14 08:50 PM		
Client ID:		Run ID: VMS9_140414A			SeqNo: 2712220		Prep Date:		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	98	5.0	100	0	98	65-130	98.95	0.965	30	
1,1,2,2-Tetrachloroethane	87.75	5.0	100	0	87.8	65-130	84.85	3.36	30	
1,1,2-Trichloroethane	92.85	5.0	100	0	92.8	75-125	92.15	0.757	30	
1,1-Dichloroethane	106.1	5.0	100	0	106	70-135	109	2.65	30	
1,1-Dichloroethene	113.9	5.0	100	0	114	70-130	114.4	0.482	30	
1,2,4-Trichlorobenzene	82.7	5.0	100	0	82.7	65-135	74.4	10.6	30	
1,2-Dibromo-3-chloropropane	80.8	5.0	100	0	80.8	50-130	74.85	7.65	30	
1,2-Dibromoethane	97.35	5.0	100	0	97.4	81-158	99.8	2.49	30	
1,2-Dichlorobenzene	97.3	5.0	100	0	97.3	70-120	93.4	4.09	30	
1,2-Dichloroethane	98.9	5.0	100	0	98.9	70-130	96.75	2.2	30	
1,2-Dichloropropane	96	10	100	0	96	75-125	97.2	1.24	30	
1,3-Dichlorobenzene	103	10	100	0	103	75-125	101.4	1.47	30	
1,4-Dichlorobenzene	96.55	10	100	0	96.6	75-125	94.8	1.83	30	
2-Butanone	102.6	25	100	0	103	30-150	92.4	10.5	30	
2-Hexanone	86.6	25	100	0	86.6	55-130	81.3	6.31	30	
4-Methyl-2-pentanone	114.2	25	100	0	114	73-162	110.3	3.52	30	
Acetone	238.6	100	100	114.4	124	40-140	241.3	1.1	30	
Benzene	103.2	5.0	100	0	103	80-120	105.4	2.16	30	
Bromodichloromethane	93.55	5.0	100	0	93.6	75-120	94.95	1.49	30	
Bromoform	79.8	5.0	100	0	79.8	70-130	78	2.28	30	
Bromomethane	92.45	5.0	100	0	92.4	30-145	97.5	5.32	30	
Carbon disulfide	113.3	12	100	0	113	35-165	116.8	3.04	30	
Carbon tetrachloride	103.2	5.0	100	0	103	65-140	86.1	18.1	30	
Chlorobenzene	99.25	5.0	100	0	99.2	80-120	101	1.8	30	
Chloroethane	89.65	5.0	100	0	89.6	60-135	95.85	6.68	30	
Chloroform	99.75	5.0	100	0	99.8	65-135	100.5	0.749	30	
Chloromethane	75.95	5.0	100	0	76	70-125	77.5	2.02	30	
cis-1,2-Dichloroethene	100.2	5.0	100	0	100	70-125	103.3	3.1	30	
cis-1,3-Dichloropropene	94.55	5.0	100	0	94.6	70-130	93.45	1.17	30	
Dibromochloromethane	78.4	5.0	100	0	78.4	60-135	78.9	0.636	30	
Dichlorodifluoromethane	68.3	5.0	100	0	68.3	30-155	68.75	0.657	30	
Ethylbenzene	93.85	5.0	100	0	93.8	75-125	96.2	2.47	30	
Isopropylbenzene	92	5.0	100	0	92	75-125	96.55	4.83	30	
Methyl tert-butyl ether	102.3	25	100	0	102	65-125	101.9	0.392	30	
Methylene chloride	114.6	25	100	0	115	55-140	111.9	2.43	30	
Styrene	92.5	5.0	100	0	92.5	65-135	92	0.542	30	
Tetrachloroethene	113.4	10	100	0	113	45-150	119.2	4.95	30	
Toluene	105.6	5.0	100	0	106	75-120	110.6	4.67	30	
trans-1,2-Dichloroethene	109.6	5.0	100	0	110	60-140	111.4	1.72	30	
trans-1,3-Dichloropropene	90.8	5.0	100	0	90.8	55-140	90.45	0.386	30	
Trichloroethene	103.4	5.0	100	0	103	70-125	105.4	1.96	30	
Trichlorofluoromethane	93.5	5.0	100	0	93.5	60-145	96.7	3.36	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138835A		Instrument ID VMS9		Method: SW8260					
Vinyl chloride	83.1	5.0	100	0	83.1	50-145	84.95	2.2	30
Xylenes, Total	287.6	15	300	0	95.9	75-130	295.1	2.57	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.9</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>95.9</i>	<i>70-120</i>	<i>97.8</i>	<i>1.96</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.8</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>98.8</i>	<i>75-120</i>	<i>99.35</i>	<i>0.555</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>99.55</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>99.6</i>	<i>85-115</i>	<i>102.2</i>	<i>2.63</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>102.8</i>	<i>0</i>	<i>100</i>	<i>0</i>	<i>103</i>	<i>85-120</i>	<i>105.7</i>	<i>2.83</i>	<i>30</i>

The following samples were analyzed in this batch: | 1404445-11A |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138890** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VBLKW2-140414-R138890				Units: µg/L		Analysis Date: 04/15/14 12:05 PM		
Client ID:		Run ID: VMS9_140414B				SeqNo: 2712408		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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138890	Instrument ID VMS9	Method: SW8260						
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>20.77</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>16.87</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>84.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.75</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>20.1</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138890** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW3-140414-R138890				Units: µg/L		Analysis Date: 04/15/14 09:06 AM		
Client ID:		Run ID: VMS9_140414B				SeqNo: 2712402		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	21.66	1.0	20	0	108	65-130	0			
1,1,2,2-Tetrachloroethane	17.97	1.0	20	0	89.8	65-130	0			
1,1,2-Trichloroethane	19.36	1.0	20	0	96.8	75-125	0			
1,1-Dichloroethane	21.55	1.0	20	0	108	70-135	0			
1,1-Dichloroethene	23.1	1.0	20	0	116	70-130	0			
1,2,4-Trichlorobenzene	17.02	1.0	20	0	85.1	65-135	0			
1,2-Dibromo-3-chloropropane	16.12	1.0	20	0	80.6	50-130	0			
1,2-Dibromoethane	20.14	1.0	20	0	101	87-179	0			
1,2-Dichlorobenzene	19.77	1.0	20	0	98.8	70-120	0			
1,2-Dichloroethane	20.89	1.0	20	0	104	87-179	0			
1,2-Dichloropropane	20.57	2.0	20	0	103	75-125	0			
1,3-Dichlorobenzene	20.94	2.0	20	0	105	75-125	0			
1,4-Dichlorobenzene	19.77	2.0	20	0	98.8	75-125	0			
2-Butanone	18.43	5.0	20	0	92.2	30-150	0			
2-Hexanone	16.34	5.0	20	0	81.7	55-130	0			
4-Methyl-2-pentanone	21.66	5.0	20	0	108	77-178	0			
Acetone	20.05	20	20	0	100	40-140	0			
Benzene	22.23	1.0	20	0	111	80-120	0			
Bromodichloromethane	20.56	1.0	20	0	103	75-120	0			
Bromoform	17.35	1.0	20	0	86.8	70-130	0			
Bromomethane	20.7	1.0	20	0	104	30-145	0			
Carbon disulfide	23.83	2.5	20	0	119	35-165	0			
Carbon tetrachloride	20.26	1.0	20	0	101	65-140	0			
Chlorobenzene	20.91	1.0	20	0	105	80-120	0			
Chloroethane	19.15	1.0	20	0	95.8	60-135	0			
Chloroform	20.41	1.0	20	0	102	65-135	0			
Chloromethane	16.67	1.0	20	0	83.4	70-125	0			
cis-1,2-Dichloroethene	20.8	1.0	20	0	104	70-125	0			
cis-1,3-Dichloropropene	19.79	1.0	20	0	99	70-130	0			
Dibromochloromethane	16.8	1.0	20	0	84	60-135	0			
Dichlorodifluoromethane	17.46	1.0	20	0	87.3	30-155	0			
Ethylbenzene	19.9	1.0	20	0	99.5	75-125	0			
Isopropylbenzene	20.42	1.0	20	0	102	75-125	0			
Methyl tert-butyl ether	19.48	5.0	20	0	97.4	65-125	0			
Methylene chloride	21.99	5.0	20	0	110	55-140	0			
Styrene	19.9	1.0	20	0	99.5	65-135	0			
Tetrachloroethene	25.19	2.0	20	0	126	45-150	0			
Toluene	22.2	1.0	20	0	111	75-120	0			
trans-1,2-Dichloroethene	22.19	1.0	20	0	111	60-140	0			
trans-1,3-Dichloropropene	19.15	1.0	20	0	95.8	55-140	0			
Trichloroethene	22.61	1.0	20	0	113	70-125	0			
Trichlorofluoromethane	19.9	1.0	20	0	99.5	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138890	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	18.52	1.0	20	0	92.6	50-145	0
Xylenes, Total	61.35	3.0	60	0	102	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	19.85	0	20	0	99.2	70-120	0
<i>Surr: 4-Bromofluorobenzene</i>	19.99	0	20	0	100	75-120	0
<i>Surr: Dibromofluoromethane</i>	20.33	0	20	0	102	85-115	0
<i>Surr: Toluene-d8</i>	20.66	0	20	0	103	85-120	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138890** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 1404457-04A MS			Units: µg/L		Analysis Date: 04/15/14 09:30 AM	
Client ID:				Run ID: VMS9_140414B			SeqNo: 2712404		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	23	1.0	20	0	115	65-130	0			
1,1,2,2-Tetrachloroethane	17.67	1.0	20	0	88.4	65-130	0			
1,1,2-Trichloroethane	19.23	1.0	20	0	96.2	75-125	0			
1,1-Dichloroethane	23.54	1.0	20	0	118	70-135	0			
1,1-Dichloroethene	27.56	1.0	20	0	138	70-130	0			S
1,2,4-Trichlorobenzene	18.4	1.0	20	0	92	65-135	0			
1,2-Dibromo-3-chloropropane	17.05	1.0	20	0	85.2	50-130	0			
1,2-Dibromoethane	20.12	1.0	20	0	101	81-158	0			
1,2-Dichlorobenzene	20.48	1.0	20	0	102	70-120	0			
1,2-Dichloroethane	20.48	1.0	20	0	102	70-130	0			
1,2-Dichloropropane	20.42	2.0	20	0	102	75-125	0			
1,3-Dichlorobenzene	21.98	2.0	20	0	110	75-125	0			
1,4-Dichlorobenzene	20.8	2.0	20	0	104	75-125	0			
2-Butanone	20.85	5.0	20	0	104	30-150	0			
2-Hexanone	16.72	5.0	20	0	83.6	55-130	0			
4-Methyl-2-pentanone	21.88	5.0	20	0	109	73-162	0			
Acetone	22.65	20	20	0	113	40-140	0			
Benzene	23.31	1.0	20	0	117	80-120	0			
Bromodichloromethane	20.06	1.0	20	0	100	75-120	0			
Bromoform	17	1.0	20	0	85	70-130	0			
Bromomethane	22.42	1.0	20	0	112	30-145	0			
Carbon disulfide	28.61	2.5	20	0	143	35-165	0			
Carbon tetrachloride	20.57	1.0	20	0	103	65-140	0			
Chlorobenzene	21.4	1.0	20	0	107	80-120	0			
Chloroethane	21.85	1.0	20	0	109	60-135	0			
Chloroform	21.81	1.0	20	0	109	65-135	0			
Chloromethane	18.36	1.0	20	0	91.8	70-125	0			
cis-1,2-Dichloroethene	21.7	1.0	20	0	108	70-125	0			
cis-1,3-Dichloropropene	19.16	1.0	20	0	95.8	70-130	0			
Dibromochloromethane	16.36	1.0	20	0	81.8	60-135	0			
Dichlorodifluoromethane	16.92	1.0	20	0	84.6	30-155	0			
Ethylbenzene	21.49	1.0	20	0	107	75-125	0			
Isopropylbenzene	21.51	1.0	20	0	108	75-125	0			
Methyl tert-butyl ether	20.73	5.0	20	0	104	65-125	0			
Methylene chloride	23.83	5.0	20	0	119	55-140	0			
Styrene	19.98	1.0	20	0	99.9	65-135	0			
Tetrachloroethene	25.72	2.0	20	0	129	45-150	0			
Toluene	23.86	1.0	20	0	119	75-120	0			
trans-1,2-Dichloroethene	25.83	1.0	20	0	129	60-140	0			
trans-1,3-Dichloropropene	18.03	1.0	20	0	90.2	55-140	0			
Trichloroethene	22.61	1.0	20	0	113	70-125	0			
Trichlorofluoromethane	23.24	1.0	20	0	116	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138890	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	21.2	1.0	20	0	106	50-145	0
Xylenes, Total	63.98	3.0	60	0	107	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.49</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.4</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.75</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.8</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.19</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.59</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</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: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138890** Instrument ID **VMS9** Method: **SW8260**

MSD				Sample ID: 1404457-04A MSD				Units: µg/L		Analysis Date: 04/15/14 09:55 AM	
Client ID:			Run ID: VMS9_140414B			SeqNo: 2712406		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	22.25	1.0	20	0	111	65-130	23	3.31	30		
1,1,2,2-Tetrachloroethane	17.93	1.0	20	0	89.6	65-130	17.67	1.46	30		
1,1,2-Trichloroethane	19.26	1.0	20	0	96.3	75-125	19.23	0.156	30		
1,1-Dichloroethane	22.89	1.0	20	0	114	70-135	23.54	2.8	30		
1,1-Dichloroethene	26.94	1.0	20	0	135	70-130	27.56	2.28	30	S	
1,2,4-Trichlorobenzene	18.7	1.0	20	0	93.5	65-135	18.4	1.62	30		
1,2-Dibromo-3-chloropropane	16.35	1.0	20	0	81.8	50-130	17.05	4.19	30		
1,2-Dibromoethane	19.5	1.0	20	0	97.5	81-158	20.12	3.13	30		
1,2-Dichlorobenzene	20.27	1.0	20	0	101	70-120	20.48	1.03	30		
1,2-Dichloroethane	19.67	1.0	20	0	98.4	70-130	20.48	4.03	30		
1,2-Dichloropropane	19.46	2.0	20	0	97.3	75-125	20.42	4.81	30		
1,3-Dichlorobenzene	21.69	2.0	20	0	108	75-125	21.98	1.33	30		
1,4-Dichlorobenzene	20.5	2.0	20	0	102	75-125	20.8	1.45	30		
2-Butanone	18.07	5.0	20	0	90.4	30-150	20.85	14.3	30		
2-Hexanone	18.07	5.0	20	0	90.4	55-130	16.72	7.76	30		
4-Methyl-2-pentanone	23.34	5.0	20	0	117	73-162	21.88	6.46	30		
Acetone	22.01	20	20	0	110	40-140	22.65	2.87	30		
Benzene	23.12	1.0	20	0	116	80-120	23.31	0.818	30		
Bromodichloromethane	19.35	1.0	20	0	96.8	75-120	20.06	3.6	30		
Bromoform	16.84	1.0	20	0	84.2	70-130	17	0.946	30		
Bromomethane	20.58	1.0	20	0	103	30-145	22.42	8.56	30		
Carbon disulfide	27.72	2.5	20	0	139	35-165	28.61	3.16	30		
Carbon tetrachloride	21	1.0	20	0	105	65-140	20.57	2.07	30		
Chlorobenzene	21.28	1.0	20	0	106	80-120	21.4	0.562	30		
Chloroethane	20.67	1.0	20	0	103	60-135	21.85	5.55	30		
Chloroform	21.38	1.0	20	0	107	65-135	21.81	1.99	30		
Chloromethane	17.83	1.0	20	0	89.2	70-125	18.36	2.93	30		
cis-1,2-Dichloroethene	21.1	1.0	20	0	106	70-125	21.7	2.8	30		
cis-1,3-Dichloropropene	18.6	1.0	20	0	93	70-130	19.16	2.97	30		
Dibromochloromethane	16.38	1.0	20	0	81.9	60-135	16.36	0.122	30		
Dichlorodifluoromethane	16.34	1.0	20	0	81.7	30-155	16.92	3.49	30		
Ethylbenzene	21.06	1.0	20	0	105	75-125	21.49	2.02	30		
Isopropylbenzene	20.99	1.0	20	0	105	75-125	21.51	2.45	30		
Methyl tert-butyl ether	20.85	5.0	20	0	104	65-125	20.73	0.577	30		
Methylene chloride	23.57	5.0	20	0	118	55-140	23.83	1.1	30		
Styrene	20.12	1.0	20	0	101	65-135	19.98	0.698	30		
Tetrachloroethene	25.35	2.0	20	0	127	45-150	25.72	1.45	30		
Toluene	23.32	1.0	20	0	117	75-120	23.86	2.29	30		
trans-1,2-Dichloroethene	24.69	1.0	20	0	123	60-140	25.83	4.51	30		
trans-1,3-Dichloropropene	18.05	1.0	20	0	90.2	55-140	18.03	0.111	30		
Trichloroethene	22.78	1.0	20	0	114	70-125	22.61	0.749	30		
Trichlorofluoromethane	22.4	1.0	20	0	112	60-145	23.24	3.68	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R138890	Instrument ID VMS9			Method: SW8260					
Vinyl chloride	20.32	1.0	20	0	102	50-145	21.2	4.24	30
Xylenes, Total	63.36	3.0	60	0	106	75-130	63.98	0.974	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.26</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.3</i>	<i>70-120</i>	<i>19.49</i>	<i>1.19</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.94</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.7</i>	<i>75-120</i>	<i>19.75</i>	<i>0.957</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.96</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.8</i>	<i>85-115</i>	<i>20.19</i>	<i>1.15</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>20.57</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</i>	<i>85-120</i>	<i>20.59</i>	<i>0.0972</i>	<i>30</i>

The following samples were analyzed in this batch:

1404445-03A	1404445-04A	1404445-06A
1404445-08A	1404445-10A	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57542** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57542-57542				Units: mg/L		Analysis Date: 04/14/14 02:57 PM		
Client ID:		Run ID: LACHAT_140414D				SeqNo: 2711774		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	U	0.0050								

MBLK		Sample ID: MBLK-57542-57542				Units: mg/L		Analysis Date: 04/14/14 02:57 PM		
Client ID:		Run ID: LACHAT_140414D				SeqNo: 2711790		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	U	0.0050								

LCS		Sample ID: LCS-57542-57542				Units: mg/L		Analysis Date: 04/14/14 02:57 PM		
Client ID:		Run ID: LACHAT_140414D				SeqNo: 2711775		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	0.2559	0.0050	0.25	0	102	83-120	0			

LCS		Sample ID: LCS-57542-57542				Units: mg/L		Analysis Date: 04/14/14 02:57 PM		
Client ID:		Run ID: LACHAT_140414D				SeqNo: 2711791		Prep Date: 04/14/14		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	0.2559	0.0050	0.25	0	102	83-120	0			

The following samples were analyzed in this batch:

1404445-03C	1404445-04C	1404445-06C
1404445-08C	1404445-10C	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57588** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57588-57588				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B		SeqNo: 2716812		Prep Date: 04/15/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 0.02982 0.50 J

LCS		Sample ID: LCS-57588-57588				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B		SeqNo: 2716813		Prep Date: 04/15/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.438 0.50 2.5 0 97.5 85-119 0

MS		Sample ID: 1404444-01B MS				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B		SeqNo: 2716815		Prep Date: 04/15/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.457 0.50 2.5 0.05262 96.2 70-130 0

MS		Sample ID: 1404640-01B MS				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B		SeqNo: 2716828		Prep Date: 04/15/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.517 0.50 2.5 0.08842 97.1 70-130 0

MSD		Sample ID: 1404444-01B MSD				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B		SeqNo: 2716816		Prep Date: 04/15/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.493 0.50 2.5 0.05262 97.6 70-130 2.457 1.45 30

MSD		Sample ID: 1404640-01B MSD				Units: mg/Kg		Analysis Date: 04/16/14 04:03 PM		
Client ID:		Run ID: LACHAT_140416B		SeqNo: 2716829		Prep Date: 04/15/14		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.442 0.50 2.5 0.08842 94.1 70-130 2.517 3.02 30

The following samples were analyzed in this batch:

1404445-01B	1404445-02B	1404445-05B
1404445-07B	1404445-09B	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404445
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R138681** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R138681				Units: % of sample		Analysis Date: 04/09/14 01:54 PM		
Client ID:		Run ID: MOIST_140409B				SeqNo: 2706166		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS		Sample ID: LCS-R138681				Units: % of sample		Analysis Date: 04/09/14 01:54 PM		
Client ID:		Run ID: MOIST_140409B				SeqNo: 2706163		Prep Date:		DF: 1
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

DUP		Sample ID: 1404444-02B DUP				Units: % of sample		Analysis Date: 04/09/14 01:54 PM		
Client ID:		Run ID: MOIST_140409B				SeqNo: 2706154		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 19.56 0.050 0 0 0 0-0 18.67 4.66 20

The following samples were analyzed in this batch:

1404445-01B	1404445-02B	1404445-05B
1404445-07B	1404445-09B	

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



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Chain of Custody Form

Page 1 of 3

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ALS Project Manager:

ALS Work Order #:

1404445

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Van Buren Landfill	A	VOCs
Work Order		Project Number	R2330012	B	SVOCs
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs
Send Report To	Mike Friedoff	Invoice Attn	Accounts Payable	D	Cyanide - total
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	F	Metals (including Hg) - total
Phone	(734) 397-3100	Phone		G	Moisture
Fax	(734) 397-3131	Fax		H	Metals (including Hg) - dissolved Field Filtered
e-Mail Address		e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-R2330012-040314-ACN-011	4-3-14	0945	S	7	3	X	X		X		X	X				
2	S-R2330012-040314-ACN-012	4-3-14	0950	S	7	3	X	X		X		X	X				
3	W-R2330012-040314-ACN-007	4-3-14	1015	Aq	1,2,4	8	X	X			X	X		X			
4	W-R2330012-040314-ACN-008	4-3-14	1020	Aq	1,2,4	8	X	X			X	X		X			
5	S-R2330012-040314-ACN-013	4-3-14	1135	S	7	3	X	X		X		X	X				
6	W-R2330012-040314-ACN-009	4-3-14	1200	Aq	1,2,4	8	X	X			X	X		X			
7	S-R2330012-040314-ACN-014	4-3-14	1310	S	7	3	X	X		X		X	X				
8	W-R2330012-040314-ACN-010	4-3-14	1335	Aq	1,2,4	8	X	X			X	X		X			
9	S-R2330012-040314-ACN-015	4-3-14	1445	S	7	3	X	X		X		X	X				
10	W-R2330012-040314-ACN-011	4-3-14	1500	Aq	1,2,4	8	X	X			X	X		X			

Sampler(s) Please Print & Sign <i>Adam New</i>		Shipment Method <i>Carrier</i>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour		Results Due Date:	
Relinquished by: <i>[Signature]</i>	Date: 4-3-14	Time: 1615	Received by: <i>MSA Fridge</i>	Notes: Roc'd 4/9/14 0830 <i>[Signature]</i>			
Relinquished by: <i>[Signature]</i>	Date: 4/8/14	Time: 0950	Received by (Laboratory): <i>[Signature]</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
Logged by (Laboratory): <i>[Signature]</i>	Date: 4/9/14	Time: 1245	Checked by (Laboratory):		3.0°C	☒ Level II Std QC ☐ TRRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					2.8°C	☐ Level III Std QC/Raw Data ☐ TRRP Level IV	
						☐ Level IV BWS/CLP ☐ 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.

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Chain of Custody Form

Page 2 of 2

COC ID: **104992**

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #:

1404445

Customer Information

Purchase Order	
Work Order	
Company Name	The Mannik & Smith Group, Inc.
Send Report To	Mike Friedoff
Address	2365 Haggerty Road South Suite 100
City/State/Zip	Canton, MI 48188
Phone	(734) 397-3100
Fax	(734) 397-3131
e-Mail Address	

Project Information

Project Name	Van Buren Landfill
Project Number	R2330012
Bill To Company	RACER Trust
Invoice Attn	Accounts Payable
Address	2930 Ecorse Rd
City/State/Zip	Ypsilanti, MI 48198
Phone	
Fax	
e-Mail Address	

Parameter/Method Request for Analysis

A	VOCs
B	SVOCs
C	PCBs
D	Cyanide - total
E	Cyanide - amenable
F	Metals (including Hg) - total
G	Moisture
H	Metals (including Hg) - dissolved
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
11	Trip Blank	—	—	AL	1	1	X										
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	

Sampler(s) Please Print & Sign <i>Adam New</i>		Shipment Method <i>Carrier</i>		Required Turnaround Time: (Check Box) ☒ Std 10-Wk Days ☐ 5-Wk Days ☐ 2-Wk Days ☐ 24 Hour Other: _____				Results Due Date: _____		
Relinquished by: <i>[Signature]</i>	Date: <i>4-3-14</i>	Time: <i>1615</i>	Received by: <i>[Signature]</i>	Notes: <i>Roc'd 4/9/14 0830 [Signature]</i>						
Relinquished by: <i>[Signature]</i>	Date: <i>4/8/14</i>	Time: <i>0950</i>	Received by (Laboratory): <i>[Signature]</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)				
Logged by (Laboratory): <i>[Signature]</i>	Date: <i>4/9/14</i>	Time: <i>1245</i>	Checked by (Laboratory): <i>[Signature]</i>		<i>3.0°C</i>	☒ Level II Std QC ☐ TRRP Checklist ☐ Level III Std QC/Raw Data ☐ TRRP Level IV ☐ Level IV SW846/CLP ☐ Other: _____				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035										

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.

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**ALS Environmental**

3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEALDate: 4-8-14 Time: _____

Name: _____

Company: _____

Seal Broken By: _____

Date: _____

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **09-Apr-14 08:30**

Work Order: **1404445**

Received by: **DS**

Checklist completed by <u><i>Diane Shaw</i></u>	09-Apr-14	Reviewed by: <u><i>Tom Bramish</i></u>	09-Apr-14
eSignature	Date	eSignature	Date

Matrices: Soil, Water

Carrier name: City Transfer

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>3.0, 2.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/9/2014 12:48:04 PM</u>		
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:

Work Order: 1404640

Project Name:

RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

23-Apr-2014



Certificate No: MN 532786



23-Apr-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **1404640**

Dear Frank,

ALS Environmental received 7 samples on 12-Apr-2014 08:30 AM 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 99.

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: MN 532786

Report of Laboratory Analysis

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

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www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404640

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>
1404640-01	S-R2330012-040914-ACN-016	Soil		4/9/2014 11:40	4/12/2014 08:30	☐
1404640-02	W-R2330012-040914-ACN-012	Water		4/9/2014 12:00	4/12/2014 08:30	☐
1404640-03	S-R2330012-040914-ACN-017	Soil		4/9/2014 13:00	4/12/2014 08:30	☐
1404640-04	W-R2330012-040914-ACN-013	Water		4/9/2014 13:30	4/12/2014 08:30	☐
1404640-05	S-R2330012-040914-ACN-018	Soil		4/9/2014 14:30	4/12/2014 08:30	☐
1404640-06	W-R2330012-040914-ACN-014	Water		4/9/2014 14:45	4/12/2014 08:30	☐
1404640-07	Trip Blank	Water		4/9/2014	4/12/2014 08:30	☐

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
WorkOrder: 1404640

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404640

Case Narrative

Batch 57544, Method ICP_6020_S, Sample 1404595-01AMS and MSD: The MS and/or MSD recovery was outside of the control. The parent sample is unrelated to this Work Order.

Batch 57591, Method VOC_8260_S, Sample 1404693-03A MS and MSD: The MS and/or MSD recovery was outside of the control. The parent sample is unrelated to this Work Order.

Batch 57591, Method VOC_8260_S, Sample LCS-57591: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: 2,2-DCP

Batch 57620, Method ICP_6020_W, Sample 1404659-04CMSD: The MS and/or MSD recovery was outside of the control. The parent sample is unrelated to this Work Order.

Batch 57700, Method ICP_6020_W, Sample 1404779-04AMS and MSD: The MS and/or MSD recovery was outside of the control. The parent sample is unrelated to this Work Order.

Batch 57775, Method ICP_6020_S, Sample 1404640-05B: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Batch R139278A, Method VOC_8260_W, Sample 1404658-06A MS and MSD: The MS and/or MSD recovery was outside of the control. The parent sample is unrelated to this Work Order.

Batch R139278A, Method VOC_8260_W, Sample VLCSW1-140420: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: Multiple analytes

Batch R139278A, Method VOC_8260_W, Sample VLCSW1-140420: The LCS recovery was above the upper control limit. The sample results for this analyte may be biased high for this analyte: Acetone

Batch R139279, Method VOC_8260_W, Sample 1404297-11A MS and MSD: The MS and/or MSD recovery was outside of the control. The parent sample is unrelated to this Work Order.

Batch R139279, Method VOC_8260_W, Sample VLCSW1-140420: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: 2,2 Dichloropropane, Carbon Disulfide

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-016
Collection Date: 4/9/2014 11:40 AM

Work Order: 1404640
Lab ID: 1404640-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/17/14	Analyst: LR
BatchID: <u>57698</u>							
Mercury	0.016		0.00076	0.015	mg/Kg-dry	1	4/18/2014 12:54
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/18/14	Analyst: ML
BatchID: <u>57775</u>							
Selenium	0.37		0.057	0.36	mg/Kg-dry	1	4/20/2014 22:04
BatchID: <u>57544</u>							
Antimony	0.17	J	0.0081	2.0	mg/Kg-dry	5	4/16/2014 05:36
Arsenic	3.2		0.28	0.81	mg/Kg-dry	5	4/16/2014 05:36
Barium	28		0.057	2.0	mg/Kg-dry	5	4/16/2014 05:36
Beryllium	0.26	J	0.016	0.81	mg/Kg-dry	5	4/16/2014 05:36
Cadmium	0.15	J	0.0081	0.81	mg/Kg-dry	5	4/16/2014 05:36
Chromium	6.0		0.33	2.0	mg/Kg-dry	5	4/16/2014 05:36
Cobalt	2.1		0.0081	2.0	mg/Kg-dry	5	4/16/2014 05:36
Copper	7.6		0.40	2.0	mg/Kg-dry	5	4/16/2014 05:36
Iron	8,000		6.7	32	mg/Kg-dry	5	4/16/2014 05:36
Lead	11		0.0081	2.0	mg/Kg-dry	5	4/16/2014 05:36
Manganese	120		0.18	2.0	mg/Kg-dry	5	4/16/2014 05:36
Nickel	5.5		0.20	2.0	mg/Kg-dry	5	4/16/2014 05:36
Silver	0.014	J	0.0081	0.81	mg/Kg-dry	5	4/16/2014 05:36
Thallium	0.096	J	0.049	2.0	mg/Kg-dry	5	4/16/2014 05:36
Vanadium	12		0.12	2.0	mg/Kg-dry	5	4/16/2014 05:36
Zinc	29		0.17	4.1	mg/Kg-dry	5	4/16/2014 05:36
BatchID: <u>57544</u>							
Aluminum	5,000		51	410	mg/Kg-dry	500	4/17/2014 17:49
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/16/14	Analyst: HL
BatchID: <u>57611</u>							
1,1'-Biphenyl	U		5.5	370	µg/Kg-dry	1	4/17/2014 04:41
2,4,5-Trichlorophenol	U		9.3	180	µg/Kg-dry	1	4/17/2014 04:41
2,4,6-Trichlorophenol	U		6.3	180	µg/Kg-dry	1	4/17/2014 04:41
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	4/17/2014 04:41
2,4-Dimethylphenol	U		60	370	µg/Kg-dry	1	4/17/2014 04:41
2,4-Dinitrophenol	U		34	740	µg/Kg-dry	1	4/17/2014 04:41
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	4/17/2014 04:41
2,6-Dinitrotoluene	U		19	180	µg/Kg-dry	1	4/17/2014 04:41
2-Chloronaphthalene	U		1.7	89	µg/Kg-dry	1	4/17/2014 04:41
2-Chlorophenol	U		11	180	µg/Kg-dry	1	4/17/2014 04:41
2-Methylnaphthalene	57	J	3.1	89	µg/Kg-dry	1	4/17/2014 04:41

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-016
Collection Date: 4/9/2014 11:40 AM

Work Order: 1404640
Lab ID: 1404640-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Methylphenol	U		15	180	µg/Kg-dry	1	4/17/2014 04:41
2-Nitroaniline	U		14	740	µg/Kg-dry	1	4/17/2014 04:41
2-Nitrophenol	U		13	180	µg/Kg-dry	1	4/17/2014 04:41
3,3'-Dichlorobenzidine	U		460	740	µg/Kg-dry	1	4/17/2014 04:41
3-Nitroaniline	U		13	740	µg/Kg-dry	1	4/17/2014 04:41
4,6-Dinitro-2-methylphenol	U		31	370	µg/Kg-dry	1	4/17/2014 04:41
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	4/17/2014 04:41
4-Chloro-3-methylphenol	U		8.6	180	µg/Kg-dry	1	4/17/2014 04:41
4-Chloroaniline	U		11	370	µg/Kg-dry	1	4/17/2014 04:41
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	4/17/2014 04:41
4-Methylphenol	U		18	180	µg/Kg-dry	1	4/17/2014 04:41
4-Nitroaniline	U		10	740	µg/Kg-dry	1	4/17/2014 04:41
4-Nitrophenol	U		7.4	740	µg/Kg-dry	1	4/17/2014 04:41
Acenaphthene	U		1.1	33	µg/Kg-dry	1	4/17/2014 04:41
Acenaphthylene	U		1.4	33	µg/Kg-dry	1	4/17/2014 04:41
Acetophenone	U		5.6	370	µg/Kg-dry	1	4/17/2014 04:41
Anthracene	U		1.5	33	µg/Kg-dry	1	4/17/2014 04:41
Atrazine	U		11	56	µg/Kg-dry	1	4/17/2014 04:41
Benzaldehyde	U		14	370	µg/Kg-dry	1	4/17/2014 04:41
Benzo(a)anthracene	36		1.5	33	µg/Kg-dry	1	4/17/2014 04:41
Benzo(a)pyrene	20	J	2.4	33	µg/Kg-dry	1	4/17/2014 04:41
Benzo(b)fluoranthene	26	J	2.2	33	µg/Kg-dry	1	4/17/2014 04:41
Benzo(g,h,i)perylene	U		2.9	33	µg/Kg-dry	1	4/17/2014 04:41
Benzo(k)fluoranthene	U		1.6	33	µg/Kg-dry	1	4/17/2014 04:41
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	4/17/2014 04:41
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	4/17/2014 04:41
Bis(2-chloroisopropyl)ether	U		16	180	µg/Kg-dry	1	4/17/2014 04:41
Bis(2-ethylhexyl)phthalate	54	J	12	370	µg/Kg-dry	1	4/17/2014 04:41
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	4/17/2014 04:41
Caprolactam	U		16	370	µg/Kg-dry	1	4/17/2014 04:41
Carbazole	U		11	180	µg/Kg-dry	1	4/17/2014 04:41
Chrysene	21	J	1.8	33	µg/Kg-dry	1	4/17/2014 04:41
Dibenzo(a,h)anthracene	U		2.8	33	µg/Kg-dry	1	4/17/2014 04:41
Dibenzofuran	U		12	180	µg/Kg-dry	1	4/17/2014 04:41
Diethyl phthalate	U		12	370	µg/Kg-dry	1	4/17/2014 04:41
Dimethyl phthalate	U		12	370	µg/Kg-dry	1	4/17/2014 04:41
Di-n-butyl phthalate	U		5.4	370	µg/Kg-dry	1	4/17/2014 04:41
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	4/17/2014 04:41
Fluoranthene	27	J	2.6	33	µg/Kg-dry	1	4/17/2014 04:41
Fluorene	U		2.5	33	µg/Kg-dry	1	4/17/2014 04:41

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-016
Collection Date: 4/9/2014 11:40 AM

Work Order: 1404640
Lab ID: 1404640-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobenzene	U		10	180	µg/Kg-dry	1	4/17/2014 04:41
Hexachlorobutadiene	U		12	56	µg/Kg-dry	1	4/17/2014 04:41
Hexachlorocyclopentadiene	U		12	370	µg/Kg-dry	1	4/17/2014 04:41
Hexachloroethane	U		17	180	µg/Kg-dry	1	4/17/2014 04:41
Indeno(1,2,3-cd)pyrene	U		2.5	33	µg/Kg-dry	1	4/17/2014 04:41
Isophorone	U		12	180	µg/Kg-dry	1	4/17/2014 04:41
Naphthalene	39		2.7	33	µg/Kg-dry	1	4/17/2014 04:41
Nitrobenzene	U		14	180	µg/Kg-dry	1	4/17/2014 04:41
N-Nitrosodi-n-propylamine	U		14	180	µg/Kg-dry	1	4/17/2014 04:41
N-Nitrosodiphenylamine	U		66	180	µg/Kg-dry	1	4/17/2014 04:41
Pentachlorophenol	U		7.2	22	µg/Kg-dry	1	4/17/2014 04:41
Phenanthrene	82		1.5	33	µg/Kg-dry	1	4/17/2014 04:41
Phenol	U		13	180	µg/Kg-dry	1	4/17/2014 04:41
Pyrene	34		2.5	33	µg/Kg-dry	1	4/17/2014 04:41
Surr: 2,4,6-Tribromophenol	90.7			34-140	%REC	1	4/17/2014 04:41
Surr: 2-Fluorobiphenyl	81.3			12-100	%REC	1	4/17/2014 04:41
Surr: 2-Fluorophenol	71.8			33-117	%REC	1	4/17/2014 04:41
Surr: 4-Terphenyl-d14	126			25-137	%REC	1	4/17/2014 04:41
Surr: Nitrobenzene-d5	56.7			37-107	%REC	1	4/17/2014 04:41
Surr: Phenol-d6	65.3			40-106	%REC	1	4/17/2014 04:41
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/15/14		Analyst: BG
BatchID: 57591							
1,1,1-Trichloroethane	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
1,1,2,2-Tetrachloroethane	U		15	34	µg/Kg-dry	1	4/21/2014 01:41
1,1,2-Trichloroethane	U		12	34	µg/Kg-dry	1	4/21/2014 01:41
1,1,2-Trichlorotrifluoroethane	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
1,1-Dichloroethane	U		12	34	µg/Kg-dry	1	4/21/2014 01:41
1,1-Dichloroethene	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
1,2,4-Trichlorobenzene	U		18	34	µg/Kg-dry	1	4/21/2014 01:41
1,2-Dibromo-3-chloropropane	U		17	34	µg/Kg-dry	1	4/21/2014 01:41
1,2-Dibromoethane	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
1,2-Dichlorobenzene	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
1,2-Dichloroethane	U		16	34	µg/Kg-dry	1	4/21/2014 01:41
1,2-Dichloropropane	U		11	34	µg/Kg-dry	1	4/21/2014 01:41
1,3-Dichlorobenzene	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
1,4-Dichlorobenzene	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
2-Butanone	U		84	230	µg/Kg-dry	1	4/21/2014 01:41
2-Hexanone	U		8.3	34	µg/Kg-dry	1	4/21/2014 01:41
4-Methyl-2-pentanone	U		12	34	µg/Kg-dry	1	4/21/2014 01:41

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-016
Collection Date: 4/9/2014 11:40 AM

Work Order: 1404640
Lab ID: 1404640-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetone	U		72	110	µg/Kg-dry	1	4/21/2014 01:41
Benzene	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
Bromodichloromethane	U		7.6	34	µg/Kg-dry	1	4/21/2014 01:41
Bromoform	U		6.7	34	µg/Kg-dry	1	4/21/2014 01:41
Bromomethane	U		13	85	µg/Kg-dry	1	4/21/2014 01:41
Carbon disulfide	U		17	34	µg/Kg-dry	1	4/21/2014 01:41
Carbon tetrachloride	U		9.7	34	µg/Kg-dry	1	4/21/2014 01:41
Chlorobenzene	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
Chloroethane	U		72	110	µg/Kg-dry	1	4/21/2014 01:41
Chloroform	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
Chloromethane	U		19	110	µg/Kg-dry	1	4/21/2014 01:41
cis-1,2-Dichloroethene	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
cis-1,3-Dichloropropene	U		12	34	µg/Kg-dry	1	4/21/2014 01:41
Cyclohexane	U		15	34	µg/Kg-dry	1	4/21/2014 01:41
Dibromochloromethane	U		6.3	34	µg/Kg-dry	1	4/21/2014 01:41
Dichlorodifluoromethane	U		15	34	µg/Kg-dry	1	4/21/2014 01:41
Ethylbenzene	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
Isopropylbenzene	U		15	34	µg/Kg-dry	1	4/21/2014 01:41
Methyl acetate	100	J	46	230	µg/Kg-dry	1	4/21/2014 01:41
Methyl tert-butyl ether	U		14	34	µg/Kg-dry	1	4/21/2014 01:41
Methylcyclohexane	U		16	34	µg/Kg-dry	1	4/21/2014 01:41
Methylene chloride	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
Styrene	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
Tetrachloroethene	U		15	34	µg/Kg-dry	1	4/21/2014 01:41
Toluene	U		13	34	µg/Kg-dry	1	4/21/2014 01:41
trans-1,2-Dichloroethene	U		10	34	µg/Kg-dry	1	4/21/2014 01:41
trans-1,3-Dichloropropene	U		11	34	µg/Kg-dry	1	4/21/2014 01:41
Trichloroethene	U		16	34	µg/Kg-dry	1	4/21/2014 01:41
Trichlorofluoromethane	U		9.4	34	µg/Kg-dry	1	4/21/2014 01:41
Vinyl chloride	U		15	34	µg/Kg-dry	1	4/21/2014 01:41
Xylenes, Total	U		40	100	µg/Kg-dry	1	4/21/2014 01:41
Surr: 1,2-Dichloroethane-d4	99.8			70-130	%REC	1	4/21/2014 01:41
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	4/21/2014 01:41
Surr: Dibromofluoromethane	93.4			70-130	%REC	1	4/21/2014 01:41
Surr: Toluene-d8	97.4			70-130	%REC	1	4/21/2014 01:41

CYANIDE, TOTAL

SW9012A

Prep: SW9012A / 4/15/14

Analyst: JB

BatchID: 57588

Cyanide, Total	0.10	J	0.026	0.57	mg/Kg-dry	1	4/16/2014 16:03

MOISTURE

A2540 G

Analyst: AT

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-016
Collection Date: 4/9/2014 11:40 AM

Work Order: 1404640
Lab ID: 1404640-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID: R139021</u>							
Moisture	12		0.025	0.050	% of sample	1	4/15/2014 15:11

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-012
Collection Date: 4/9/2014 12:00 PM

Work Order: 1404640
Lab ID: 1404640-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470		Prep: SW7470 / 4/18/14		Analyst: LR
<u>BatchID: 57746</u>							
Mercury	0.00024		0.00010	0.00020	mg/L	1	4/21/2014 11:08
MERCURY BY CVAA (DISSOLVED)			SW7470		Prep: SW7470 / 4/18/14		Analyst: LR
<u>BatchID: 57746</u>							
Mercury		U	0.00010	0.00020	mg/L	1	4/21/2014 11:10
METALS BY ICP-MS			SW6020A		Prep: SW3005A / 4/16/14		Analyst: ML
<u>BatchID: 57620</u>							
Aluminum	34		0.0039	0.25	mg/L	5	4/18/2014 09:41
Antimony	0.0021	J	0.00018	0.010	mg/L	5	4/18/2014 09:41
Arsenic	0.11		0.0029	0.025	mg/L	5	4/18/2014 09:41
Barium	0.32	J	0.00032	0.50	mg/L	5	4/18/2014 09:41
Beryllium	0.0024	J	0.00041	0.0050	mg/L	5	4/18/2014 09:41
Cadmium	0.0025	J	0.00022	0.0050	mg/L	5	4/18/2014 09:41
Chromium	0.14		0.0014	0.050	mg/L	5	4/18/2014 09:41
Cobalt	0.067	J	0.00020	0.10	mg/L	5	4/18/2014 09:41
Copper	0.19		0.0026	0.020	mg/L	5	4/18/2014 09:41
Iron	110		0.027	1.0	mg/L	5	4/18/2014 09:41
Lead	0.11		0.00026	0.015	mg/L	5	4/18/2014 09:41
Manganese	3.8		0.00027	0.25	mg/L	5	4/18/2014 09:41
Nickel	0.16		0.0013	0.10	mg/L	5	4/18/2014 09:41
Selenium	0.010	J	0.0032	0.025	mg/L	5	4/18/2014 09:41
Silver	0.00037	J	0.00021	0.0010	mg/L	5	4/18/2014 09:41
Thallium	0.0029	J	0.00031	0.010	mg/L	5	4/18/2014 09:41
Vanadium	0.13		0.00082	0.020	mg/L	5	4/18/2014 09:41
Zinc	0.62		0.0024	0.25	mg/L	5	4/18/2014 09:41
METALS BY ICP-MS (DISSOLVED)			SW6020A		Prep: SW3005A / 4/16/14		Analyst: ML
<u>BatchID: 57620</u>							
Aluminum	0.074	J	0.0039	0.25	mg/L	5	4/18/2014 09:47
Antimony	0.00043	J	0.00018	0.010	mg/L	5	4/18/2014 09:47
Arsenic		U	0.0029	0.025	mg/L	5	4/18/2014 09:47
Barium	0.044	J	0.00032	0.50	mg/L	5	4/18/2014 09:47
Beryllium		U	0.00041	0.0050	mg/L	5	4/18/2014 09:47
Cadmium	0.00058	J	0.00022	0.0050	mg/L	5	4/18/2014 09:47
Chromium		U	0.0014	0.050	mg/L	5	4/18/2014 09:47
Cobalt	0.0026	J	0.00020	0.10	mg/L	5	4/18/2014 09:47
Copper		U	0.0026	0.020	mg/L	5	4/18/2014 09:47
Iron	0.20	J	0.027	1.0	mg/L	5	4/18/2014 09:47

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-012
Collection Date: 4/9/2014 12:00 PM

Work Order: 1404640
Lab ID: 1404640-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.014	J	0.00026	0.015	mg/L	5	4/18/2014 09:47
Manganese	0.11	J	0.00027	0.25	mg/L	5	4/18/2014 09:47
Nickel	0.0043	J	0.0013	0.10	mg/L	5	4/18/2014 09:47
Selenium	U		0.0032	0.025	mg/L	5	4/18/2014 09:47
Silver	U		0.00021	0.0010	mg/L	5	4/18/2014 09:47
Thallium	U		0.00031	0.010	mg/L	5	4/18/2014 09:47
Vanadium	U		0.00082	0.020	mg/L	5	4/18/2014 09:47
Zinc	0.0080	J	0.0024	0.25	mg/L	5	4/18/2014 09:47

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/15/14

Analyst: RM

BatchID: 57558

1,1'-Biphenyl	U		0.095	10	µg/L	1	4/16/2014 18:44
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	4/16/2014 18:44
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	4/16/2014 18:44
2,4-Dichlorophenol	U		0.22	10	µg/L	1	4/16/2014 18:44
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	4/16/2014 18:44
2,4-Dinitrophenol	U		0.67	25	µg/L	1	4/16/2014 18:44
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	4/16/2014 18:44
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	4/16/2014 18:44
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	4/16/2014 18:44
2-Chlorophenol	U		0.32	10	µg/L	1	4/16/2014 18:44
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	4/16/2014 18:44
2-Methylphenol	U		0.20	10	µg/L	1	4/16/2014 18:44
2-Nitroaniline	U		0.34	25	µg/L	1	4/16/2014 18:44
2-Nitrophenol	U		0.28	5.0	µg/L	1	4/16/2014 18:44
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	4/16/2014 18:44
3-Nitroaniline	U		0.34	25	µg/L	1	4/16/2014 18:44
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	4/16/2014 18:44
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	4/16/2014 18:44
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	4/16/2014 18:44
4-Chloroaniline	U		0.32	10	µg/L	1	4/16/2014 18:44
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	4/16/2014 18:44
4-Methylphenol	U		0.20	10	µg/L	1	4/16/2014 18:44
4-Nitroaniline	U		0.30	25	µg/L	1	4/16/2014 18:44
4-Nitrophenol	U		0.51	25	µg/L	1	4/16/2014 18:44
Acenaphthene	U		0.11	5.0	µg/L	1	4/16/2014 18:44
Acenaphthylene	U		0.12	5.0	µg/L	1	4/16/2014 18:44
Acetophenone	U		0.090	5.0	µg/L	1	4/16/2014 18:44
Anthracene	U		0.72	5.0	µg/L	1	4/16/2014 18:44
Atrazine	U		0.13	5.0	µg/L	1	4/16/2014 18:44

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-012
Collection Date: 4/9/2014 12:00 PM

Work Order: 1404640
Lab ID: 1404640-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	4/16/2014 18:44
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	4/16/2014 18:44
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	4/16/2014 18:44
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	4/16/2014 18:44
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	4/16/2014 18:44
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	4/16/2014 18:44
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	4/16/2014 18:44
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	4/16/2014 18:44
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	4/16/2014 18:44
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	4/16/2014 18:44
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	4/16/2014 18:44
Caprolactam	U		4.7	10	µg/L	1	4/16/2014 18:44
Carbazole	U		0.16	10	µg/L	1	4/16/2014 18:44
Chrysene	U		0.71	1.0	µg/L	1	4/16/2014 18:44
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	4/16/2014 18:44
Dibenzofuran	U		0.28	4.0	µg/L	1	4/16/2014 18:44
Diethyl phthalate	U		0.24	5.0	µg/L	1	4/16/2014 18:44
Dimethyl phthalate	U		0.27	5.0	µg/L	1	4/16/2014 18:44
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	4/16/2014 18:44
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	4/16/2014 18:44
Fluoranthene	U		0.77	1.0	µg/L	1	4/16/2014 18:44
Fluorene	U		0.10	5.0	µg/L	1	4/16/2014 18:44
Hexachlorobenzene	U		0.22	0.50	µg/L	1	4/16/2014 18:44
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	4/16/2014 18:44
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	4/16/2014 18:44
Hexachloroethane	U		0.47	5.0	µg/L	1	4/16/2014 18:44
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	4/16/2014 18:44
Isophorone	U		0.30	5.0	µg/L	1	4/16/2014 18:44
Naphthalene	U		0.12	5.0	µg/L	1	4/16/2014 18:44
Nitrobenzene	U		0.33	3.0	µg/L	1	4/16/2014 18:44
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	4/16/2014 18:44
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	4/16/2014 18:44
Pentachlorophenol	U		0.22	1.0	µg/L	1	4/16/2014 18:44
Phenanthrene	U		0.86	2.0	µg/L	1	4/16/2014 18:44
Phenol	U		0.32	5.0	µg/L	1	4/16/2014 18:44
Pyrene	U		0.65	5.0	µg/L	1	4/16/2014 18:44
Surr: 2,4,6-Tribromophenol	73.9			32-115	%REC	1	4/16/2014 18:44
Surr: 2-Fluorobiphenyl	58.1			32-100	%REC	1	4/16/2014 18:44
Surr: 2-Fluorophenol	33.8			22-59	%REC	1	4/16/2014 18:44
Surr: 4-Terphenyl-d14	95.7			23-112	%REC	1	4/16/2014 18:44

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-012
Collection Date: 4/9/2014 12:00 PM

Work Order: 1404640
Lab ID: 1404640-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	58.9			31-93	%REC	1	4/16/2014 18:44
Surr: Phenol-d6	21.1			13-36	%REC	1	4/16/2014 18:44
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: BG	
BatchID: R139279							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 12:23
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/21/2014 12:23
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 12:23
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/21/2014 12:23
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/21/2014 12:23
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 12:23
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/21/2014 12:23
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/21/2014 12:23
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/21/2014 12:23
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/21/2014 12:23
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 12:23
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/21/2014 12:23
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 12:23
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 12:23
2-Butanone	U		0.64	25	µg/L	1	4/21/2014 12:23
2-Hexanone	U		0.19	50	µg/L	1	4/21/2014 12:23
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/21/2014 12:23
Acetone	U		3.0	50	µg/L	1	4/21/2014 12:23
Benzene	0.29	J	0.14	1.0	µg/L	1	4/21/2014 12:23
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/21/2014 12:23
Bromoform	U		0.18	1.0	µg/L	1	4/21/2014 12:23
Bromomethane	U		0.38	5.0	µg/L	1	4/21/2014 12:23
Carbon disulfide	U		0.26	5.0	µg/L	1	4/21/2014 12:23
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/21/2014 12:23
Chlorobenzene	U		0.12	1.0	µg/L	1	4/21/2014 12:23
Chloroethane	U		0.25	5.0	µg/L	1	4/21/2014 12:23
Chloroform	U		0.15	1.0	µg/L	1	4/21/2014 12:23
Chloromethane	U		0.29	5.0	µg/L	1	4/21/2014 12:23
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/21/2014 12:23
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/21/2014 12:23
Cyclohexane	U		0.20	1.0	µg/L	1	4/21/2014 12:23
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/21/2014 12:23
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/21/2014 12:23
Ethylbenzene	U		0.12	1.0	µg/L	1	4/21/2014 12:23
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/21/2014 12:23

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-012
Collection Date: 4/9/2014 12:00 PM

Work Order: 1404640
Lab ID: 1404640-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/21/2014 12:23
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/21/2014 12:23
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/21/2014 12:23
Methylene chloride	U		0.75	5.0	µg/L	1	4/21/2014 12:23
Styrene	U		0.12	1.0	µg/L	1	4/21/2014 12:23
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/21/2014 12:23
Toluene	0.39	J	0.13	1.0	µg/L	1	4/21/2014 12:23
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 12:23
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/21/2014 12:23
Trichloroethene	U		0.16	1.0	µg/L	1	4/21/2014 12:23
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/21/2014 12:23
Vinyl chloride	U		0.15	1.0	µg/L	1	4/21/2014 12:23
Xylenes, Total	U		0.30	3.0	µg/L	1	4/21/2014 12:23
Surr: 1,2-Dichloroethane-d4	102			70-120	%REC	1	4/21/2014 12:23
Surr: 4-Bromofluorobenzene	99.6			75-120	%REC	1	4/21/2014 12:23
Surr: Dibromofluoromethane	97.6			85-115	%REC	1	4/21/2014 12:23
Surr: Toluene-d8	94.5			85-120	%REC	1	4/21/2014 12:23
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/16/14	Analyst: JB
BatchID: 57624							
Cyanide, Amenable	0.0026	J	0.0010	0.0050	mg/L	1	4/16/2014 16:03

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-017
Collection Date: 4/9/2014 01:00 PM

Work Order: 1404640
Lab ID: 1404640-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7471			Prep: SW7471 / 4/17/14	Analyst: LR
<u>BatchID: 57698</u>							
Mercury	0.017		0.00080	0.016	mg/Kg-dry	1	4/18/2014 12:56
METALS BY ICP-MS							
			SW6020A			Prep: SW3050B / 4/18/14	Analyst: ML
<u>BatchID: 57775</u>							
Selenium	0.54		0.055	0.34	mg/Kg-dry	1	4/20/2014 22:11
<u>BatchID: 57544</u>							
Antimony	0.15	J	0.0083	2.1	mg/Kg-dry	5	4/16/2014 05:42
Arsenic	2.1		0.28	0.83	mg/Kg-dry	5	4/16/2014 05:42
Barium	23		0.058	2.1	mg/Kg-dry	5	4/16/2014 05:42
Beryllium	0.14	J	0.017	0.83	mg/Kg-dry	5	4/16/2014 05:42
Cadmium	0.20	J	0.0083	0.83	mg/Kg-dry	5	4/16/2014 05:42
Chromium	6.4		0.34	2.1	mg/Kg-dry	5	4/16/2014 05:42
Cobalt	1.7	J	0.0083	2.1	mg/Kg-dry	5	4/16/2014 05:42
Copper	4.3		0.41	2.1	mg/Kg-dry	5	4/16/2014 05:42
Iron	5,900		6.9	33	mg/Kg-dry	5	4/16/2014 05:42
Lead	11		0.0083	2.1	mg/Kg-dry	5	4/16/2014 05:42
Manganese	190		0.18	2.1	mg/Kg-dry	5	4/16/2014 05:42
Nickel	4.0		0.21	2.1	mg/Kg-dry	5	4/16/2014 05:42
Silver	U		0.0083	0.83	mg/Kg-dry	5	4/16/2014 05:42
Thallium	U		0.050	2.1	mg/Kg-dry	5	4/16/2014 05:42
Vanadium	9.6		0.12	2.1	mg/Kg-dry	5	4/16/2014 05:42
Zinc	32		0.17	4.2	mg/Kg-dry	5	4/16/2014 05:42
<u>BatchID: 57544</u>							
Aluminum	3,200		5.2	42	mg/Kg-dry	50	4/17/2014 17:55
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270			Prep: SW3541 / 4/16/14	Analyst: RM
<u>BatchID: 57611</u>							
1,1'-Biphenyl	U		5.8	380	µg/Kg-dry	1	4/17/2014 20:13
2,4,5-Trichlorophenol	U		9.7	190	µg/Kg-dry	1	4/17/2014 20:13
2,4,6-Trichlorophenol	U		6.5	190	µg/Kg-dry	1	4/17/2014 20:13
2,4-Dichlorophenol	U		11	190	µg/Kg-dry	1	4/17/2014 20:13
2,4-Dimethylphenol	U		62	380	µg/Kg-dry	1	4/17/2014 20:13
2,4-Dinitrophenol	U		35	770	µg/Kg-dry	1	4/17/2014 20:13
2,4-Dinitrotoluene	U		12	190	µg/Kg-dry	1	4/17/2014 20:13
2,6-Dinitrotoluene	U		20	190	µg/Kg-dry	1	4/17/2014 20:13
2-Chloronaphthalene	U		1.8	93	µg/Kg-dry	1	4/17/2014 20:13
2-Chlorophenol	U		12	190	µg/Kg-dry	1	4/17/2014 20:13
2-Methylnaphthalene	U		3.2	93	µg/Kg-dry	1	4/17/2014 20:13

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-017
Collection Date: 4/9/2014 01:00 PM

Work Order: 1404640
Lab ID: 1404640-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Methylphenol	U		16	190	µg/Kg-dry	1	4/17/2014 20:13
2-Nitroaniline	U		15	770	µg/Kg-dry	1	4/17/2014 20:13
2-Nitrophenol	U		13	190	µg/Kg-dry	1	4/17/2014 20:13
3,3'-Dichlorobenzidine	U		480	770	µg/Kg-dry	1	4/17/2014 20:13
3-Nitroaniline	U		13	770	µg/Kg-dry	1	4/17/2014 20:13
4,6-Dinitro-2-methylphenol	U		32	380	µg/Kg-dry	1	4/17/2014 20:13
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	4/17/2014 20:13
4-Chloro-3-methylphenol	U		9.0	190	µg/Kg-dry	1	4/17/2014 20:13
4-Chloroaniline	U		12	380	µg/Kg-dry	1	4/17/2014 20:13
4-Chlorophenyl phenyl ether	U		11	190	µg/Kg-dry	1	4/17/2014 20:13
4-Methylphenol	U		19	190	µg/Kg-dry	1	4/17/2014 20:13
4-Nitroaniline	U		11	770	µg/Kg-dry	1	4/17/2014 20:13
4-Nitrophenol	U		7.7	770	µg/Kg-dry	1	4/17/2014 20:13
Acenaphthene	U		1.2	35	µg/Kg-dry	1	4/17/2014 20:13
Acenaphthylene	U		1.4	35	µg/Kg-dry	1	4/17/2014 20:13
Acetophenone	U		5.8	380	µg/Kg-dry	1	4/17/2014 20:13
Anthracene	U		1.5	35	µg/Kg-dry	1	4/17/2014 20:13
Atrazine	U		12	58	µg/Kg-dry	1	4/17/2014 20:13
Benzaldehyde	U		15	380	µg/Kg-dry	1	4/17/2014 20:13
Benzo(a)anthracene	36		1.5	35	µg/Kg-dry	1	4/17/2014 20:13
Benzo(a)pyrene	U		2.5	35	µg/Kg-dry	1	4/17/2014 20:13
Benzo(b)fluoranthene	57		2.3	35	µg/Kg-dry	1	4/17/2014 20:13
Benzo(g,h,i)perylene	U		3.0	35	µg/Kg-dry	1	4/17/2014 20:13
Benzo(k)fluoranthene	24	J	1.6	35	µg/Kg-dry	1	4/17/2014 20:13
Bis(2-chloroethoxy)methane	U		12	190	µg/Kg-dry	1	4/17/2014 20:13
Bis(2-chloroethyl)ether	U		12	190	µg/Kg-dry	1	4/17/2014 20:13
Bis(2-chloroisopropyl)ether	U		16	190	µg/Kg-dry	1	4/17/2014 20:13
Bis(2-ethylhexyl)phthalate	U		13	380	µg/Kg-dry	1	4/17/2014 20:13
Butyl benzyl phthalate	U		15	190	µg/Kg-dry	1	4/17/2014 20:13
Caprolactam	U		17	380	µg/Kg-dry	1	4/17/2014 20:13
Carbazole	U		12	190	µg/Kg-dry	1	4/17/2014 20:13
Chrysene	38		1.8	35	µg/Kg-dry	1	4/17/2014 20:13
Dibenzo(a,h)anthracene	U		2.9	35	µg/Kg-dry	1	4/17/2014 20:13
Dibenzofuran	U		12	190	µg/Kg-dry	1	4/17/2014 20:13
Diethyl phthalate	U		12	380	µg/Kg-dry	1	4/17/2014 20:13
Dimethyl phthalate	U		13	380	µg/Kg-dry	1	4/17/2014 20:13
Di-n-butyl phthalate	U		5.6	380	µg/Kg-dry	1	4/17/2014 20:13
Di-n-octyl phthalate	U		13	190	µg/Kg-dry	1	4/17/2014 20:13
Fluoranthene	68		2.7	35	µg/Kg-dry	1	4/17/2014 20:13
Fluorene	U		2.6	35	µg/Kg-dry	1	4/17/2014 20:13

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-017
Collection Date: 4/9/2014 01:00 PM

Work Order: 1404640
Lab ID: 1404640-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobenzene		U	11	190	µg/Kg-dry	1	4/17/2014 20:13
Hexachlorobutadiene		U	13	58	µg/Kg-dry	1	4/17/2014 20:13
Hexachlorocyclopentadiene		U	12	380	µg/Kg-dry	1	4/17/2014 20:13
Hexachloroethane		U	18	190	µg/Kg-dry	1	4/17/2014 20:13
Indeno(1,2,3-cd)pyrene		U	2.6	35	µg/Kg-dry	1	4/17/2014 20:13
Isophorone		U	13	190	µg/Kg-dry	1	4/17/2014 20:13
Naphthalene		U	2.9	35	µg/Kg-dry	1	4/17/2014 20:13
Nitrobenzene		U	15	190	µg/Kg-dry	1	4/17/2014 20:13
N-Nitrosodi-n-propylamine		U	15	190	µg/Kg-dry	1	4/17/2014 20:13
N-Nitrosodiphenylamine		U	69	190	µg/Kg-dry	1	4/17/2014 20:13
Pentachlorophenol		U	7.5	23	µg/Kg-dry	1	4/17/2014 20:13
Phenanthrene		U	1.6	35	µg/Kg-dry	1	4/17/2014 20:13
Phenol		U	13	190	µg/Kg-dry	1	4/17/2014 20:13
Pyrene	58		2.6	35	µg/Kg-dry	1	4/17/2014 20:13
Surr: 2,4,6-Tribromophenol	93.6			34-140	%REC	1	4/17/2014 20:13
Surr: 2-Fluorobiphenyl	74.5			12-100	%REC	1	4/17/2014 20:13
Surr: 2-Fluorophenol	83.2			33-117	%REC	1	4/17/2014 20:13
Surr: 4-Terphenyl-d14	109			25-137	%REC	1	4/17/2014 20:13
Surr: Nitrobenzene-d5	75.1			37-107	%REC	1	4/17/2014 20:13
Surr: Phenol-d6	83.0			40-106	%REC	1	4/17/2014 20:13
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/15/14		Analyst: BG
BatchID: 57591							
1,1,1-Trichloroethane	U		14	36	µg/Kg-dry	1	4/21/2014 02:07
1,1,2,2-Tetrachloroethane	U		16	36	µg/Kg-dry	1	4/21/2014 02:07
1,1,2-Trichloroethane	U		13	36	µg/Kg-dry	1	4/21/2014 02:07
1,1,2-Trichlorotrifluoroethane	U		13	36	µg/Kg-dry	1	4/21/2014 02:07
1,1-Dichloroethane	U		13	36	µg/Kg-dry	1	4/21/2014 02:07
1,1-Dichloroethene	U		15	36	µg/Kg-dry	1	4/21/2014 02:07
1,2,4-Trichlorobenzene	U		19	36	µg/Kg-dry	1	4/21/2014 02:07
1,2-Dibromo-3-chloropropane	U		17	36	µg/Kg-dry	1	4/21/2014 02:07
1,2-Dibromoethane	U		14	36	µg/Kg-dry	1	4/21/2014 02:07
1,2-Dichlorobenzene	U		14	36	µg/Kg-dry	1	4/21/2014 02:07
1,2-Dichloroethane	U		17	36	µg/Kg-dry	1	4/21/2014 02:07
1,2-Dichloropropane	U		12	36	µg/Kg-dry	1	4/21/2014 02:07
1,3-Dichlorobenzene	U		14	36	µg/Kg-dry	1	4/21/2014 02:07
1,4-Dichlorobenzene	U		14	36	µg/Kg-dry	1	4/21/2014 02:07
2-Butanone	U		89	240	µg/Kg-dry	1	4/21/2014 02:07
2-Hexanone	U		8.8	36	µg/Kg-dry	1	4/21/2014 02:07
4-Methyl-2-pentanone	U		12	36	µg/Kg-dry	1	4/21/2014 02:07

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-017
Collection Date: 4/9/2014 01:00 PM

Work Order: 1404640
Lab ID: 1404640-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetone	U		76	120	µg/Kg-dry	1	4/21/2014 02:07
Benzene	U		14	36	µg/Kg-dry	1	4/21/2014 02:07
Bromodichloromethane	U		8.1	36	µg/Kg-dry	1	4/21/2014 02:07
Bromoform	U		7.1	36	µg/Kg-dry	1	4/21/2014 02:07
Bromomethane	U		14	90	µg/Kg-dry	1	4/21/2014 02:07
Carbon disulfide	U		18	36	µg/Kg-dry	1	4/21/2014 02:07
Carbon tetrachloride	U		10	36	µg/Kg-dry	1	4/21/2014 02:07
Chlorobenzene	U		15	36	µg/Kg-dry	1	4/21/2014 02:07
Chloroethane	U		76	120	µg/Kg-dry	1	4/21/2014 02:07
Chloroform	U		15	36	µg/Kg-dry	1	4/21/2014 02:07
Chloromethane	U		20	120	µg/Kg-dry	1	4/21/2014 02:07
cis-1,2-Dichloroethene	U		15	36	µg/Kg-dry	1	4/21/2014 02:07
cis-1,3-Dichloropropene	U		12	36	µg/Kg-dry	1	4/21/2014 02:07
Cyclohexane	U		16	36	µg/Kg-dry	1	4/21/2014 02:07
Dibromochloromethane	U		6.6	36	µg/Kg-dry	1	4/21/2014 02:07
Dichlorodifluoromethane	U		16	36	µg/Kg-dry	1	4/21/2014 02:07
Ethylbenzene	U		13	36	µg/Kg-dry	1	4/21/2014 02:07
Isopropylbenzene	U		15	36	µg/Kg-dry	1	4/21/2014 02:07
Methyl acetate	120	J	48	240	µg/Kg-dry	1	4/21/2014 02:07
Methyl tert-butyl ether	U		15	36	µg/Kg-dry	1	4/21/2014 02:07
Methylcyclohexane	U		17	36	µg/Kg-dry	1	4/21/2014 02:07
Methylene chloride	U		14	36	µg/Kg-dry	1	4/21/2014 02:07
Styrene	U		13	36	µg/Kg-dry	1	4/21/2014 02:07
Tetrachloroethene	U		16	36	µg/Kg-dry	1	4/21/2014 02:07
Toluene	U		13	36	µg/Kg-dry	1	4/21/2014 02:07
trans-1,2-Dichloroethene	U		11	36	µg/Kg-dry	1	4/21/2014 02:07
trans-1,3-Dichloropropene	U		12	36	µg/Kg-dry	1	4/21/2014 02:07
Trichloroethene	U		17	36	µg/Kg-dry	1	4/21/2014 02:07
Trichlorofluoromethane	U		9.9	36	µg/Kg-dry	1	4/21/2014 02:07
Vinyl chloride	U		16	36	µg/Kg-dry	1	4/21/2014 02:07
Xylenes, Total	U		42	110	µg/Kg-dry	1	4/21/2014 02:07
Surr: 1,2-Dichloroethane-d4	101			70-130	%REC	1	4/21/2014 02:07
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	4/21/2014 02:07
Surr: Dibromofluoromethane	91.6			70-130	%REC	1	4/21/2014 02:07
Surr: Toluene-d8	95.8			70-130	%REC	1	4/21/2014 02:07

CYANIDE, TOTAL

SW9012A

Prep: SW9012A / 4/15/14

Analyst: JB

BatchID: 57588

Cyanide, Total	0.14	J	0.028	0.60	mg/Kg-dry	1	4/16/2014 16:03

MOISTURE

A2540 G

Analyst: AT

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-017
Collection Date: 4/9/2014 01:00 PM

Work Order: 1404640
Lab ID: 1404640-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID: R139021</u>							
Moisture	16		0.025	0.050	% of sample	1	4/15/2014 15:11

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-013
Collection Date: 4/9/2014 01:30 PM

Work Order: 1404640
Lab ID: 1404640-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/18/14	Analyst: LR
<u>BatchID: 57746</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/21/2014 11:13
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/18/14	Analyst: LR
<u>BatchID: 57746</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/21/2014 11:15
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/16/14	Analyst: RH
<u>BatchID: 57621</u>							
Aluminum	16		0.0039	0.25	mg/L	5	4/18/2014 21:45
Antimony	0.0022	J	0.00018	0.010	mg/L	5	4/23/2014 10:12
Arsenic	0.041		0.0029	0.025	mg/L	5	4/23/2014 10:12
Barium	0.19	J	0.00032	0.50	mg/L	5	4/23/2014 10:12
Beryllium	0.0013	J	0.00041	0.0050	mg/L	5	4/18/2014 21:45
Cadmium	0.00094	J	0.00022	0.0050	mg/L	5	4/23/2014 10:12
Chromium	0.049	J	0.0014	0.050	mg/L	5	4/23/2014 10:12
Cobalt	0.021	J	0.00020	0.10	mg/L	5	4/18/2014 21:45
Copper	0.052		0.0026	0.020	mg/L	5	4/18/2014 21:45
Iron	48		0.027	1.0	mg/L	5	4/23/2014 10:12
Lead	0.029		0.00026	0.015	mg/L	5	4/23/2014 10:12
Manganese	1.5		0.00027	0.25	mg/L	5	4/18/2014 21:45
Nickel	0.068	J	0.0013	0.10	mg/L	5	4/18/2014 21:45
Selenium	0.0073	J	0.0032	0.025	mg/L	5	4/23/2014 10:12
Silver	U		0.00021	0.0010	mg/L	5	4/23/2014 10:12
Thallium	0.0023	J	0.00031	0.010	mg/L	5	4/23/2014 10:12
Vanadium	0.055		0.00082	0.020	mg/L	5	4/23/2014 10:12
Zinc	0.18	J	0.0024	0.25	mg/L	5	4/18/2014 21:45
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/16/14	Analyst: RH
<u>BatchID: 57621</u>							
Aluminum	0.17	J	0.0039	0.25	mg/L	5	4/18/2014 21:50
Antimony	0.0014	J	0.00018	0.010	mg/L	5	4/23/2014 10:22
Arsenic	U		0.0029	0.025	mg/L	5	4/23/2014 10:22
Barium	0.069	J	0.00032	0.50	mg/L	5	4/23/2014 10:22
Beryllium	U		0.00041	0.0050	mg/L	5	4/18/2014 21:50
Cadmium	U		0.00022	0.0050	mg/L	5	4/23/2014 10:22
Chromium	U		0.0014	0.050	mg/L	5	4/23/2014 10:22
Cobalt	0.0077	J	0.00020	0.10	mg/L	5	4/18/2014 21:50
Copper	0.0061	J	0.0026	0.020	mg/L	5	4/18/2014 21:50
Iron	0.28	J	0.027	1.0	mg/L	5	4/23/2014 10:22

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-013
Collection Date: 4/9/2014 01:30 PM

Work Order: 1404640
Lab ID: 1404640-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	U		0.00026	0.015	mg/L	5	4/23/2014 10:22
Manganese	0.41		0.00027	0.25	mg/L	5	4/18/2014 21:50
Nickel	0.020	J	0.0013	0.10	mg/L	5	4/18/2014 21:50
Selenium	0.0054	J	0.0032	0.025	mg/L	5	4/23/2014 10:22
Silver	U		0.00021	0.0010	mg/L	5	4/23/2014 10:22
Thallium	U		0.00031	0.010	mg/L	5	4/23/2014 10:22
Vanadium	0.0024	J	0.00082	0.020	mg/L	5	4/23/2014 10:22
Zinc	0.021	J	0.0024	0.25	mg/L	5	4/18/2014 21:50

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/15/14

Analyst: RM

BatchID: 57558

1,1'-Biphenyl	U		0.095	10	µg/L	1	4/16/2014 19:04
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	4/16/2014 19:04
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	4/16/2014 19:04
2,4-Dichlorophenol	U		0.22	10	µg/L	1	4/16/2014 19:04
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	4/16/2014 19:04
2,4-Dinitrophenol	U		0.67	25	µg/L	1	4/16/2014 19:04
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	4/16/2014 19:04
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	4/16/2014 19:04
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	4/16/2014 19:04
2-Chlorophenol	U		0.32	10	µg/L	1	4/16/2014 19:04
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	4/16/2014 19:04
2-Methylphenol	U		0.20	10	µg/L	1	4/16/2014 19:04
2-Nitroaniline	U		0.34	25	µg/L	1	4/16/2014 19:04
2-Nitrophenol	U		0.28	5.0	µg/L	1	4/16/2014 19:04
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	4/16/2014 19:04
3-Nitroaniline	U		0.34	25	µg/L	1	4/16/2014 19:04
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	4/16/2014 19:04
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	4/16/2014 19:04
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	4/16/2014 19:04
4-Chloroaniline	U		0.32	10	µg/L	1	4/16/2014 19:04
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	4/16/2014 19:04
4-Methylphenol	U		0.20	10	µg/L	1	4/16/2014 19:04
4-Nitroaniline	U		0.30	25	µg/L	1	4/16/2014 19:04
4-Nitrophenol	U		0.51	25	µg/L	1	4/16/2014 19:04
Acenaphthene	U		0.11	5.0	µg/L	1	4/16/2014 19:04
Acenaphthylene	U		0.12	5.0	µg/L	1	4/16/2014 19:04
Acetophenone	U		0.090	5.0	µg/L	1	4/16/2014 19:04
Anthracene	U		0.72	5.0	µg/L	1	4/16/2014 19:04
Atrazine	U		0.13	5.0	µg/L	1	4/16/2014 19:04

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-013
Collection Date: 4/9/2014 01:30 PM

Work Order: 1404640
Lab ID: 1404640-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	4/16/2014 19:04
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	4/16/2014 19:04
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	4/16/2014 19:04
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	4/16/2014 19:04
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	4/16/2014 19:04
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	4/16/2014 19:04
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	4/16/2014 19:04
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	4/16/2014 19:04
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	4/16/2014 19:04
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	4/16/2014 19:04
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	4/16/2014 19:04
Caprolactam	U		4.7	10	µg/L	1	4/16/2014 19:04
Carbazole	U		0.16	10	µg/L	1	4/16/2014 19:04
Chrysene	U		0.71	1.0	µg/L	1	4/16/2014 19:04
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	4/16/2014 19:04
Dibenzofuran	U		0.28	4.0	µg/L	1	4/16/2014 19:04
Diethyl phthalate	U		0.24	5.0	µg/L	1	4/16/2014 19:04
Dimethyl phthalate	U		0.27	5.0	µg/L	1	4/16/2014 19:04
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	4/16/2014 19:04
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	4/16/2014 19:04
Fluoranthene	U		0.77	1.0	µg/L	1	4/16/2014 19:04
Fluorene	U		0.10	5.0	µg/L	1	4/16/2014 19:04
Hexachlorobenzene	U		0.22	0.50	µg/L	1	4/16/2014 19:04
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	4/16/2014 19:04
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	4/16/2014 19:04
Hexachloroethane	U		0.47	5.0	µg/L	1	4/16/2014 19:04
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	4/16/2014 19:04
Isophorone	U		0.30	5.0	µg/L	1	4/16/2014 19:04
Naphthalene	U		0.12	5.0	µg/L	1	4/16/2014 19:04
Nitrobenzene	U		0.33	3.0	µg/L	1	4/16/2014 19:04
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	4/16/2014 19:04
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	4/16/2014 19:04
Pentachlorophenol	U		0.22	1.0	µg/L	1	4/16/2014 19:04
Phenanthrene	U		0.86	2.0	µg/L	1	4/16/2014 19:04
Phenol	U		0.32	5.0	µg/L	1	4/16/2014 19:04
Pyrene	U		0.65	5.0	µg/L	1	4/16/2014 19:04
Surr: 2,4,6-Tribromophenol	68.3			32-115	%REC	1	4/16/2014 19:04
Surr: 2-Fluorobiphenyl	54.4			32-100	%REC	1	4/16/2014 19:04
Surr: 2-Fluorophenol	32.4			22-59	%REC	1	4/16/2014 19:04
Surr: 4-Terphenyl-d14	96.5			23-112	%REC	1	4/16/2014 19:04

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-013
Collection Date: 4/9/2014 01:30 PM

Work Order: 1404640
Lab ID: 1404640-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	54.4			31-93	%REC	1	4/16/2014 19:04
Surr: Phenol-d6	19.0			13-36	%REC	1	4/16/2014 19:04
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: BG	
BatchID: R139279							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 12:49
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/21/2014 12:49
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 12:49
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/21/2014 12:49
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/21/2014 12:49
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 12:49
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/21/2014 12:49
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/21/2014 12:49
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/21/2014 12:49
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/21/2014 12:49
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 12:49
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/21/2014 12:49
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 12:49
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 12:49
2-Butanone	U		0.64	25	µg/L	1	4/21/2014 12:49
2-Hexanone	U		0.19	50	µg/L	1	4/21/2014 12:49
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/21/2014 12:49
Acetone	U		3.0	50	µg/L	1	4/21/2014 12:49
Benzene	U		0.14	1.0	µg/L	1	4/21/2014 12:49
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/21/2014 12:49
Bromoform	U		0.18	1.0	µg/L	1	4/21/2014 12:49
Bromomethane	U		0.38	5.0	µg/L	1	4/21/2014 12:49
Carbon disulfide	U		0.26	5.0	µg/L	1	4/21/2014 12:49
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/21/2014 12:49
Chlorobenzene	U		0.12	1.0	µg/L	1	4/21/2014 12:49
Chloroethane	U		0.25	5.0	µg/L	1	4/21/2014 12:49
Chloroform	U		0.15	1.0	µg/L	1	4/21/2014 12:49
Chloromethane	U		0.29	5.0	µg/L	1	4/21/2014 12:49
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/21/2014 12:49
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/21/2014 12:49
Cyclohexane	U		0.20	1.0	µg/L	1	4/21/2014 12:49
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/21/2014 12:49
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/21/2014 12:49
Ethylbenzene	U		0.12	1.0	µg/L	1	4/21/2014 12:49
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/21/2014 12:49

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-013
Collection Date: 4/9/2014 01:30 PM

Work Order: 1404640
Lab ID: 1404640-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/21/2014 12:49
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/21/2014 12:49
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/21/2014 12:49
Methylene chloride	U		0.75	5.0	µg/L	1	4/21/2014 12:49
Styrene	U		0.12	1.0	µg/L	1	4/21/2014 12:49
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/21/2014 12:49
Toluene	0.35	J	0.13	1.0	µg/L	1	4/21/2014 12:49
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 12:49
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/21/2014 12:49
Trichloroethene	U		0.16	1.0	µg/L	1	4/21/2014 12:49
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/21/2014 12:49
Vinyl chloride	U		0.15	1.0	µg/L	1	4/21/2014 12:49
Xylenes, Total	U		0.30	3.0	µg/L	1	4/21/2014 12:49
Surr: 1,2-Dichloroethane-d4	102			70-120	%REC	1	4/21/2014 12:49
Surr: 4-Bromofluorobenzene	100			75-120	%REC	1	4/21/2014 12:49
Surr: Dibromofluoromethane	97.4			85-115	%REC	1	4/21/2014 12:49
Surr: Toluene-d8	95.2			85-120	%REC	1	4/21/2014 12:49
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/16/14		Analyst: JB
BatchID: 57624							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	4/16/2014 16:03

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-018
Collection Date: 4/9/2014 02:30 PM

Work Order: 1404640
Lab ID: 1404640-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7471			Prep: SW7471 / 4/17/14	Analyst: LR
BatchID: <u>57698</u>							
Mercury	0.0095	J	0.00084	0.017	mg/Kg-dry	1	4/18/2014 12:58
METALS BY ICP-MS							
			SW6020A			Prep: SW3050B / 4/14/14	Analyst: ML
BatchID: <u>57544</u>							
Antimony	0.18	J	0.0082	2.0	mg/Kg-dry	5	4/16/2014 05:48
Arsenic	3.2		0.28	0.82	mg/Kg-dry	5	4/16/2014 05:48
Barium	19		0.057	2.0	mg/Kg-dry	5	4/16/2014 05:48
Beryllium	0.16	J	0.016	0.82	mg/Kg-dry	5	4/16/2014 05:48
Cadmium	0.10	J	0.0082	0.82	mg/Kg-dry	5	4/16/2014 05:48
Chromium	7.1		0.34	2.0	mg/Kg-dry	5	4/16/2014 05:48
Cobalt	3.2		0.0082	2.0	mg/Kg-dry	5	4/16/2014 05:48
Copper	8.2		0.40	2.0	mg/Kg-dry	5	4/16/2014 05:48
Iron	8,000		6.8	33	mg/Kg-dry	5	4/16/2014 05:48
Lead	6.3		0.0082	2.0	mg/Kg-dry	5	4/16/2014 05:48
Manganese	180		0.18	2.0	mg/Kg-dry	5	4/16/2014 05:48
Nickel	9.4		0.20	2.0	mg/Kg-dry	5	4/16/2014 05:48
Selenium	0.40	J	0.26	1.6	mg/Kg-dry	5	4/20/2014 22:17
Silver	0.015	J	0.0082	0.82	mg/Kg-dry	5	4/16/2014 05:48
Thallium	0.098	J	0.049	2.0	mg/Kg-dry	5	4/16/2014 05:48
Vanadium	12		0.12	2.0	mg/Kg-dry	5	4/16/2014 05:48
Zinc	22		0.17	4.1	mg/Kg-dry	5	4/16/2014 05:48
BatchID: <u>57544</u>							
Aluminum	3,300		5.2	41	mg/Kg-dry	50	4/17/2014 18:02
SEMI-VOLATILE ORGANIC COMPOUNDS							
			SW8270			Prep: SW3541 / 4/16/14	Analyst: RM
BatchID: <u>57611</u>							
1,1'-Biphenyl	U		5.5	370	µg/Kg-dry	1	4/17/2014 20:33
2,4,5-Trichlorophenol	U		9.2	180	µg/Kg-dry	1	4/17/2014 20:33
2,4,6-Trichlorophenol	U		6.2	180	µg/Kg-dry	1	4/17/2014 20:33
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	4/17/2014 20:33
2,4-Dimethylphenol	U		59	370	µg/Kg-dry	1	4/17/2014 20:33
2,4-Dinitrophenol	U		33	730	µg/Kg-dry	1	4/17/2014 20:33
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	4/17/2014 20:33
2,6-Dinitrotoluene	U		19	180	µg/Kg-dry	1	4/17/2014 20:33
2-Chloronaphthalene	U		1.7	89	µg/Kg-dry	1	4/17/2014 20:33
2-Chlorophenol	U		11	180	µg/Kg-dry	1	4/17/2014 20:33
2-Methylnaphthalene	U		3.1	89	µg/Kg-dry	1	4/17/2014 20:33
2-Methylphenol	U		15	180	µg/Kg-dry	1	4/17/2014 20:33

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-018
Collection Date: 4/9/2014 02:30 PM

Work Order: 1404640
Lab ID: 1404640-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		14	730	µg/Kg-dry	1	4/17/2014 20:33
2-Nitrophenol	U		12	180	µg/Kg-dry	1	4/17/2014 20:33
3,3'-Dichlorobenzidine	U		460	730	µg/Kg-dry	1	4/17/2014 20:33
3-Nitroaniline	U		13	730	µg/Kg-dry	1	4/17/2014 20:33
4,6-Dinitro-2-methylphenol	U		31	370	µg/Kg-dry	1	4/17/2014 20:33
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	4/17/2014 20:33
4-Chloro-3-methylphenol	U		8.6	180	µg/Kg-dry	1	4/17/2014 20:33
4-Chloroaniline	U		11	370	µg/Kg-dry	1	4/17/2014 20:33
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	4/17/2014 20:33
4-Methylphenol	U		18	180	µg/Kg-dry	1	4/17/2014 20:33
4-Nitroaniline	U		10	730	µg/Kg-dry	1	4/17/2014 20:33
4-Nitrophenol	U		7.3	730	µg/Kg-dry	1	4/17/2014 20:33
Acenaphthene	U		1.1	33	µg/Kg-dry	1	4/17/2014 20:33
Acenaphthylene	U		1.3	33	µg/Kg-dry	1	4/17/2014 20:33
Acetophenone	U		5.5	370	µg/Kg-dry	1	4/17/2014 20:33
Anthracene	43		1.5	33	µg/Kg-dry	1	4/17/2014 20:33
Atrazine	U		11	56	µg/Kg-dry	1	4/17/2014 20:33
Benzaldehyde	U		14	370	µg/Kg-dry	1	4/17/2014 20:33
Benzo(a)anthracene	180		1.5	33	µg/Kg-dry	1	4/17/2014 20:33
Benzo(a)pyrene	190		2.4	33	µg/Kg-dry	1	4/17/2014 20:33
Benzo(b)fluoranthene	210		2.2	33	µg/Kg-dry	1	4/17/2014 20:33
Benzo(g,h,i)perylene	120		2.9	33	µg/Kg-dry	1	4/17/2014 20:33
Benzo(k)fluoranthene	77		1.6	33	µg/Kg-dry	1	4/17/2014 20:33
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	4/17/2014 20:33
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	4/17/2014 20:33
Bis(2-chloroisopropyl)ether	U		16	180	µg/Kg-dry	1	4/17/2014 20:33
Bis(2-ethylhexyl)phthalate	U		12	370	µg/Kg-dry	1	4/17/2014 20:33
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	4/17/2014 20:33
Caprolactam	U		16	370	µg/Kg-dry	1	4/17/2014 20:33
Carbazole	U		11	180	µg/Kg-dry	1	4/17/2014 20:33
Chrysene	180		1.8	33	µg/Kg-dry	1	4/17/2014 20:33
Dibenzo(a,h)anthracene	42		2.8	33	µg/Kg-dry	1	4/17/2014 20:33
Dibenzofuran	U		12	180	µg/Kg-dry	1	4/17/2014 20:33
Diethyl phthalate	U		12	370	µg/Kg-dry	1	4/17/2014 20:33
Dimethyl phthalate	U		12	370	µg/Kg-dry	1	4/17/2014 20:33
Di-n-butyl phthalate	U		5.3	370	µg/Kg-dry	1	4/17/2014 20:33
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	4/17/2014 20:33
Fluoranthene	300		2.6	33	µg/Kg-dry	1	4/17/2014 20:33
Fluorene	U		2.5	33	µg/Kg-dry	1	4/17/2014 20:33
Hexachlorobenzene	U		10	180	µg/Kg-dry	1	4/17/2014 20:33

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-018
Collection Date: 4/9/2014 02:30 PM

Work Order: 1404640
Lab ID: 1404640-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		12	56	µg/Kg-dry	1	4/17/2014 20:33
Hexachlorocyclopentadiene	U		12	370	µg/Kg-dry	1	4/17/2014 20:33
Hexachloroethane	U		17	180	µg/Kg-dry	1	4/17/2014 20:33
Indeno(1,2,3-cd)pyrene	150		2.5	33	µg/Kg-dry	1	4/17/2014 20:33
Isophorone	U		12	180	µg/Kg-dry	1	4/17/2014 20:33
Naphthalene	U		2.7	33	µg/Kg-dry	1	4/17/2014 20:33
Nitrobenzene	U		14	180	µg/Kg-dry	1	4/17/2014 20:33
N-Nitrosodi-n-propylamine	U		14	180	µg/Kg-dry	1	4/17/2014 20:33
N-Nitrosodiphenylamine	U		66	180	µg/Kg-dry	1	4/17/2014 20:33
Pentachlorophenol	U		7.1	22	µg/Kg-dry	1	4/17/2014 20:33
Phenanthrene	89		1.5	33	µg/Kg-dry	1	4/17/2014 20:33
Phenol	U		13	180	µg/Kg-dry	1	4/17/2014 20:33
Pyrene	310		2.5	33	µg/Kg-dry	1	4/17/2014 20:33
Surr: 2,4,6-Tribromophenol	88.2			34-140	%REC	1	4/17/2014 20:33
Surr: 2-Fluorobiphenyl	67.6			12-100	%REC	1	4/17/2014 20:33
Surr: 2-Fluorophenol	78.4			33-117	%REC	1	4/17/2014 20:33
Surr: 4-Terphenyl-d14	104			25-137	%REC	1	4/17/2014 20:33
Surr: Nitrobenzene-d5	71.2			37-107	%REC	1	4/17/2014 20:33
Surr: Phenol-d6	76.3			40-106	%REC	1	4/17/2014 20:33
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/15/14		Analyst: BG
BatchID: 57591							
1,1,1-Trichloroethane	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
1,1,2,2-Tetrachloroethane	U		15	33	µg/Kg-dry	1	4/21/2014 02:33
1,1,2-Trichloroethane	U		12	33	µg/Kg-dry	1	4/21/2014 02:33
1,1,2-Trichlorotrifluoroethane	U		12	33	µg/Kg-dry	1	4/21/2014 02:33
1,1-Dichloroethane	U		12	33	µg/Kg-dry	1	4/21/2014 02:33
1,1-Dichloroethene	U		14	33	µg/Kg-dry	1	4/21/2014 02:33
1,2,4-Trichlorobenzene	U		17	33	µg/Kg-dry	1	4/21/2014 02:33
1,2-Dibromo-3-chloropropane	U		16	33	µg/Kg-dry	1	4/21/2014 02:33
1,2-Dibromoethane	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
1,2-Dichlorobenzene	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
1,2-Dichloroethane	U		16	33	µg/Kg-dry	1	4/21/2014 02:33
1,2-Dichloropropane	U		11	33	µg/Kg-dry	1	4/21/2014 02:33
1,3-Dichlorobenzene	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
1,4-Dichlorobenzene	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
2-Butanone	U		83	220	µg/Kg-dry	1	4/21/2014 02:33
2-Hexanone	U		8.2	33	µg/Kg-dry	1	4/21/2014 02:33
4-Methyl-2-pentanone	U		11	33	µg/Kg-dry	1	4/21/2014 02:33
Acetone	U		71	110	µg/Kg-dry	1	4/21/2014 02:33

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-018
Collection Date: 4/9/2014 02:30 PM

Work Order: 1404640
Lab ID: 1404640-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
Bromodichloromethane	U		7.5	33	µg/Kg-dry	1	4/21/2014 02:33
Bromoform	U		6.6	33	µg/Kg-dry	1	4/21/2014 02:33
Bromomethane	U		13	83	µg/Kg-dry	1	4/21/2014 02:33
Carbon disulfide	U		17	33	µg/Kg-dry	1	4/21/2014 02:33
Carbon tetrachloride	U		9.5	33	µg/Kg-dry	1	4/21/2014 02:33
Chlorobenzene	U		14	33	µg/Kg-dry	1	4/21/2014 02:33
Chloroethane	U		71	110	µg/Kg-dry	1	4/21/2014 02:33
Chloroform	U		14	33	µg/Kg-dry	1	4/21/2014 02:33
Chloromethane	U		19	110	µg/Kg-dry	1	4/21/2014 02:33
cis-1,2-Dichloroethene	U		14	33	µg/Kg-dry	1	4/21/2014 02:33
cis-1,3-Dichloropropene	U		11	33	µg/Kg-dry	1	4/21/2014 02:33
Cyclohexane	U		15	33	µg/Kg-dry	1	4/21/2014 02:33
Dibromochloromethane	U		6.2	33	µg/Kg-dry	1	4/21/2014 02:33
Dichlorodifluoromethane	U		15	33	µg/Kg-dry	1	4/21/2014 02:33
Ethylbenzene	U		12	33	µg/Kg-dry	1	4/21/2014 02:33
Isopropylbenzene	U		14	33	µg/Kg-dry	1	4/21/2014 02:33
Methyl acetate	71	J	45	220	µg/Kg-dry	1	4/21/2014 02:33
Methyl tert-butyl ether	U		14	33	µg/Kg-dry	1	4/21/2014 02:33
Methylcyclohexane	U		15	33	µg/Kg-dry	1	4/21/2014 02:33
Methylene chloride	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
Styrene	U		12	33	µg/Kg-dry	1	4/21/2014 02:33
Tetrachloroethene	U		15	33	µg/Kg-dry	1	4/21/2014 02:33
Toluene	U		13	33	µg/Kg-dry	1	4/21/2014 02:33
trans-1,2-Dichloroethene	U		10	33	µg/Kg-dry	1	4/21/2014 02:33
trans-1,3-Dichloropropene	U		11	33	µg/Kg-dry	1	4/21/2014 02:33
Trichloroethene	U		16	33	µg/Kg-dry	1	4/21/2014 02:33
Trichlorofluoromethane	U		9.2	33	µg/Kg-dry	1	4/21/2014 02:33
Vinyl chloride	U		15	33	µg/Kg-dry	1	4/21/2014 02:33
Xylenes, Total	U		39	100	µg/Kg-dry	1	4/21/2014 02:33
Surr: 1,2-Dichloroethane-d4	101			70-130	%REC	1	4/21/2014 02:33
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	4/21/2014 02:33
Surr: Dibromofluoromethane	90.2			70-130	%REC	1	4/21/2014 02:33
Surr: Toluene-d8	97.0			70-130	%REC	1	4/21/2014 02:33

CYANIDE, TOTAL

SW9012A

Prep: SW9012A / 4/15/14

Analyst: JB

BatchID: 57588

Cyanide, Total	0.057	J	0.026	0.56	mg/Kg-dry	1	4/16/2014 16:03

MOISTURE

A2540 G

Analyst: AT

BatchID: R139021

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-040914-ACN-018
Collection Date: 4/9/2014 02:30 PM

Work Order: 1404640
Lab ID: 1404640-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	10		0.025	0.050	% of sample	1	4/15/2014 15:11

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-014
Collection Date: 4/9/2014 02:45 PM

Work Order: 1404640
Lab ID: 1404640-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7470		Prep: SW7470 / 4/18/14		Analyst: LR
<u>BatchID: 57746</u>							
Mercury	0.00017	J	0.00010	0.00020	mg/L	1	4/21/2014 11:27
MERCURY BY CVAA (DISSOLVED)			SW7470		Prep: SW7470 / 4/18/14		Analyst: LR
<u>BatchID: 57746</u>							
Mercury		U	0.00010	0.00020	mg/L	1	4/21/2014 11:29
METALS BY ICP-MS			SW6020A		Prep: SW3005A / 4/17/14		Analyst: RH
<u>BatchID: 57700</u>							
Aluminum	8.3		0.00078	0.050	mg/L	1	4/17/2014 21:08
Antimony	0.00020	J	0.000036	0.0020	mg/L	1	4/17/2014 21:08
Arsenic	0.0052		0.00058	0.0050	mg/L	1	4/17/2014 21:08
Barium	0.054	J	0.000063	0.10	mg/L	1	4/17/2014 21:08
Beryllium	0.00026	J	0.000082	0.0010	mg/L	1	4/17/2014 21:08
Cadmium	0.000086	J	0.000045	0.0010	mg/L	1	4/17/2014 21:08
Chromium	0.014		0.00027	0.010	mg/L	1	4/17/2014 21:08
Cobalt	0.0043	J	0.000041	0.020	mg/L	1	4/17/2014 21:08
Copper	0.014		0.00053	0.0040	mg/L	1	4/17/2014 21:08
Iron	12		0.0053	0.20	mg/L	1	4/17/2014 21:08
Lead	0.011		0.000051	0.0030	mg/L	1	4/17/2014 21:08
Manganese	0.29		0.000054	0.050	mg/L	1	4/17/2014 21:08
Nickel	0.015	J	0.00025	0.020	mg/L	1	4/17/2014 21:08
Selenium	0.00092	J	0.00064	0.0050	mg/L	1	4/17/2014 21:08
Silver		U	0.000042	0.00020	mg/L	1	4/17/2014 21:08
Thallium		U	0.000062	0.0020	mg/L	1	4/17/2014 21:08
Vanadium	0.020		0.00016	0.0040	mg/L	1	4/17/2014 21:08
Zinc	0.047	J	0.00048	0.050	mg/L	1	4/17/2014 21:08
METALS BY ICP-MS (DISSOLVED)			SW6020A		Prep: SW3005A / 4/17/14		Analyst: RH
<u>BatchID: 57700</u>							
Aluminum	0.021	J	0.00078	0.050	mg/L	1	4/17/2014 21:14
Antimony		U	0.000036	0.0020	mg/L	1	4/17/2014 21:14
Arsenic		U	0.00058	0.0050	mg/L	1	4/17/2014 21:14
Barium	0.0093	J	0.000063	0.10	mg/L	1	4/17/2014 21:14
Beryllium		U	0.000082	0.0010	mg/L	1	4/17/2014 21:14
Cadmium		U	0.000045	0.0010	mg/L	1	4/17/2014 21:14
Chromium		U	0.00027	0.010	mg/L	1	4/17/2014 21:14
Cobalt	0.00017	J	0.000041	0.020	mg/L	1	4/17/2014 21:14
Copper	0.00065	J	0.00053	0.0040	mg/L	1	4/17/2014 21:14
Iron	0.031	J	0.0053	0.20	mg/L	1	4/17/2014 21:14

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-014
Collection Date: 4/9/2014 02:45 PM

Work Order: 1404640
Lab ID: 1404640-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.00062	J	0.000051	0.0030	mg/L	1	4/17/2014 21:14
Manganese	0.059		0.000054	0.050	mg/L	1	4/17/2014 21:14
Nickel	0.0014	J	0.00025	0.020	mg/L	1	4/17/2014 21:14
Selenium	U		0.00064	0.0050	mg/L	1	4/17/2014 21:14
Silver	U		0.000042	0.00020	mg/L	1	4/17/2014 21:14
Thallium	U		0.000062	0.0020	mg/L	1	4/17/2014 21:14
Vanadium	U		0.00016	0.0040	mg/L	1	4/17/2014 21:14
Zinc	0.0013	J	0.00048	0.050	mg/L	1	4/17/2014 21:14

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/15/14

Analyst: RM

BatchID: 57558

1,1'-Biphenyl	U	0.095	10	µg/L	1	4/16/2014 19:24
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	4/16/2014 19:24
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	4/16/2014 19:24
2,4-Dichlorophenol	U	0.22	10	µg/L	1	4/16/2014 19:24
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	4/16/2014 19:24
2,4-Dinitrophenol	U	0.67	25	µg/L	1	4/16/2014 19:24
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	4/16/2014 19:24
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	4/16/2014 19:24
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	4/16/2014 19:24
2-Chlorophenol	U	0.32	10	µg/L	1	4/16/2014 19:24
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	4/16/2014 19:24
2-Methylphenol	U	0.20	10	µg/L	1	4/16/2014 19:24
2-Nitroaniline	U	0.34	25	µg/L	1	4/16/2014 19:24
2-Nitrophenol	U	0.28	5.0	µg/L	1	4/16/2014 19:24
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	4/16/2014 19:24
3-Nitroaniline	U	0.34	25	µg/L	1	4/16/2014 19:24
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	4/16/2014 19:24
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	4/16/2014 19:24
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	4/16/2014 19:24
4-Chloroaniline	U	0.32	10	µg/L	1	4/16/2014 19:24
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	4/16/2014 19:24
4-Methylphenol	U	0.20	10	µg/L	1	4/16/2014 19:24
4-Nitroaniline	U	0.30	25	µg/L	1	4/16/2014 19:24
4-Nitrophenol	U	0.51	25	µg/L	1	4/16/2014 19:24
Acenaphthene	U	0.11	5.0	µg/L	1	4/16/2014 19:24
Acenaphthylene	U	0.12	5.0	µg/L	1	4/16/2014 19:24
Acetophenone	U	0.090	5.0	µg/L	1	4/16/2014 19:24
Anthracene	U	0.72	5.0	µg/L	1	4/16/2014 19:24
Atrazine	U	0.13	5.0	µg/L	1	4/16/2014 19:24

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-014
Collection Date: 4/9/2014 02:45 PM

Work Order: 1404640
Lab ID: 1404640-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	4/16/2014 19:24
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	4/16/2014 19:24
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	4/16/2014 19:24
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	4/16/2014 19:24
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	4/16/2014 19:24
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	4/16/2014 19:24
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	4/16/2014 19:24
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	4/16/2014 19:24
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	4/16/2014 19:24
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	4/16/2014 19:24
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	4/16/2014 19:24
Caprolactam	U		4.7	10	µg/L	1	4/16/2014 19:24
Carbazole	U		0.16	10	µg/L	1	4/16/2014 19:24
Chrysene	U		0.71	1.0	µg/L	1	4/16/2014 19:24
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	4/16/2014 19:24
Dibenzofuran	U		0.28	4.0	µg/L	1	4/16/2014 19:24
Diethyl phthalate	U		0.24	5.0	µg/L	1	4/16/2014 19:24
Dimethyl phthalate	U		0.27	5.0	µg/L	1	4/16/2014 19:24
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	4/16/2014 19:24
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	4/16/2014 19:24
Fluoranthene	U		0.77	1.0	µg/L	1	4/16/2014 19:24
Fluorene	U		0.10	5.0	µg/L	1	4/16/2014 19:24
Hexachlorobenzene	U		0.22	0.50	µg/L	1	4/16/2014 19:24
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	4/16/2014 19:24
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	4/16/2014 19:24
Hexachloroethane	U		0.47	5.0	µg/L	1	4/16/2014 19:24
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	4/16/2014 19:24
Isophorone	U		0.30	5.0	µg/L	1	4/16/2014 19:24
Naphthalene	U		0.12	5.0	µg/L	1	4/16/2014 19:24
Nitrobenzene	U		0.33	3.0	µg/L	1	4/16/2014 19:24
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	4/16/2014 19:24
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	4/16/2014 19:24
Pentachlorophenol	U		0.22	1.0	µg/L	1	4/16/2014 19:24
Phenanthrene	U		0.86	2.0	µg/L	1	4/16/2014 19:24
Phenol	U		0.32	5.0	µg/L	1	4/16/2014 19:24
Pyrene	U		0.65	5.0	µg/L	1	4/16/2014 19:24
Surr: 2,4,6-Tribromophenol	70.1			32-115	%REC	1	4/16/2014 19:24
Surr: 2-Fluorobiphenyl	59.6			32-100	%REC	1	4/16/2014 19:24
Surr: 2-Fluorophenol	34.8			22-59	%REC	1	4/16/2014 19:24
Surr: 4-Terphenyl-d14	92.9			23-112	%REC	1	4/16/2014 19:24

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-014
Collection Date: 4/9/2014 02:45 PM

Work Order: 1404640
Lab ID: 1404640-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	61.2			31-93	%REC	1	4/16/2014 19:24
Surr: Phenol-d6	20.4			13-36	%REC	1	4/16/2014 19:24
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: BG	
BatchID: R139279							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 01:15
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/21/2014 01:15
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 01:15
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/21/2014 01:15
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/21/2014 01:15
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 01:15
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/21/2014 01:15
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/21/2014 01:15
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/21/2014 01:15
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/21/2014 01:15
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 01:15
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/21/2014 01:15
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 01:15
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 01:15
2-Butanone	U		0.64	25	µg/L	1	4/21/2014 01:15
2-Hexanone	U		0.19	50	µg/L	1	4/21/2014 01:15
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/21/2014 01:15
Acetone	U		3.0	50	µg/L	1	4/21/2014 01:15
Benzene	U		0.14	1.0	µg/L	1	4/21/2014 01:15
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/21/2014 01:15
Bromoform	U		0.18	1.0	µg/L	1	4/21/2014 01:15
Bromomethane	U		0.38	5.0	µg/L	1	4/21/2014 01:15
Carbon disulfide	U		0.26	5.0	µg/L	1	4/21/2014 01:15
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/21/2014 01:15
Chlorobenzene	U		0.12	1.0	µg/L	1	4/21/2014 01:15
Chloroethane	U		0.25	5.0	µg/L	1	4/21/2014 01:15
Chloroform	U		0.15	1.0	µg/L	1	4/21/2014 01:15
Chloromethane	U		0.29	5.0	µg/L	1	4/21/2014 01:15
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/21/2014 01:15
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/21/2014 01:15
Cyclohexane	U		0.20	1.0	µg/L	1	4/21/2014 01:15
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/21/2014 01:15
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/21/2014 01:15
Ethylbenzene	U		0.12	1.0	µg/L	1	4/21/2014 01:15
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/21/2014 01:15

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-040914-ACN-014
Collection Date: 4/9/2014 02:45 PM

Work Order: 1404640
Lab ID: 1404640-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/21/2014 01:15
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/21/2014 01:15
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/21/2014 01:15
Methylene chloride	U		0.75	5.0	µg/L	1	4/21/2014 01:15
Styrene	U		0.12	1.0	µg/L	1	4/21/2014 01:15
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/21/2014 01:15
Toluene	U		0.13	1.0	µg/L	1	4/21/2014 01:15
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 01:15
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/21/2014 01:15
Trichloroethene	U		0.16	1.0	µg/L	1	4/21/2014 01:15
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/21/2014 01:15
Vinyl chloride	U		0.15	1.0	µg/L	1	4/21/2014 01:15
Xylenes, Total	U		0.30	3.0	µg/L	1	4/21/2014 01:15
Surr: 1,2-Dichloroethane-d4	102			70-120	%REC	1	4/21/2014 01:15
Surr: 4-Bromofluorobenzene	100			75-120	%REC	1	4/21/2014 01:15
Surr: Dibromofluoromethane	98.6			85-115	%REC	1	4/21/2014 01:15
Surr: Toluene-d8	94.2			85-120	%REC	1	4/21/2014 01:15
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/16/14		Analyst: JB
BatchID: 57624							
Cyanide, Amenable	0.0023	J	0.0010	0.0050	mg/L	1	4/16/2014 16:03

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

ALS Group USA, Corp

Date: 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 4/9/2014

Work Order: 1404640
Lab ID: 1404640-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: BG
<u>BatchID: R139278</u>							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/20/2014 23:06
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/20/2014 23:06
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/20/2014 23:06
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/20/2014 23:06
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/20/2014 23:06
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/20/2014 23:06
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/20/2014 23:06
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/20/2014 23:06
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/20/2014 23:06
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/20/2014 23:06
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/20/2014 23:06
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/20/2014 23:06
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/20/2014 23:06
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/20/2014 23:06
2-Butanone	U		0.64	25	µg/L	1	4/20/2014 23:06
2-Hexanone	U		0.19	50	µg/L	1	4/20/2014 23:06
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/20/2014 23:06
Acetone	4.8	J	3.0	50	µg/L	1	4/20/2014 23:06
Benzene	U		0.14	1.0	µg/L	1	4/20/2014 23:06
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/20/2014 23:06
Bromoform	U		0.18	1.0	µg/L	1	4/20/2014 23:06
Bromomethane	U		0.38	5.0	µg/L	1	4/20/2014 23:06
Carbon disulfide	U		0.26	5.0	µg/L	1	4/20/2014 23:06
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/20/2014 23:06
Chlorobenzene	U		0.12	1.0	µg/L	1	4/20/2014 23:06
Chloroethane	U		0.25	5.0	µg/L	1	4/20/2014 23:06
Chloroform	U		0.15	1.0	µg/L	1	4/20/2014 23:06
Chloromethane	U		0.29	5.0	µg/L	1	4/20/2014 23:06
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/20/2014 23:06
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/20/2014 23:06
Cyclohexane	U		0.20	1.0	µg/L	1	4/20/2014 23:06
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/20/2014 23:06
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/20/2014 23:06
Ethylbenzene	U		0.12	1.0	µg/L	1	4/20/2014 23:06
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/20/2014 23:06
Methyl acetate	U		0.76	10	µg/L	1	4/20/2014 23:06
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/20/2014 23:06

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

ALS Group USA, Corp**Date:** 23-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 4/9/2014

Work Order: 1404640
Lab ID: 1404640-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/20/2014 23:06
Methylene chloride	U		0.75	5.0	µg/L	1	4/20/2014 23:06
Styrene	U		0.12	1.0	µg/L	1	4/20/2014 23:06
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/20/2014 23:06
Toluene	U		0.13	1.0	µg/L	1	4/20/2014 23:06
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/20/2014 23:06
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/20/2014 23:06
Trichloroethene	U		0.16	1.0	µg/L	1	4/20/2014 23:06
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/20/2014 23:06
Vinyl chloride	U		0.15	1.0	µg/L	1	4/20/2014 23:06
Xylenes, Total	U		0.30	3.0	µg/L	1	4/20/2014 23:06
Surr: 1,2-Dichloroethane-d4	89.2			70-120	%REC	1	4/20/2014 23:06
Surr: 4-Bromofluorobenzene	95.9			75-120	%REC	1	4/20/2014 23:06
Surr: Dibromofluoromethane	98.4			85-115	%REC	1	4/20/2014 23:06
Surr: Toluene-d8	93.2			85-120	%REC	1	4/20/2014 23:06

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

Client: The Mannik & Smith Group, Inc.

Work Order: 1404640

Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57698**

Instrument ID **HG1**

Method: **SW7471**

MBLK		Sample ID: MBLK-57698-57698				Units: mg/Kg		Analysis Date: 4/18/2014 12:17 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720000		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.020

LCS		Sample ID: LCS-57698-57698				Units: mg/Kg		Analysis Date: 4/18/2014 12:20 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720001		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1771 0.020 0.1665 0 106 80-120 0

MS		Sample ID: 1404566-02AMS				Units: mg/Kg		Analysis Date: 4/18/2014 12:26 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720004		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1227 0.013 0.1075 0.00169 113 75-125 0

MSD		Sample ID: 1404566-02AMSD				Units: mg/Kg		Analysis Date: 4/18/2014 12:29 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720005		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1163 0.013 0.1074 0.00169 107 75-125 0.1227 5.33 35

The following samples were analyzed in this batch:

1404640-01B	1404640-03B	1404640-05B

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57746** Instrument ID **HG1** Method: **SW7470**

MBLK		Sample ID: MBLK-57746-57746				Units: mg/L		Analysis Date: 4/18/2014 03:52 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2722410		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS		Sample ID: LCS-57746-57746				Units: mg/L		Analysis Date: 4/18/2014 03:54 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2722411		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001802 0.00020 0.002 0 90.1 80-120 0

MS		Sample ID: 1404670-04AMS				Units: mg/L		Analysis Date: 4/18/2014 04:01 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2722414		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.01954 0.0020 0.02 -0.00018 98.6 75-125 0

MSD		Sample ID: 1404670-04AMSD				Units: mg/L		Analysis Date: 4/18/2014 04:03 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2722415		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.01968 0.0020 0.02 -0.00018 99.3 75-125 0.01954 0.714 20

The following samples were analyzed in this batch:

1404640-02D	1404640-02E	1404640-04D
1404640-04E	1404640-06D	1404640-06E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57544** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57544-57544				Units: mg/Kg		Analysis Date: 4/16/2014 01:17 AM			
Client ID:		Run ID: ICPMS1_140415A				SeqNo: 2715066		Prep Date: 4/14/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	U	0.25									
Arsenic	U	0.25									
Barium	0.03881	0.25								J	
Beryllium	U	0.10									
Cadmium	U	0.10									
Chromium	U	0.25									
Cobalt	U	0.25									
Copper	U	0.25									
Iron	1.112	4.0								J	
Lead	0.00746	0.25								J	
Manganese	U	0.25									
Nickel	U	0.25									
Selenium	0.0349	0.25								J	
Silver	U	0.25									
Thallium	U	0.25									
Vanadium	U	0.25									
Zinc	U	0.50									

MBLK		Sample ID: MBLK-57544-57544					Units: mg/Kg		Analysis Date: 4/18/2014 10:05 AM		
Client ID:			Run ID: ICPMS1_140417A			SeqNo: 2719458		Prep Date: 4/14/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.3923	0.50								J	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57544** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57544-57544				Units: mg/Kg		Analysis Date: 4/16/2014 01:23 AM		
Client ID:		Run ID: ICPMS1_140415A				SeqNo: 2715067		Prep Date: 4/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	5.11	0.50	5	0	102	80-120	0			
Antimony	4.953	0.25	5	0	99.1	80-120	0			
Arsenic	4.294	0.25	5	0	85.9	80-120	0			
Barium	5.02	0.25	5	0	100	80-120	0			
Beryllium	4.461	0.10	5	0	89.2	80-120	0			
Cadmium	4.763	0.10	5	0	95.3	80-120	0			
Chromium	4.77	0.25	5	0	95.4	80-120	0			
Cobalt	4.823	0.25	5	0	96.5	80-120	0			
Copper	4.83	0.25	5	0	96.6	80-120	0			
Iron	491.6	4.0	500	0	98.3	80-120	0			
Lead	5.2	0.25	5	0	104	80-120	0			
Manganese	4.87	0.25	5	0	97.4	80-120	0			
Nickel	4.806	0.25	5	0	96.1	80-120	0			
Selenium	3.966	0.25	5	0	79.3	80-120	0			S
Silver	4.954	0.25	5	0	99.1	80-120	0			
Thallium	4.868	0.25	5	0	97.4	80-120	0			
Vanadium	4.708	0.25	5	0	94.2	80-120	0			
Zinc	4.524	0.50	5	0	90.5	80-120	0			

LCS		Sample ID: LCS-57544-57544				Units: mg/Kg		Analysis Date: 4/17/2014 05:43 PM		
Client ID:		Run ID: ICPMS1_140417A				SeqNo: 2718991		Prep Date: 4/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	4.778	0.50	5	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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57544** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 1404595-01AMS			Units: mg/Kg		Analysis Date: 4/16/2014 01:52 AM	
Client ID:				Run ID: ICPMS1_140415A			SeqNo: 2715072		Prep Date: 4/14/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	2215	0.77	7.74	1739	6150	75-125	0			SO
Antimony	7.61	0.39	7.74	0.02756	98	75-125	0			
Arsenic	7.268	0.39	7.74	0.4156	88.5	75-125	0			
Barium	13.23	0.39	7.74	4.385	114	75-125	0			
Beryllium	6.648	0.15	7.74	0.03732	85.4	75-125	0			
Cadmium	7.572	0.15	7.74	0.02854	97.5	75-125	0			
Chromium	9.474	0.39	7.74	1.423	104	75-125	0			
Cobalt	8.189	0.39	7.74	0.4428	100	75-125	0			
Copper	8.127	0.39	7.74	0.6577	96.5	75-125	0			
Iron	2464	6.2	774	1582	114	75-125	0			
Lead	10.37	0.39	7.74	2.082	107	75-125	0			
Manganese	19.2	0.39	7.74	9.944	120	75-125	0			
Nickel	8.808	0.39	7.74	1.198	98.3	75-125	0			
Selenium	6.367	0.39	7.74	0.1817	79.9	75-125	0			
Silver	7.618	0.39	7.74	0.006252	98.3	75-125	0			
Thallium	7.755	0.39	7.74	0.01576	100	75-125	0			
Vanadium	11.41	0.39	7.74	2.938	109	75-125	0			
Zinc	13.23	0.77	7.74	5.39	101	75-125	0			

MSD				Sample ID: 1404595-01AMSD			Units: mg/Kg		Analysis Date: 4/16/2014 01:58 AM	
Client ID:				Run ID: ICPMS1_140415A			SeqNo: 2715073		Prep Date: 4/14/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	2271	0.78	7.812	1739	6810	75-125	2215	2.49	25	SO
Antimony	7.632	0.39	7.812	0.02756	97.3	75-125	7.61	0.29	25	
Arsenic	7.335	0.39	7.812	0.4156	88.6	75-125	7.268	0.922	25	
Barium	12.94	0.39	7.812	4.385	109	75-125	13.23	2.22	25	
Beryllium	6.704	0.16	7.812	0.03732	85.3	75-125	6.648	0.84	25	
Cadmium	7.595	0.16	7.812	0.02854	96.8	75-125	7.572	0.297	25	
Chromium	9.531	0.39	7.812	1.423	104	75-125	9.474	0.606	25	
Cobalt	8.875	0.39	7.812	0.4428	108	75-125	8.189	8.04	25	
Copper	8.227	0.39	7.812	0.6577	96.9	75-125	8.127	1.22	25	
Iron	2547	6.2	781.2	1582	124	75-125	2464	3.32	25	
Lead	10.74	0.39	7.812	2.082	111	75-125	10.37	3.51	25	
Manganese	20.25	0.39	7.812	9.944	132	75-125	19.2	5.31	25	S
Nickel	8.914	0.39	7.812	1.198	98.8	75-125	8.808	1.2	25	
Selenium	6.501	0.39	7.812	0.1817	80.9	75-125	6.367	2.08	25	
Silver	7.734	0.39	7.812	0.006252	98.9	75-125	7.618	1.51	25	
Thallium	7.852	0.39	7.812	0.01576	100	75-125	7.755	1.23	25	
Vanadium	11.52	0.39	7.812	2.938	110	75-125	11.41	0.933	25	
Zinc	13.59	0.78	7.812	5.39	105	75-125	13.23	2.73	25	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57544** Instrument ID **ICPMS1** Method: **SW6020A**

The following samples were analyzed in this batch:

1404640-01B	1404640-03B	1404640-05B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57620** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57620-57620				Units: mg/L		Analysis Date: 4/18/2014 07:55 AM		
Client ID:		Run ID: ICPMS1_140417A				SeqNo: 2719428		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	U	0.0050								
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

LCS		Sample ID: LCS-57620-57620				Units: mg/L		Analysis Date: 4/18/2014 08:01 AM		
Client ID:		Run ID: ICPMS1_140417A				SeqNo: 2719430		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09846	0.010	0.1	0	98.5	80-120	0			
Antimony	0.1007	0.0050	0.1	0	101	80-120	0			
Barium	0.09505	0.0050	0.1	0	95	80-120	0			
Beryllium	0.09586	0.0020	0.1	0	95.9	80-120	0			
Cadmium	0.0992	0.0020	0.1	0	99.2	80-120	0			
Chromium	0.09549	0.0050	0.1	0	95.5	80-120	0			
Cobalt	0.09406	0.0050	0.1	0	94.1	80-120	0			
Copper	0.09729	0.0050	0.1	0	97.3	80-120	0			
Iron	9.487	0.080	10	0	94.9	80-120	0			
Lead	0.09379	0.0050	0.1	0	93.8	80-120	0			
Manganese	0.09329	0.0050	0.1	0	93.3	80-120	0			
Nickel	0.09392	0.0050	0.1	0	93.9	80-120	0			
Selenium	0.1029	0.0050	0.1	0	103	80-120	0			
Silver	0.09064	0.0050	0.1	0	90.6	80-120	0			
Thallium	0.09052	0.0050	0.1	0	90.5	80-120	0			
Vanadium	0.09707	0.0050	0.1	0	97.1	80-120	0			
Zinc	0.09966	0.010	0.1	0	99.7	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57620** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-57620-57620				Units: mg/L		Analysis Date: 4/18/2014 04:42 PM		
Client ID:		Run ID: ICPMS1_140417A				SeqNo: 2721818		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic	0.09696	0.0050	0.1	0	97	80-120	0			

MS		Sample ID: 1404659-04CMS				Units: mg/L		Analysis Date: 4/18/2014 01:03 PM		
Client ID:		Run ID: ICPMS1_140417A				SeqNo: 2720739		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Aluminum	0.1838	0.010	0.1	0.06182	122	75-125	0			
Antimony	0.09943	0.0050	0.1	-3.622E-05	99.5	75-125	0			
Arsenic	0.09867	0.0050	0.1	-8.647E-05	98.8	75-125	0			
Barium	0.1019	0.0050	0.1	0.005843	96.1	75-125	0			
Beryllium	0.09789	0.0020	0.1	-5.531E-05	97.9	75-125	0			
Cadmium	0.09966	0.0020	0.1	-2.415E-05	99.7	75-125	0			
Chromium	0.09172	0.0050	0.1	0.0001267	91.6	75-125	0			
Cobalt	0.09089	0.0050	0.1	0.00000871	90.9	75-125	0			
Copper	0.09311	0.0050	0.1	0.0007798	92.3	75-125	0			
Iron	9.445	0.080	10	0.005864	94.4	75-125	0			
Lead	0.09253	0.0050	0.1	0.0003121	92.2	75-125	0			
Manganese	0.09414	0.0050	0.1	0.001515	92.6	75-125	0			
Nickel	0.09201	0.0050	0.1	0.00005368	92	75-125	0			
Selenium	0.09113	0.0050	0.1	-0.000282	91.4	75-125	0			
Silver	0.09071	0.0050	0.1	-0.000055	90.8	75-125	0			
Thallium	0.08813	0.0050	0.1	-7.877E-05	88.2	75-125	0			
Vanadium	0.09381	0.0050	0.1	-4.333E-05	93.9	75-125	0			
Zinc	0.1139	0.010	0.1	0.01568	98.2	75-125	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57620** Instrument ID **ICPMS1** Method: **SW6020A**

MSD					Sample ID: 1404659-04CMSD		Units: mg/L		Analysis Date: 4/18/2014 01:08 PM		
Client ID:			Run ID: ICPMS1_140417A			SeqNo: 2720740		Prep Date: 4/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1916	0.010	0.1	0.06182	130	75-125	0.1838	4.16	20	S	
Antimony	0.1015	0.0050	0.1	-3.622E-05	102	75-125	0.09943	2.06	20		
Arsenic	0.1032	0.0050	0.1	-8.647E-05	103	75-125	0.09867	4.49	20		
Barium	0.1039	0.0050	0.1	0.005843	98.1	75-125	0.1019	1.94	20		
Beryllium	0.09996	0.0020	0.1	-5.531E-05	100	75-125	0.09789	2.09	20		
Cadmium	0.1023	0.0020	0.1	-2.415E-05	102	75-125	0.09966	2.61	20		
Chromium	0.09711	0.0050	0.1	0.0001267	97	75-125	0.09172	5.71	20		
Cobalt	0.09592	0.0050	0.1	0.00000871	95.9	75-125	0.09089	5.39	20		
Copper	0.09784	0.0050	0.1	0.0007798	97.1	75-125	0.09311	4.95	20		
Iron	9.887	0.080	10	0.005864	98.8	75-125	9.445	4.57	20		
Lead	0.09418	0.0050	0.1	0.0003121	93.9	75-125	0.09253	1.77	20		
Manganese	0.09799	0.0050	0.1	0.001515	96.5	75-125	0.09414	4.01	20		
Nickel	0.09663	0.0050	0.1	0.00005368	96.6	75-125	0.09201	4.9	20		
Selenium	0.09495	0.0050	0.1	-0.000282	95.2	75-125	0.09113	4.11	20		
Silver	0.09155	0.0050	0.1	-0.000055	91.6	75-125	0.09071	0.922	20		
Thallium	0.09026	0.0050	0.1	-7.877E-05	90.3	75-125	0.08813	2.39	20		
Vanadium	0.1005	0.0050	0.1	-4.333E-05	101	75-125	0.09381	6.89	20		
Zinc	0.1193	0.010	0.1	0.01568	104	75-125	0.1139	4.63	20		

The following samples were analyzed in this batch:

1404640-02D 1404640-02E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57621** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK		Sample ID: MBLK-57621-57621				Units: mg/L		Analysis Date: 4/18/2014 09:34 PM		
Client ID:		Run ID: ICPMS2_140418A				SeqNo: 2722535		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.0008669	0.010								J
Beryllium	U	0.0020								
Cobalt	U	0.0050								
Copper	U	0.0050								
Manganese	U	0.0050								
Nickel	U	0.0050								
Vanadium	0.0006019	0.0050								J
Zinc	0.002667	0.010								J

MBLK		Sample ID: MBLK-57621-57621				Units: mg/L		Analysis Date: 4/23/2014 09:55 AM		
Client ID:		Run ID: ICPMS2_140422A				SeqNo: 2727349		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	0.0001925	0.0050								J
Cadmium	U	0.0020								
Chromium	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								

LCS		Sample ID: LCS-57621-57621				Units: mg/L		Analysis Date: 4/18/2014 09:39 PM		
Client ID:		Run ID: ICPMS2_140418A				SeqNo: 2722537		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1093	0.010	0.1	0	109	80-120	0			
Beryllium	0.1044	0.0020	0.1	0	104	80-120	0			
Cobalt	0.09672	0.0050	0.1	0	96.7	80-120	0			
Copper	0.1009	0.0050	0.1	0	101	80-120	0			
Manganese	0.09778	0.0050	0.1	0	97.8	80-120	0			
Nickel	0.09958	0.0050	0.1	0	99.6	80-120	0			
Vanadium	0.1012	0.0050	0.1	0	101	80-120	0			
Zinc	0.1033	0.010	0.1	0	103	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57621** Instrument ID **ICPMS2** Method: **SW6020A**

LCS		Sample ID: LCS-57621-57621				Units: mg/L		Analysis Date: 4/23/2014 10:06 AM		
Client ID:		Run ID: ICPMS2_140422A				SeqNo: 2727350		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.1089	0.0050	0.1	0	109	80-120	0			
Arsenic	0.1064	0.0050	0.1	0	106	80-120	0			
Barium	0.1046	0.0050	0.1	0	105	80-120	0			
Cadmium	0.1045	0.0020	0.1	0	104	80-120	0			
Chromium	0.1071	0.0050	0.1	0	107	80-120	0			
Iron	10.9	0.080	10	0	109	80-120	0			
Lead	0.1049	0.0050	0.1	0	105	80-120	0			
Selenium	0.1048	0.0050	0.1	0	105	80-120	0			
Silver	0.1044	0.0050	0.1	0	104	80-120	0			
Thallium	0.1002	0.0050	0.1	0	100	80-120	0			

MS		Sample ID: 1404661-05AMS				Units: mg/L		Analysis Date: 4/18/2014 11:55 PM		
Client ID:		Run ID: ICPMS2_140418A				SeqNo: 2722571		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.101	0.0050	0.1	0.00002843	101	75-125	0			
Arsenic	0.1015	0.0050	0.1	-0.0002916	102	75-125	0			
Barium	0.1303	0.0050	0.1	0.03114	99.2	75-125	0			
Beryllium	0.09883	0.0020	0.1	0.0001554	98.7	75-125	0			
Cadmium	0.09851	0.0020	0.1	2.286E-07	98.5	75-125	0			
Chromium	0.09743	0.0050	0.1	0.0005022	96.9	75-125	0			
Cobalt	0.09322	0.0050	0.1	0.0009823	92.2	75-125	0			
Copper	0.0964	0.0050	0.1	0.004002	92.4	75-125	0			
Iron	10.13	0.080	10	0.2657	98.6	75-125	0			
Lead	0.1003	0.0050	0.1	0.00005186	100	75-125	0			
Manganese	0.1189	0.0050	0.1	0.02638	92.5	75-125	0			
Nickel	0.09912	0.0050	0.1	0.007112	92	75-125	0			
Selenium	0.09996	0.0050	0.1	-1.134E-05	100	75-125	0			
Silver	0.09197	0.0050	0.1	9.552E-06	92	75-125	0			
Thallium	0.09813	0.0050	0.1	-2.643E-05	98.2	75-125	0			
Vanadium	0.09871	0.0050	0.1	0.0006364	98.1	75-125	0			
Zinc	0.09929	0.010	0.1	0.003847	95.4	75-125	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57621** Instrument ID **ICPMS2** Method: **SW6020A**

MSD				Sample ID: 1404661-05AMSD			Units: mg/L		Analysis Date: 4/19/2014 12:01 AM		
Client ID:			Run ID: ICPMS2_140418A			SeqNo: 2722572		Prep Date: 4/16/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	0.102	0.0050	0.1	0.00002843	102	75-125	0.101	0.985	20		
Arsenic	0.1014	0.0050	0.1	-0.0002916	102	75-125	0.1015	0.0986	20		
Barium	0.1321	0.0050	0.1	0.03114	101	75-125	0.1303	1.37	20		
Beryllium	0.09982	0.0020	0.1	0.0001554	99.7	75-125	0.09883	0.997	20		
Cadmium	0.09999	0.0020	0.1	2.286E-07	100	75-125	0.09851	1.49	20		
Chromium	0.09737	0.0050	0.1	0.0005022	96.9	75-125	0.09743	0.0616	20		
Cobalt	0.0939	0.0050	0.1	0.0009823	92.9	75-125	0.09322	0.727	20		
Copper	0.09683	0.0050	0.1	0.004002	92.8	75-125	0.0964	0.445	20		
Iron	10.09	0.080	10	0.2657	98.2	75-125	10.13	0.396	20		
Lead	0.1012	0.0050	0.1	0.00005186	101	75-125	0.1003	0.893	20		
Manganese	0.1196	0.0050	0.1	0.02638	93.2	75-125	0.1189	0.587	20		
Nickel	0.1002	0.0050	0.1	0.007112	93.1	75-125	0.09912	1.08	20		
Selenium	0.1016	0.0050	0.1	-1.134E-05	102	75-125	0.09996	1.63	20		
Silver	0.09213	0.0050	0.1	9.552E-06	92.1	75-125	0.09197	0.174	20		
Thallium	0.09904	0.0050	0.1	-2.643E-05	99.1	75-125	0.09813	0.923	20		
Vanadium	0.09867	0.0050	0.1	0.0006364	98	75-125	0.09871	0.0405	20		
Zinc	0.09977	0.010	0.1	0.003847	95.9	75-125	0.09929	0.482	20		

The following samples were analyzed in this batch:

1404640-04D 1404640-04E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57700** Instrument ID **ICPMS2** Method: **SW6020A**

Sample ID: MBLK-57700-57700				Units: mg/L		Analysis Date: 4/17/2014 05:51 PM				
Client ID:		Run ID: ICPMS2_140417A			SeqNo: 2719197		Prep Date: 4/17/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	0.002965	0.0050								J
Arsenic	U	0.0050								
Barium	0.00007654	0.0050								J
Beryllium	0.0001231	0.0020								J
Cadmium	0.0001613	0.0020								J
Chromium	0.0004577	0.0050								J
Cobalt	0.00006341	0.0050								J
Copper	U	0.0050								
Iron	0.01937	0.080								J
Manganese	0.0002026	0.0050								J
Nickel	U	0.0050								
Selenium	0.001158	0.0050								J
Silver	0.0004314	0.0050								J
Zinc	0.002549	0.010								J

MBLK		Sample ID: MBLK-57700-57700				Units: mg/L		Analysis Date: 4/18/2014 02:52 PM		
Client ID:		Run ID: ICPMS2_140418A		SeqNo: 2720977		Prep Date: 4/17/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.0001688	0.0050								J
Thallium	0.0001365	0.0050								J
Vanadium	U	0.0050								

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57700** Instrument ID **ICPMS2** Method: **SW6020A**

LCS		Sample ID: LCS-57700-57700				Units: mg/L		Analysis Date: 4/17/2014 05:57 PM		
Client ID:		Run ID: ICPMS2_140417A				SeqNo: 2719198		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09315	0.010	0.1	0	93.2	80-120	0			
Antimony	0.0993	0.0050	0.1	0	99.3	80-120	0			
Arsenic	0.09884	0.0050	0.1	0	98.8	80-120	0			
Barium	0.09888	0.0050	0.1	0	98.9	80-120	0			
Beryllium	0.09875	0.0020	0.1	0	98.8	80-120	0			
Cadmium	0.1005	0.0020	0.1	0	100	80-120	0			
Chromium	0.09849	0.0050	0.1	0	98.5	80-120	0			
Cobalt	0.0912	0.0050	0.1	0	91.2	80-120	0			
Copper	0.09867	0.0050	0.1	0	98.7	80-120	0			
Iron	10.01	0.080	10	0	100	80-120	0			
Manganese	0.09639	0.0050	0.1	0	96.4	80-120	0			
Nickel	0.09697	0.0050	0.1	0	97	80-120	0			
Selenium	0.09741	0.0050	0.1	0	97.4	80-120	0			
Silver	0.09405	0.0050	0.1	0	94	80-120	0			
Vanadium	0.102	0.0050	0.1	0	102	80-120	0			
Zinc	0.1019	0.010	0.1	0	102	80-120	0			

LCS		Sample ID: LCS-57700-57700				Units: mg/L		Analysis Date: 4/18/2014 02:58 PM		
Client ID:		Run ID: ICPMS2_140418A				SeqNo: 2720978		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	0.09946	0.0050	0.1	0	99.5	80-120	0			
Thallium	0.09489	0.0050	0.1	0	94.9	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57700** Instrument ID **ICPMS2** Method: **SW6020A**

MS		Sample ID: 1404779-04AMS				Units: mg/L		Analysis Date: 4/17/2014 07:55 PM		
Client ID:		Run ID: ICPMS2_140417A				SeqNo: 2719218		Prep Date: 4/17/2014		DF: 2.5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.9525	0.25	1	0.01225	94	75-125	0			
Antimony	0.9792	0.12	1	0.03648	94.3	75-125	0			
Arsenic	0.9395	0.12	1	-0.006375	94.6	75-125	0			
Barium	1.184	0.12	1	0.2742	91	75-125	0			
Beryllium	1.034	0.050	1	-0.001947	104	75-125	0			
Cadmium	0.9245	0.050	1	0.005092	91.9	75-125	0			
Chromium	0.9322	0.12	1	0.01108	92.1	75-125	0			
Copper	0.9278	0.12	1	0.02622	90.2	75-125	0			
Iron	94.85	2.0	100	0.17	94.7	75-125	0			
Lead	0.9408	0.12	1	0.02046	92	75-125	0			
Manganese	0.873	0.12	1	0.001849	87.1	75-125	0			
Nickel	0.9695	0.12	1	0.07198	89.8	75-125	0			
Selenium	0.958	0.12	1	0.006658	95.1	75-125	0			
Silver	0.8998	0.12	1	-0.000981	90.1	75-125	0			
Thallium	0.878	0.12	1	-0.0004138	87.8	75-125	0			
Vanadium	0.948	0.12	1	-0.00869	95.7	75-125	0			B
Zinc	0.96	0.25	1	0.04248	91.8	75-125	0			

MS		Sample ID: 1404779-04AMS				Units: mg/L		Analysis Date: 4/18/2014 03:43 PM		
Client ID:		Run ID: ICPMS2_140418A				SeqNo: 2720991		Prep Date: 4/17/2014		DF: 2.5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cobalt	0.9722	0.12	1	0	97.2	75-125	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57700** Instrument ID **ICPMS2** Method: **SW6020A**

MSD				Sample ID: 1404779-04AMSD			Units: mg/L		Analysis Date: 4/17/2014 08:01 PM		
Client ID:			Run ID: ICPMS2_140417A			SeqNo: 2719219		Prep Date: 4/17/2014		DF: 2.5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.9562	0.25	1	0.01225	94.4	75-125	0.9525	0.393	20		
Antimony	1	0.12	1	0.03648	96.4	75-125	0.9792	2.15	20		
Arsenic	0.9605	0.12	1	-0.006375	96.7	75-125	0.9395	2.21	20		
Barium	1.213	0.12	1	0.2742	93.8	75-125	1.184	2.36	20		
Beryllium	1.046	0.050	1	-0.001947	105	75-125	1.034	1.15	20		
Cadmium	0.9402	0.050	1	0.005092	93.5	75-125	0.9245	1.69	20		
Chromium	0.954	0.12	1	0.01108	94.3	75-125	0.9322	2.31	20		
Copper	0.943	0.12	1	0.02622	91.7	75-125	0.9278	1.63	20		
Iron	96.4	2.0	100	0.17	96.2	75-125	94.85	1.62	20		
Lead	0.959	0.12	1	0.02046	93.9	75-125	0.9408	1.92	20		
Manganese	0.8802	0.12	1	0.001849	87.8	75-125	0.873	0.827	20		
Nickel	0.985	0.12	1	0.07198	91.3	75-125	0.9695	1.59	20		
Selenium	0.9645	0.12	1	0.006658	95.8	75-125	0.958	0.676	20		
Silver	0.9118	0.12	1	-0.000981	91.3	75-125	0.8998	1.32	20		
Thallium	0.9045	0.12	1	-0.0004138	90.5	75-125	0.878	2.97	20		
Vanadium	0.8662	0.12	1	-0.00869	87.5	75-125	0.948	9.01	20	B	
Zinc	0.9718	0.25	1	0.04248	92.9	75-125	0.96	1.22	20		

MSD					Sample ID: 1404779-04AMSD					Units: mg/L			Analysis Date: 4/18/2014 03:48 PM		
Client ID:				Run ID: ICPMS2_140418A				SeqNo: 2720993			Prep Date: 4/17/2014			DF: 2.5	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Cobalt		0.9788	0.12	1	0	97.9	75-125	0.9722	0.666	20					

The following samples were analyzed in this batch: 1404640-06D 1404640-06E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57775** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57775-57775				Units: mg/Kg		Analysis Date: 4/20/2014 08:24 PM		
Client ID:		Run ID: ICPMS1_140420A				SeqNo: 2722091		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Selenium U 0.25

LCS		Sample ID: LCS-57775-57775				Units: mg/Kg		Analysis Date: 4/20/2014 08:30 PM		
Client ID:		Run ID: ICPMS1_140420A				SeqNo: 2722092		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Selenium 4.39 0.25 5 0 87.8 80-120 0

MS		Sample ID: 1404595-01AMS				Units: mg/Kg		Analysis Date: 4/20/2014 08:42 PM		
Client ID:		Run ID: ICPMS1_140420A				SeqNo: 2722094		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Selenium 6.588 0.39 7.825 0.2102 81.5 75-125 0

MSD		Sample ID: 1404595-01AMSD				Units: mg/Kg		Analysis Date: 4/20/2014 08:49 PM		
Client ID:		Run ID: ICPMS1_140420A				SeqNo: 2722095		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Selenium 6.621 0.38 7.53 0.2102 85.1 75-125 6.588 0.497 25

The following samples were analyzed in this batch:

1404640-01B	1404640-03B	1404640-05B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57558** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKW1-57558-57558				Units: µg/L		Analysis Date: 4/16/2014 12:15 PM		
Client ID:		Run ID: SVMS8_140416A				SeqNo: 2716783		Prep Date: 4/15/2014		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	1.0								
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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57558	Instrument ID SVMS8	Method: SW8270						
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>	<i>32.64</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>65.3</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>30.11</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>60.2</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>19.83</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>39.7</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>45.57</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>91.1</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>30.8</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>61.6</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>11.08</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>22.2</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57558** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-57558-57558				Units: µg/L		Analysis Date: 4/16/2014 12:35 PM		
Client ID:		Run ID: SVMS8_140416A				SeqNo: 2716784		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	13.62	5.0	20	0	68.1	50-110	0			
2,4,6-Trichlorophenol	13.2	5.0	20	0	66	50-115	0			
2,4-Dichlorophenol	11.72	10	20	0	58.6	50-105	0			
2,4-Dimethylphenol	9.94	5.0	20	0	49.7	30-110	0			
2,4-Dinitrophenol	9.56	5.0	20	0	47.8	15-140	0			
2,4-Dinitrotoluene	13.41	5.0	20	0	67	50-120	0			
2,6-Dinitrotoluene	13.42	5.0	20	0	67.1	50-115	0			
2-Chloronaphthalene	13.19	5.0	20	0	66	50-105	0			
2-Chlorophenol	11.03	5.0	20	0	55.2	35-105	0			
2-Methylnaphthalene	11.97	5.0	20	0	59.8	45-105	0			
2-Methylphenol	9.25	5.0	20	0	46.2	40-110	0			
2-Nitroaniline	13.63	20	20	0	68.2	50-115	0			J
2-Nitrophenol	12.39	5.0	20	0	62	40-115	0			
3-Nitroaniline	12.29	20	20	0	61.4	20-125	0			J
4,6-Dinitro-2-methylphenol	13.47	20	20	0	67.4	40-130	0			J
4-Bromophenyl phenyl ether	14.94	5.0	20	0	74.7	50-115	0			
4-Chloro-3-methylphenol	11.97	5.0	20	0	59.8	45-110	0			
4-Chloroaniline	11.7	20	20	0	58.5	15-110	0			J
4-Chlorophenyl phenyl ether	12.8	5.0	20	0	64	50-110	0			
4-Methylphenol	8.54	5.0	20	0	42.7	30-110	0			
4-Nitroaniline	13.66	20	20	0	68.3	35-150	0			J
4-Nitrophenol	7.9	20	20	0	39.5	1-58	0			J
Acenaphthene	12.09	5.0	20	0	60.4	45-110	0			
Acenaphthylene	12.91	5.0	20	0	64.6	50-105	0			
Anthracene	14.82	5.0	20	0	74.1	55-110	0			
Benzo(a)anthracene	14.96	5.0	20	0	74.8	55-110	0			
Benzo(a)pyrene	16.2	5.0	20	0	81	55-110	0			
Benzo(b)fluoranthene	16.1	5.0	20	0	80.5	45-120	0			
Benzo(g,h,i)perylene	15.43	5.0	20	0	77.2	40-125	0			
Benzo(k)fluoranthene	16.08	5.0	20	0	80.4	45-125	0			
Bis(2-chloroethoxy)methane	12.34	5.0	20	0	61.7	45-105	0			
Bis(2-chloroethyl)ether	11.96	5.0	20	0	59.8	35-110	0			
Bis(2-chloroisopropyl)ether	11.28	5.0	20	0	56.4	25-130	0			
Bis(2-ethylhexyl)phthalate	17.16	5.0	20	0	85.8	40-125	0			
Butyl benzyl phthalate	16.43	5.0	20	0	82.2	45-115	0			
Carbazole	14.71	10	20	0	73.6	50-150	0			
Chrysene	15.44	5.0	20	0	77.2	55-110	0			
Dibenzo(a,h)anthracene	15.21	5.0	20	0	76	40-125	0			
Dibenzofuran	12.78	5.0	20	0	63.9	55-105	0			
Diethyl phthalate	14.56	20	20	0	72.8	40-120	0			J
Dimethyl phthalate	13.74	20	20	0	68.7	25-125	0			J
Di-n-butyl phthalate	16.19	5.0	20	0	81	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57558		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	19.59	5.0	20	0	98	35-135	0	
Fluoranthene	16.48	5.0	20	0	82.4	55-115	0	
Fluorene	12.61	5.0	20	0	63	50-110	0	
Hexachlorobenzene	15.02	5.0	20	0	75.1	50-110	0	
Hexachlorobutadiene	12.2	5.0	20	0	61	25-105	0	
Hexachlorocyclopentadiene	5.15	20	20	0	25.8	25-105	0	J
Hexachloroethane	11.98	5.0	20	0	59.9	30-95	0	
Indeno(1,2,3-cd)pyrene	15.81	5.0	20	0	79	45-125	0	
Isophorone	12.82	5.0	20	0	64.1	50-110	0	
Naphthalene	11.46	5.0	20	0	57.3	40-100	0	
Nitrobenzene	12.17	5.0	20	0	60.8	45-110	0	
N-Nitrosodi-n-propylamine	13.54	5.0	20	0	67.7	35-130	0	
N-Nitrosodiphenylamine	14.58	5.0	20	0	72.9	50-110	0	
Pentachlorophenol	9.46	20	20	0	47.3	40-115	0	J
Phenanthrene	13.64	5.0	20	0	68.2	50-115	0	
Phenol	5.46	5.0	20	0	27.3	12-43	0	
Pyrene	16.12	5.0	20	0	80.6	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>34.87</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>69.7</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>28.21</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>56.4</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>15.65</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>31.3</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>41.37</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>82.7</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>32.18</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>64.4</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>10.31</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>20.6</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57558** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1404572-07B MS			Units: µg/L		Analysis Date: 4/16/2014 02:18 PM	
Client ID:				Run ID: SVMS8_140416A			SeqNo: 2716785		Prep Date: 4/15/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	151.1	50	200	0	75.6	50-110	0			
2,4,6-Trichlorophenol	145.9	50	200	0	73	50-115	0			
2,4-Dichlorophenol	128.5	100	200	0	64.2	50-105	0			
2,4-Dimethylphenol	116.3	50	200	0	58.2	30-110	0			
2,4-Dinitrophenol	105.8	50	200	0	52.9	15-140	0			
2,4-Dinitrotoluene	156.3	50	200	0	78.2	50-120	0			
2,6-Dinitrotoluene	154.1	50	200	0	77	50-115	0			
2-Chloronaphthalene	149.3	50	200	0	74.6	50-105	0			
2-Chlorophenol	126.6	50	200	0	63.3	35-105	0			
2-Methylnaphthalene	132	50	200	0	66	45-105	0			
2-Methylphenol	110.3	50	200	0	55.2	40-110	0			
2-Nitroaniline	158.1	200	200	0	79	50-115	0			J
2-Nitrophenol	133.2	50	200	0	66.6	40-115	0			
3-Nitroaniline	141.6	200	200	0	70.8	20-125	0			J
4,6-Dinitro-2-methylphenol	143.1	200	200	0	71.6	40-130	0			J
4-Bromophenyl phenyl ether	166.7	50	200	0	83.4	50-115	0			
4-Chloro-3-methylphenol	137.8	50	200	0	68.9	45-110	0			
4-Chloroaniline	132.4	200	200	0	66.2	15-110	0			J
4-Chlorophenyl phenyl ether	150.7	50	200	0	75.4	50-110	0			
4-Methylphenol	100.5	50	200	0	50.2	30-110	0			
4-Nitroaniline	152.8	200	200	0	76.4	35-150	0			J
4-Nitrophenol	95.1	200	200	0	47.6	1-58	0			J
Acenaphthene	137.3	50	200	0	68.6	45-110	0			
Acenaphthylene	147.9	50	200	0	74	50-105	0			
Anthracene	158.7	50	200	0	79.4	55-110	0			
Benzo(a)anthracene	157.2	50	200	0	78.6	55-110	0			
Benzo(a)pyrene	165.8	50	200	0	82.9	55-110	0			
Benzo(b)fluoranthene	161.1	50	200	0	80.6	45-120	0			
Benzo(g,h,i)perylene	156.9	50	200	0	78.4	40-125	0			
Benzo(k)fluoranthene	170.3	50	200	0	85.2	45-125	0			
Bis(2-chloroethoxy)methane	137.3	50	200	0	68.6	45-105	0			
Bis(2-chloroethyl)ether	135.8	50	200	0	67.9	35-110	0			
Bis(2-chloroisopropyl)ether	124.2	50	200	0	62.1	25-130	0			
Bis(2-ethylhexyl)phthalate	179	50	200	0	89.5	40-125	0			
Butyl benzyl phthalate	169.8	50	200	0	84.9	45-115	0			
Carbazole	159.5	100	200	0	79.8	50-150	0			
Chrysene	160	50	200	0	80	55-110	0			
Dibenzo(a,h)anthracene	169	50	200	0	84.5	40-125	0			
Dibenzofuran	142.7	50	200	0	71.4	55-105	0			
Diethyl phthalate	164.9	200	200	0	82.4	40-120	0			J
Dimethyl phthalate	160.6	200	200	0	80.3	25-125	0			J
Di-n-butyl phthalate	169.1	50	200	0	84.6	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57558		Instrument ID SVMS8		Method: SW8270					
Di-n-octyl phthalate	205.4	50	200	0	103	35-135	0		
Fluoranthene	169.3	50	200	0	84.6	55-115	0		
Fluorene	145.3	50	200	0	72.6	50-110	0		
Hexachlorobenzene	152.1	50	200	0	76	50-110	0		
Hexachlorobutadiene	130.5	50	200	0	65.2	25-105	0		
Hexachlorocyclopentadiene	57.4	200	200	0	28.7	25-105	0		J
Hexachloroethane	129.7	50	200	0	64.8	30-95	0		
Indeno(1,2,3-cd)pyrene	164.5	50	200	0	82.2	45-125	0		
Isophorone	140.6	50	200	0	70.3	50-110	0		
Naphthalene	124.8	50	200	0	62.4	40-100	0		
Nitrobenzene	131.6	50	200	0	65.8	45-110	0		
N-Nitrosodi-n-propylamine	146.7	50	200	0	73.4	35-130	0		
N-Nitrosodiphenylamine	152.5	50	200	0	76.2	50-110	0		
Pentachlorophenol	107.1	200	200	0	53.6	40-115	0		J
Phenanthrene	146	50	200	0	73	50-115	0		
Phenol	59.6	50	200	0	29.8	12-43	0		
Pyrene	168	50	200	0	84	50-130	0		
<i>Surr: 2,4,6-Tribromophenol</i>	<i>387.3</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>77.5</i>	<i>38-115</i>	<i>0</i>		
<i>Surr: 2-Fluorobiphenyl</i>	<i>329.9</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>66</i>	<i>32-100</i>	<i>0</i>		
<i>Surr: 2-Fluorophenol</i>	<i>182.9</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>36.6</i>	<i>22-59</i>	<i>0</i>		
<i>Surr: 4-Terphenyl-d14</i>	<i>452.8</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>90.6</i>	<i>23-112</i>	<i>0</i>		
<i>Surr: Nitrobenzene-d5</i>	<i>341.1</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>68.2</i>	<i>31-93</i>	<i>0</i>		
<i>Surr: Phenol-d6</i>	<i>112.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>22.5</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57558** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 1404572-07B MSD			Units: µg/L		Analysis Date: 4/16/2014 02:39 PM		
Client ID:		Run ID: SVMS8_140416A			SeqNo: 2716786		Prep Date: 4/15/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	144.5	50	200	0	72.2	50-110	151.1	4.47	30		
2,4,6-Trichlorophenol	143.3	50	200	0	71.6	50-115	145.9	1.8	30		
2,4-Dichlorophenol	130	100	200	0	65	50-105	128.5	1.16	30		
2,4-Dimethylphenol	112.8	50	200	0	56.4	30-110	116.3	3.06	30		
2,4-Dinitrophenol	100.6	50	200	0	50.3	15-140	105.8	5.04	30		
2,4-Dinitrotoluene	154.8	50	200	0	77.4	50-120	156.3	0.964	30		
2,6-Dinitrotoluene	154.6	50	200	0	77.3	50-115	154.1	0.324	30		
2-Chloronaphthalene	144.1	50	200	0	72	50-105	149.3	3.54	30		
2-Chlorophenol	128.1	50	200	0	64	35-105	126.6	1.18	30		
2-Methylnaphthalene	136.1	50	200	0	68	45-105	132	3.06	30		
2-Methylphenol	112.1	50	200	0	56	40-110	110.3	1.62	30		
2-Nitroaniline	157.1	200	200	0	78.6	50-115	158.1	0	30	J	
2-Nitrophenol	133.3	50	200	0	66.6	40-115	133.2	0.075	30		
3-Nitroaniline	141.6	200	200	0	70.8	20-125	141.6	0	30	J	
4,6-Dinitro-2-methylphenol	137.1	200	200	0	68.6	40-130	143.1	0	30	J	
4-Bromophenyl phenyl ether	164.5	50	200	0	82.2	50-115	166.7	1.33	30		
4-Chloro-3-methylphenol	136.7	50	200	0	68.4	45-110	137.8	0.801	30		
4-Chloroaniline	136.2	200	200	0	68.1	15-110	132.4	0	30	J	
4-Chlorophenyl phenyl ether	148.8	50	200	0	74.4	50-110	150.7	1.27	30		
4-Methylphenol	103	50	200	0	51.5	30-110	100.5	2.46	30		
4-Nitroaniline	149	200	200	0	74.5	35-150	152.8	0	30	J	
4-Nitrophenol	93	200	200	0	46.5	1-58	95.1	0	0	J	
Acenaphthene	141.5	50	200	0	70.8	45-110	137.3	3.01	30		
Acenaphthylene	145.1	50	200	0	72.6	50-105	147.9	1.91	30		
Anthracene	161.1	50	200	0	80.6	55-110	158.7	1.5	30		
Benzo(a)anthracene	158	50	200	0	79	55-110	157.2	0.508	30		
Benzo(a)pyrene	168	50	200	0	84	55-110	165.8	1.32	30		
Benzo(b)fluoranthene	167.4	50	200	0	83.7	45-120	161.1	3.84	30		
Benzo(g,h,i)perylene	157.6	50	200	0	78.8	40-125	156.9	0.445	30		
Benzo(k)fluoranthene	168.6	50	200	0	84.3	45-125	170.3	1	30		
Bis(2-chloroethoxy)methane	140	50	200	0	70	45-105	137.3	1.95	30		
Bis(2-chloroethyl)ether	135.9	50	200	0	68	35-110	135.8	0.0736	30		
Bis(2-chloroisopropyl)ether	123.2	50	200	0	61.6	25-130	124.2	0.808	30		
Bis(2-ethylhexyl)phthalate	178.7	50	200	0	89.4	40-125	179	0.168	30		
Butyl benzyl phthalate	172.6	50	200	0	86.3	45-115	169.8	1.64	30		
Carbazole	160	100	200	0	80	50-150	159.5	0.313	30		
Chrysene	161.7	50	200	0	80.8	55-110	160	1.06	30		
Dibenzo(a,h)anthracene	167.5	50	200	0	83.8	40-125	169	0.892	30		
Dibenzofuran	144.2	50	200	0	72.1	55-105	142.7	1.05	30		
Diethyl phthalate	167.7	200	200	0	83.8	40-120	164.9	0	30	J	
Dimethyl phthalate	162	200	200	0	81	25-125	160.6	0	30	J	
Di-n-butyl phthalate	172.8	50	200	0	86.4	55-115	169.1	2.16	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57558		Instrument ID SVMS8		Method: SW8270					
Di-n-octyl phthalate	204.5	50	200	0	102	35-135	205.4	0.439	30
Fluoranthene	171.5	50	200	0	85.8	55-115	169.3	1.29	30
Fluorene	146.1	50	200	0	73	50-110	145.3	0.549	30
Hexachlorobenzene	159.9	50	200	0	80	50-110	152.1	5	30
Hexachlorobutadiene	132.9	50	200	0	66.4	25-105	130.5	1.82	30
Hexachlorocyclopentadiene	59.3	200	200	0	29.6	25-105	57.4	0	30 J
Hexachloroethane	133	50	200	0	66.5	30-95	129.7	2.51	30
Indeno(1,2,3-cd)pyrene	165.6	50	200	0	82.8	45-125	164.5	0.666	30
Isophorone	141.5	50	200	0	70.8	50-110	140.6	0.638	30
Naphthalene	127.5	50	200	0	63.8	40-100	124.8	2.14	30
Nitrobenzene	132	50	200	0	66	45-110	131.6	0.303	30
N-Nitrosodi-n-propylamine	148.3	50	200	0	74.2	35-130	146.7	1.08	30
N-Nitrosodiphenylamine	159.1	50	200	0	79.6	50-110	152.5	4.24	30
Pentachlorophenol	107.8	200	200	0	53.9	40-115	107.1	0	30 J
Phenanthrene	147.1	50	200	0	73.6	50-115	146	0.751	30
Phenol	58.2	50	200	0	29.1	12-43	59.6	2.38	30
Pyrene	168.4	50	200	0	84.2	50-130	168	0.238	30
<i>Surr: 2,4,6-Tribromophenol</i>	396	0	500	0	79.2	38-115	387.3	2.22	40
<i>Surr: 2-Fluorobiphenyl</i>	325.4	0	500	0	65.1	32-100	329.9	1.37	40
<i>Surr: 2-Fluorophenol</i>	183.5	0	500	0	36.7	22-59	182.9	0.328	40
<i>Surr: 4-Terphenyl-d14</i>	456	0	500	0	91.2	23-112	452.8	0.704	40
<i>Surr: Nitrobenzene-d5</i>	349.5	0	500	0	69.9	31-93	341.1	2.43	40
<i>Surr: Phenol-d6</i>	111.3	0	500	0	22.3	13-36	112.4	0.983	40

The following samples were analyzed in this batch:

1404640-02B	1404640-04B	1404640-06B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57611** Instrument ID **SVMS7** Method: **SW8270**

MBLK				Sample ID: SBLKS1-57611-57611		Units: µg/Kg		Analysis Date: 4/16/2014 07:17 PM			
Client ID:			Run ID: SVMS7_140416A			SeqNo: 2718241		Prep Date: 4/16/2014		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	6.7									
2-Chlorophenol	U	160									
2-Methylnaphthalene	U	6.7									
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	6.7									
Acenaphthylene	U	6.7									
Acetophenone	U	330									
Anthracene	U	6.7									
Atrazine	U	330									
Benzaldehyde	U	330									
Benzo(a)anthracene	U	6.7									
Benzo(a)pyrene	U	6.7									
Benzo(b)fluoranthene	U	6.7									
Benzo(g,h,i)perylene	U	6.7									
Benzo(k)fluoranthene	U	6.7									
Bis(2-chloroethoxy)methane	U	160									
Bis(2-chloroethyl)ether	U	160									
Bis(2-chloroisopropyl)ether	U	160									
Bis(2-ethylhexyl)phthalate	U	330									
Butyl benzyl phthalate	U	160									
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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57611		Instrument ID SVMS7		Method: SW8270				
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
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	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	160						
Naphthalene	U	6.7						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	6.7						
Phenol	U	160						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1301</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>78</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>1367</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>82</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>1399</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>83.9</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>1989</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>119</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>1048</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>62.9</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>1181</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>70.8</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57611** Instrument ID **SVMS7** Method: **SW8270**

LCS		Sample ID: SLCSS1-57611-57611				Units: µg/Kg		Analysis Date: 4/16/2014 07:40 PM		
Client ID:		Run ID: SVMS7_140416A				SeqNo: 2718242		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	607.3	160	666.7	0	91.1	50-110	0			
2,4,6-Trichlorophenol	525.3	160	666.7	0	78.8	45-110	0			
2,4-Dichlorophenol	505	160	666.7	0	75.7	45-110	0			
2,4-Dimethylphenol	511.7	330	666.7	0	76.7	30-105	0			
2,4-Dinitrophenol	428	660	666.7	0	64.2	15-130	0			J
2,4-Dinitrotoluene	530	160	666.7	0	79.5	50-115	0			
2,6-Dinitrotoluene	579.3	160	666.7	0	86.9	50-110	0			
2-Chloronaphthalene	561	6.7	666.7	0	84.1	45-105	0			
2-Chlorophenol	552.7	160	666.7	0	82.9	45-105	0			
2-Methylnaphthalene	552	6.7	666.7	0	82.8	45-105	0			
2-Methylphenol	502	160	666.7	0	75.3	40-105	0			
2-Nitroaniline	551.3	660	666.7	0	82.7	45-120	0			J
2-Nitrophenol	489.7	160	666.7	0	73.4	40-110	0			
3-Nitroaniline	385.7	660	666.7	0	57.8	25-150	0			J
4-Bromophenyl phenyl ether	652	160	666.7	0	97.8	45-115	0			
4-Chloro-3-methylphenol	507.7	160	666.7	0	76.1	45-115	0			
4-Chloroaniline	261	660	666.7	0	39.1	15-110	0			J
4-Chlorophenyl phenyl ether	544.3	160	666.7	0	81.6	45-110	0			
4-Methylphenol	569.3	160	666.7	0	85.4	40-105	0			
4-Nitroaniline	285.3	660	666.7	0	42.8	35-150	0			J
4-Nitrophenol	474.7	660	666.7	0	71.2	15-140	0			J
Acenaphthene	553.7	6.7	666.7	0	83	45-110	0			
Acenaphthylene	567.7	6.7	666.7	0	85.1	45-105	0			
Anthracene	602	6.7	666.7	0	90.3	55-105	0			
Benzo(a)anthracene	625.7	6.7	666.7	0	93.8	50-110	0			
Benzo(a)pyrene	669.3	6.7	666.7	0	100	50-110	0			
Benzo(b)fluoranthene	690	6.7	666.7	0	103	45-115	0			
Benzo(g,h,i)perylene	572.7	6.7	666.7	0	85.9	40-125	0			
Benzo(k)fluoranthene	715.3	6.7	666.7	0	107	45-115	0			
Bis(2-chloroethoxy)methane	518.3	160	666.7	0	77.7	45-110	0			
Bis(2-chloroethyl)ether	579	160	666.7	0	86.8	40-105	0			
Bis(2-chloroisopropyl)ether	521.7	160	666.7	0	78.2	20-115	0			
Bis(2-ethylhexyl)phthalate	704.3	330	666.7	0	106	45-125	0			
Butyl benzyl phthalate	747	160	666.7	0	112	50-125	0			
Carbazole	614.3	160	666.7	0	92.1	50-150	0			
Chrysene	648.3	6.7	666.7	0	97.2	55-110	0			
Dibenzo(a,h)anthracene	554.7	6.7	666.7	0	83.2	40-125	0			
Dibenzofuran	540.3	160	666.7	0	81	50-105	0			
Diethyl phthalate	527	330	666.7	0	79	50-115	0			
Dimethyl phthalate	573.7	330	666.7	0	86	50-110	0			
Di-n-butyl phthalate	581.7	330	666.7	0	87.2	55-110	0			
Di-n-octyl phthalate	809.7	160	666.7	0	121	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57611		Instrument ID SVMS7		Method: SW8270			
Fluoranthene	551	6.7	666.7	0	82.6	55-115	0
Fluorene	582.7	6.7	666.7	0	87.4	50-110	0
Hexachlorobenzene	615	160	666.7	0	92.2	45-120	0
Hexachlorobutadiene	582	160	666.7	0	87.3	40-115	0
Hexachlorocyclopentadiene	515.3	330	666.7	0	77.3	40-115	0
Hexachloroethane	601	160	666.7	0	90.1	35-110	0
Indeno(1,2,3-cd)pyrene	604.3	6.7	666.7	0	90.6	40-120	0
Isophorone	540.3	160	666.7	0	81	45-110	0
Naphthalene	543.3	6.7	666.7	0	81.5	40-105	0
Nitrobenzene	541	160	666.7	0	81.1	40-115	0
N-Nitrosodi-n-propylamine	490.3	160	666.7	0	73.5	40-115	0
N-Nitrosodiphenylamine	677.3	160	666.7	0	102	50-115	0
Pentachlorophenol	528.7	330	666.7	0	79.3	25-120	0
Phenanthrene	597.7	6.7	666.7	0	89.6	50-110	0
Phenol	510.3	160	666.7	0	76.5	40-100	0
Pyrene	718	6.7	666.7	0	108	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1594</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>95.6</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1433</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>86</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1403</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>84.2</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>2112</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>127</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1231</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>73.8</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1220</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>73.2</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57611** Instrument ID **SVMS7** Method: **SW8270**

MS				Sample ID: 1404632-01C MS			Units: µg/Kg		Analysis Date: 4/16/2014 10:42 PM	
Client ID:				Run ID: SVMS7_140416A			SeqNo: 2718243		Prep Date: 4/16/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1076	310	1286	0	83.7	50-110	0			
2,4,6-Trichlorophenol	904.8	310	1286	0	70.3	45-110	0			
2,4-Dichlorophenol	818.6	310	1286	0	63.6	45-110	0			
2,4-Dimethylphenol	878.4	640	1286	0	68.3	30-105	0			
2,4-Dinitrophenol	830.8	1,300	1286	0	64.6	15-130	0			J
2,4-Dinitrotoluene	1023	310	1286	0	79.5	50-115	0			
2,6-Dinitrotoluene	1004	310	1286	0	78	50-110	0			
2-Chloronaphthalene	918.9	13	1286	0	71.4	45-105	0			
2-Chlorophenol	808.3	310	1286	0	62.8	45-105	0			
2-Methylnaphthalene	882.9	13	1286	0	68.6	45-105	0			
2-Methylphenol	738.9	310	1286	0	57.4	40-105	0			
2-Nitroaniline	971.6	1,300	1286	0	75.5	45-120	0			J
2-Nitrophenol	747.9	310	1286	0	58.1	40-110	0			
3-Nitroaniline	724.7	1,300	1286	0	56.3	25-110	0			J
4-Bromophenyl phenyl ether	1177	310	1286	0	91.5	45-115	0			
4-Chloro-3-methylphenol	946.6	310	1286	0	73.6	45-115	0			
4-Chloroaniline	367.2	1,300	1286	0	28.5	15-110	0			J
4-Chlorophenyl phenyl ether	953.6	310	1286	0	74.1	45-110	0			
4-Methylphenol	825	310	1286	0	64.1	40-105	0			
4-Nitroaniline	723.4	1,300	1286	0	56.2	35-150	0			J
4-Nitrophenol	798	1,300	1286	0	62	15-140	0			J
Acenaphthene	976.8	13	1286	0	75.9	45-110	0			
Acenaphthylene	923.4	13	1286	0	71.8	45-105	0			
Anthracene	1166	13	1286	0	90.7	55-105	0			
Benzo(a)anthracene	1181	13	1286	0	91.8	50-110	0			
Benzo(a)pyrene	1277	13	1286	0	99.3	50-110	0			
Benzo(b)fluoranthene	1298	13	1286	0	101	45-115	0			
Benzo(g,h,i)perylene	1061	13	1286	0	82.5	40-125	0			
Benzo(k)fluoranthene	1364	13	1286	0	106	45-115	0			
Bis(2-chloroethoxy)methane	888	310	1286	0	69	45-110	0			
Bis(2-chloroethyl)ether	877.1	310	1286	0	68.2	40-105	0			
Bis(2-chloroisopropyl)ether	776.8	310	1286	0	60.4	20-115	0			
Bis(2-ethylhexyl)phthalate	1386	640	1286	124.5	98.1	45-125	0			
Butyl benzyl phthalate	1392	310	1286	0	108	50-125	0			
Carbazole	1131	310	1286	0	87.9	50-150	0			
Chrysene	1187	13	1286	0	92.3	55-110	0			
Dibenzo(a,h)anthracene	1045	13	1286	0	81.2	40-125	0			
Dibenzofuran	944	310	1286	0	73.4	50-105	0			
Diethyl phthalate	980.6	640	1286	0	76.2	50-115	0			
Dimethyl phthalate	996.1	640	1286	0	77.4	50-110	0			
Di-n-butyl phthalate	1075	640	1286	0	83.5	55-110	0			
Di-n-octyl phthalate	1611	310	1286	0	125	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57611		Instrument ID SVMS7		Method: SW8270			
Fluoranthene	1067	13	1286	0	83	55-115	0
Fluorene	1001	13	1286	0	77.8	50-110	0
Hexachlorobenzene	1161	310	1286	0	90.2	45-120	0
Hexachlorobutadiene	886.8	310	1286	0	68.9	40-115	0
Hexachlorocyclopentadiene	763.9	640	1286	0	59.4	40-115	0
Hexachloroethane	915.7	310	1286	0	71.2	35-110	0
Indeno(1,2,3-cd)pyrene	1100	13	1286	0	85.5	40-120	0
Isophorone	897	310	1286	0	69.7	45-110	0
Naphthalene	861.7	13	1286	0	67	40-105	0
Nitrobenzene	866.2	310	1286	0	67.3	40-115	0
N-Nitrosodi-n-propylamine	871.3	310	1286	0	67.7	40-115	0
N-Nitrosodiphenylamine	1244	310	1286	0	96.7	50-115	0
Pentachlorophenol	1082	640	1286	0	84.1	25-120	0
Phenanthrene	1104	13	1286	27.14	83.7	50-110	0
Phenol	778.7	310	1286	0	60.5	40-100	0
Pyrene	1267	13	1286	0	98.5	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2947</i>	<i>0</i>	<i>3215</i>	<i>0</i>	<i>91.7</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2350</i>	<i>0</i>	<i>3215</i>	<i>0</i>	<i>73.1</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>2282</i>	<i>0</i>	<i>3215</i>	<i>0</i>	<i>71</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>4069</i>	<i>0</i>	<i>3215</i>	<i>0</i>	<i>127</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2067</i>	<i>0</i>	<i>3215</i>	<i>0</i>	<i>64.3</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1903</i>	<i>0</i>	<i>3215</i>	<i>0</i>	<i>59.2</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57611** Instrument ID **SVMS7** Method: **SW8270**

MSD				Sample ID: 1404632-01C MSD			Units: µg/Kg		Analysis Date: 4/16/2014 11:04 PM	
Client ID:				Run ID: SVMS7_140416A			SeqNo: 2718244		Prep Date: 4/16/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1046	320	1324	0	79	50-110	1076	2.86	30	
2,4,6-Trichlorophenol	999.1	320	1324	0	75.4	45-110	904.8	9.91	30	
2,4-Dichlorophenol	909.1	320	1324	0	68.6	45-110	818.6	10.5	30	
2,4-Dimethylphenol	875.3	660	1324	0	66.1	30-105	878.4	0.351	30	
2,4-Dinitrophenol	780.6	1,300	1324	0	58.9	15-130	830.8	0	30	J
2,4-Dinitrotoluene	1076	320	1324	0	81.2	50-115	1023	5.04	30	
2,6-Dinitrotoluene	1116	320	1324	0	84.3	50-110	1004	10.6	30	
2-Chloronaphthalene	1024	13	1324	0	77.3	45-105	918.9	10.8	30	
2-Chlorophenol	889.9	320	1324	0	67.2	45-105	808.3	9.61	30	
2-Methylnaphthalene	880	13	1324	0	66.4	45-105	882.9	0.334	30	
2-Methylphenol	814.4	320	1324	0	61.5	40-105	738.9	9.73	30	
2-Nitroaniline	1108	1,300	1324	0	83.7	45-120	971.6	0	30	J
2-Nitrophenol	840.2	320	1324	0	63.4	40-110	747.9	11.6	30	
3-Nitroaniline	790.6	1,300	1324	0	59.7	25-110	724.7	0	30	J
4-Bromophenyl phenyl ether	1269	320	1324	0	95.8	45-115	1177	7.56	30	
4-Chloro-3-methylphenol	958.7	320	1324	0	72.4	45-115	946.6	1.28	30	
4-Chloroaniline	442.3	1,300	1324	0	33.4	15-110	367.2	0	30	J
4-Chlorophenyl phenyl ether	1005	320	1324	0	75.9	45-110	953.6	5.25	30	
4-Methylphenol	841.6	320	1324	0	63.5	40-105	825	1.98	30	
4-Nitroaniline	754.8	1,300	1324	0	57	35-150	723.4	0	30	J
4-Nitrophenol	883.9	1,300	1324	0	66.7	15-140	798	0	30	J
Acenaphthene	987.2	13	1324	0	74.5	45-110	976.8	1.06	30	
Acenaphthylene	991.2	13	1324	0	74.8	45-105	923.4	7.08	30	
Anthracene	1224	13	1324	0	92.4	55-105	1166	4.83	30	
Benzo(a)anthracene	1198	13	1324	0	90.4	50-110	1181	1.44	30	
Benzo(a)pyrene	1301	13	1324	0	98.2	50-110	1277	1.86	30	
Benzo(b)fluoranthene	1326	13	1324	0	100	45-115	1298	2.18	30	
Benzo(g,h,i)perylene	1089	13	1324	0	82.2	40-125	1061	2.56	30	
Benzo(k)fluoranthene	1337	13	1324	0	101	45-115	1364	2.01	30	
Bis(2-chloroethoxy)methane	923	320	1324	0	69.7	45-110	888	3.86	30	
Bis(2-chloroethyl)ether	929	320	1324	0	70.1	40-105	877.1	5.74	30	
Bis(2-chloroisopropyl)ether	797.2	320	1324	0	60.2	20-115	776.8	2.59	30	
Bis(2-ethylhexyl)phthalate	1426	660	1324	124.5	98.3	45-125	1386	2.88	30	
Butyl benzyl phthalate	1459	320	1324	0	110	50-125	1392	4.75	30	
Carbazole	1163	320	1324	0	87.8	50-150	1131	2.75	30	
Chrysene	1220	13	1324	0	92.1	55-110	1187	2.71	30	
Dibenzo(a,h)anthracene	1075	13	1324	0	81.1	40-125	1045	2.8	30	
Dibenzofuran	1007	320	1324	0	76	50-105	944	6.47	30	
Diethyl phthalate	1026	660	1324	0	77.5	50-115	980.6	4.55	30	
Dimethyl phthalate	1108	660	1324	0	83.7	50-110	996.1	10.7	30	
Di-n-butyl phthalate	1085	660	1324	0	81.9	55-110	1075	0.99	30	
Di-n-octyl phthalate	1531	320	1324	0	116	40-130	1611	5.05	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57611		Instrument ID SVMS7		Method: SW8270					
Fluoranthene	1151	13	1324	0	86.9	55-115	1067	7.51	30
Fluorene	1063	13	1324	0	80.3	50-110	1001	6.08	30
Hexachlorobenzene	1194	320	1324	0	90.2	45-120	1161	2.87	30
Hexachlorobutadiene	923.7	320	1324	0	69.7	40-115	886.8	4.08	30
Hexachlorocyclopentadiene	782.6	660	1324	0	59.1	40-115	763.9	2.42	30
Hexachloroethane	934.9	320	1324	0	70.6	35-110	915.7	2.08	30
Indeno(1,2,3-cd)pyrene	1151	13	1324	0	86.9	40-120	1100	4.49	30
Isophorone	941.5	320	1324	0	71.1	45-110	897	4.84	30
Naphthalene	897.2	13	1324	0	67.7	40-105	861.7	4.04	30
Nitrobenzene	938.9	320	1324	0	70.9	40-115	866.2	8.06	30
N-Nitrosodi-n-propylamine	842.2	320	1324	0	63.6	40-115	871.3	3.4	30
N-Nitrosodiphenylamine	1280	320	1324	0	96.6	50-115	1244	2.87	30
Pentachlorophenol	1093	660	1324	0	82.5	25-120	1082	1	30
Phenanthrene	1178	13	1324	27.14	86.9	50-110	1104	6.47	30
Phenol	817.1	320	1324	0	61.7	40-100	778.7	4.8	30
Pyrene	1280	13	1324	0	96.6	45-125	1267	0.976	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3067</i>	<i>0</i>	<i>3311</i>	<i>0</i>	<i>92.6</i>	<i>34-140</i>	<i>2947</i>	<i>3.99</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2501</i>	<i>0</i>	<i>3311</i>	<i>0</i>	<i>75.5</i>	<i>12-100</i>	<i>2350</i>	<i>6.2</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>2449</i>	<i>0</i>	<i>3311</i>	<i>0</i>	<i>74</i>	<i>33-117</i>	<i>2282</i>	<i>7.03</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3732</i>	<i>0</i>	<i>3311</i>	<i>0</i>	<i>113</i>	<i>25-137</i>	<i>4069</i>	<i>8.65</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2093</i>	<i>0</i>	<i>3311</i>	<i>0</i>	<i>63.2</i>	<i>37-107</i>	<i>2067</i>	<i>1.23</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>1913</i>	<i>0</i>	<i>3311</i>	<i>0</i>	<i>57.8</i>	<i>40-106</i>	<i>1903</i>	<i>0.495</i>	<i>40</i>

The following samples were analyzed in this batch: | 1404640-01B | 1404640-03B | 1404640-05B |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

MBLK		Sample ID: MBLK-57591-57591				Units: µg/Kg		Analysis Date: 4/15/2014 02:29 PM		
Client ID:		Run ID: VMS9_140415A				SeqNo: 2714768		Prep Date: 4/15/2014		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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591	Instrument ID VMS9	Method: SW8260B
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>1017</i>	<i>0 1000 0 102 70-130 0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>838.5</i>	<i>0 1000 0 83.8 70-130 0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1004</i>	<i>0 1000 0 100 70-130 0</i>
<i>Surr: Toluene-d8</i>	<i>965</i>	<i>0 1000 0 96.5 70-130 0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

LCS		Sample ID: LCS-57591-57591				Units: µg/Kg		Analysis Date: 4/15/2014 12:46 PM		
Client ID:		Run ID: VMS9_140415A				SeqNo: 2714767		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1074	30	1000	0	107	70-135	0			
1,1,2,2-Tetrachloroethane	910.5	30	1000	0	91	55-130	0			
1,1,2-Trichloroethane	988	30	1000	0	98.8	60-125	0			
1,1-Dichloroethane	1144	30	1000	0	114	75-125	0			
1,1-Dichloroethene	1236	30	1000	0	124	65-135	0			
1,2,4-Trichlorobenzene	1018	30	1000	0	102	65-130	0			
1,2-Dibromo-3-chloropropane	867.5	30	1000	0	86.8	40-135	0			
1,2-Dibromoethane	1017	30	1000	0	102	75-125	0			
1,2-Dichlorobenzene	1036	30	1000	0	104	75-120	0			
1,2-Dichloroethane	998.5	30	1000	0	99.8	70-135	0			
1,2-Dichloropropane	1004	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	1119	30	1000	0	112	70-125	0			
1,4-Dichlorobenzene	1051	30	1000	0	105	70-125	0			
2-Butanone	1029	200	1000	0	103	30-160	0			
2-Hexanone	824	30	1000	0	82.4	45-145	0			
4-Methyl-2-pentanone	1138	30	1000	0	114	96-168	0			
Acetone	1070	100	1000	0	107	20-160	0			
Benzene	1121	30	1000	0	112	75-125	0			
Bromodichloromethane	991.5	30	1000	0	99.2	70-130	0			
Bromoform	868.5	30	1000	0	86.8	55-135	0			
Bromomethane	1041	75	1000	0	104	30-160	0			
Carbon disulfide	1317	30	1000	0	132	45-160	0			
Carbon tetrachloride	970	30	1000	0	97	65-135	0			
Chlorobenzene	1068	30	1000	0	107	75-125	0			
Chloroethane	1024	100	1000	0	102	40-155	0			
Chloroform	1096	30	1000	0	110	70-125	0			
Chloromethane	891	100	1000	0	89.1	50-130	0			
cis-1,2-Dichloroethene	1138	30	1000	0	114	65-125	0			
cis-1,3-Dichloropropene	1042	30	1000	0	104	70-125	0			
Dibromochloromethane	837.5	30	1000	0	83.8	65-135	0			
Dichlorodifluoromethane	832	30	1000	0	83.2	35-135	0			
Ethylbenzene	1060	30	1000	0	106	75-125	0			
Isopropylbenzene	1050	30	1000	0	105	75-130	0			
Methyl tert-butyl ether	1050	30	1000	0	105	75-125	0			
Methylene chloride	1172	30	1000	0	117	55-145	0			
Styrene	1000	30	1000	0	100	75-125	0			
Tetrachloroethene	1250	30	1000	0	125	64-140	0			
Toluene	1146	30	1000	0	115	70-125	0			
trans-1,2-Dichloroethene	1216	30	1000	0	122	65-135	0			
trans-1,3-Dichloropropene	995.5	30	1000	0	99.6	65-125	0			
Trichloroethene	1146	30	1000	0	115	75-125	0			
Trichlorofluoromethane	1012	30	1000	0	101	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591	Instrument ID VMS9		Method: SW8260B				
Vinyl chloride	985	30	1000	0	98.5	60-125	0
Xylenes, Total	3168	90	3000	0	106	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	953.5	0	1000	0	95.4	70-130	0
<i>Surr: 4-Bromofluorobenzene</i>	996.5	0	1000	0	99.6	70-130	0
<i>Surr: Dibromofluoromethane</i>	946.5	0	1000	0	94.6	70-130	0
<i>Surr: Toluene-d8</i>	1014	0	1000	0	101	70-130	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

MS				Sample ID: 1404693-03A MS			Units: µg/Kg		Analysis Date: 4/21/2014 08:08 PM	
Client ID:				Run ID: VMS5_140421A			SeqNo: 2724670		Prep Date: 4/15/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	943	30	1000	0	94.3	70-135	0			
1,1,2,2-Tetrachloroethane	959	30	1000	0	95.9	55-130	0			
1,1,2-Trichloroethane	955	30	1000	0	95.5	60-125	0			
1,1-Dichloroethane	943.5	30	1000	0	94.4	75-125	0			
1,1-Dichloroethene	1024	30	1000	0	102	65-135	0			
1,2,4-Trichlorobenzene	909.5	30	1000	0	91	65-130	0			
1,2-Dibromo-3-chloropropane	754.5	30	1000	0	75.4	40-135	0			
1,2-Dibromoethane	1046	30	1000	0	105	75-125	0			
1,2-Dichlorobenzene	940.5	30	1000	0	94	75-120	0			
1,2-Dichloroethane	883	30	1000	0	88.3	70-135	0			
1,2-Dichloropropane	900.5	30	1000	0	90	70-120	0			
1,3-Dichlorobenzene	956	30	1000	0	95.6	70-125	0			
1,4-Dichlorobenzene	918.5	30	1000	0	91.8	70-125	0			
2-Butanone	921.5	200	1000	0	92.2	30-160	0			
2-Hexanone	853	30	1000	0	85.3	45-145	0			
4-Methyl-2-pentanone	1138	30	1000	0	114	89-161	0			
Acetone	925	100	1000	0	92.5	20-160	0			
Benzene	956	30	1000	0	95.6	75-125	0			
Bromodichloromethane	932.5	30	1000	0	93.2	70-130	0			
Bromoform	755.5	30	1000	0	75.6	55-135	0			
Bromomethane	893.5	75	1000	0	89.4	30-160	0			
Carbon disulfide	1042	30	1000	0	104	45-160	0			
Carbon tetrachloride	967.5	30	1000	0	96.8	65-135	0			
Chlorobenzene	952	30	1000	0	95.2	75-125	0			
Chloroethane	1112	100	1000	0	111	40-155	0			
Chloroform	903.5	30	1000	0	90.4	70-125	0			
Chloromethane	901.5	100	1000	0	90.2	50-130	0			
cis-1,2-Dichloroethene	921	30	1000	0	92.1	65-125	0			
cis-1,3-Dichloropropene	913	30	1000	0	91.3	70-125	0			
Dibromochloromethane	760	30	1000	0	76	65-135	0			
Dichlorodifluoromethane	913.5	30	1000	0	91.4	35-135	0			
Ethylbenzene	989	30	1000	0	98.9	75-125	0			
Isopropylbenzene	986.5	30	1000	0	98.6	75-130	0			
Methyl tert-butyl ether	878.5	30	1000	0	87.8	75-125	0			
Methylene chloride	1006	30	1000	0	101	55-145	0			
Styrene	1014	30	1000	0	101	75-125	0			
Tetrachloroethene	997	30	1000	0	99.7	64-140	0			
Toluene	984	30	1000	0	98.4	70-125	0			
trans-1,2-Dichloroethene	1010	30	1000	0	101	65-135	0			
trans-1,3-Dichloropropene	891	30	1000	0	89.1	65-125	0			
Trichloroethene	965.5	30	1000	0	96.6	75-125	0			
Trichlorofluoromethane	1050	30	1000	0	105	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591	Instrument ID VMS9		Method: SW8260B				
Vinyl chloride	1036	30	1000	0	104	60-125	0
Xylenes, Total	2919	90	3000	0	97.3	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>942.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>912.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>91.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1003</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

MSD				Sample ID: 1404693-03A MSD			Units: µg/Kg		Analysis Date: 4/21/2014 08:33 PM	
Client ID:				Run ID: VMS5_140421A			SeqNo: 2724671		Prep Date: 4/15/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	941	30	1000	0	94.1	70-135	943	0.212	30	
1,1,2,2-Tetrachloroethane	960.5	30	1000	0	96	55-130	959	0.156	30	
1,1,2-Trichloroethane	959.5	30	1000	0	96	60-125	955	0.47	30	
1,1-Dichloroethane	909.5	30	1000	0	91	75-125	943.5	3.67	30	
1,1-Dichloroethene	965	30	1000	0	96.5	65-135	1024	5.93	30	
1,2,4-Trichlorobenzene	966	30	1000	0	96.6	65-130	909.5	6.03	30	
1,2-Dibromo-3-chloropropane	759.5	30	1000	0	76	40-135	754.5	0.661	30	
1,2-Dibromoethane	1060	30	1000	0	106	75-125	1046	1.33	30	
1,2-Dichlorobenzene	981.5	30	1000	0	98.2	75-120	940.5	4.27	30	
1,2-Dichloroethane	877.5	30	1000	0	87.8	70-135	883	0.625	30	
1,2-Dichloropropane	897.5	30	1000	0	89.8	70-120	900.5	0.334	30	
1,3-Dichlorobenzene	979	30	1000	0	97.9	70-125	956	2.38	30	
1,4-Dichlorobenzene	950.5	30	1000	0	95	70-125	918.5	3.42	30	
2-Butanone	889.5	200	1000	0	89	30-160	921.5	3.53	30	
2-Hexanone	880.5	30	1000	0	88	45-145	853	3.17	30	
4-Methyl-2-pentanone	1144	30	1000	0	114	89-161	1138	0.482	30	
Acetone	876	100	1000	0	87.6	20-160	925	5.44	30	
Benzene	946.5	30	1000	0	94.6	75-125	956	0.999	30	
Bromodichloromethane	892	30	1000	0	89.2	70-130	932.5	4.44	30	
Bromoform	722.5	30	1000	0	72.2	55-135	755.5	4.47	30	
Bromomethane	461.5	75	1000	0	46.2	30-160	893.5	63.8	30	R
Carbon disulfide	949	30	1000	0	94.9	45-160	1042	9.34	30	
Carbon tetrachloride	940	30	1000	0	94	65-135	967.5	2.88	30	
Chlorobenzene	959	30	1000	0	95.9	75-125	952	0.733	30	
Chloroethane	1180	100	1000	0	118	40-155	1112	5.93	30	
Chloroform	875.5	30	1000	0	87.6	70-125	903.5	3.15	30	
Chloromethane	855.5	100	1000	0	85.6	50-130	901.5	5.24	30	
cis-1,2-Dichloroethene	889	30	1000	0	88.9	65-125	921	3.54	30	
cis-1,3-Dichloropropene	885	30	1000	0	88.5	70-125	913	3.11	30	
Dibromochloromethane	745	30	1000	0	74.5	65-135	760	1.99	30	
Dichlorodifluoromethane	864	30	1000	0	86.4	35-135	913.5	5.57	30	
Ethylbenzene	999	30	1000	0	99.9	75-125	989	1.01	30	
Isopropylbenzene	1028	30	1000	0	103	75-130	986.5	4.12	30	
Methyl tert-butyl ether	866.5	30	1000	0	86.6	75-125	878.5	1.38	30	
Methylene chloride	970	30	1000	0	97	55-145	1006	3.64	30	
Styrene	1010	30	1000	0	101	75-125	1014	0.395	30	
Tetrachloroethene	1015	30	1000	0	102	64-140	997	1.79	30	
Toluene	974	30	1000	0	97.4	70-125	984	1.02	30	
trans-1,2-Dichloroethene	958.5	30	1000	0	95.8	65-135	1010	5.18	30	
trans-1,3-Dichloropropene	882.5	30	1000	0	88.2	65-125	891	0.959	30	
Trichloroethene	945	30	1000	0	94.5	75-125	965.5	2.15	30	
Trichlorofluoromethane	994	30	1000	0	99.4	25-185	1050	5.53	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591		Instrument ID VMS9		Method: SW8260B					
Vinyl chloride	952	30	1000	0	95.2	60-125	1036	8.5	30
Xylenes, Total	2954	90	3000	0	98.5	75-125	2919	1.19	30
Surr: 1,2-Dichloroethane-d4	947.5	0	1000	0	94.8	70-130	942.5	0.529	30
Surr: 4-Bromofluorobenzene	914	0	1000	0	91.4	70-130	912.5	0.164	30
Surr: Dibromofluoromethane	986	0	1000	0	98.6	70-130	1003	1.71	30
Surr: Toluene-d8	992.5	0	1000	0	99.2	70-130	990.5	0.202	30
The following samples were analyzed in this batch:			1404640-01A	1404640-03A	1404640-05A				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139278A** Instrument ID **VMS5** Method: **SW8260**

MBLK		Sample ID: VLKW1-140420-R139278A				Units: µg/L		Analysis Date: 4/20/2014 09:50 PM		
Client ID:		Run ID: VMS5_140420A				SeqNo: 2722448		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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139278A	Instrument ID VMS5	Method: SW8260						
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>17.49</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>87.4</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.22</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.1</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19.38</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.9</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>18.66</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>93.3</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139278A** Instrument ID **VMS5** Method: **SW8260**

LCS		Sample ID: VLCSW1-140420-R139278A				Units: µg/L		Analysis Date: 4/20/2014 08:34 PM		
Client ID:		Run ID: VMS5_140420A				SeqNo: 2722446		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	23.75	1.0	20	0	119	65-130	0			
1,1,2,2-Tetrachloroethane	20.75	1.0	20	0	104	65-130	0			
1,1,2-Trichloroethane	21.41	1.0	20	0	107	75-125	0			
1,1-Dichloroethane	23.9	1.0	20	0	120	70-135	0			
1,1-Dichloroethene	25.67	1.0	20	0	128	70-130	0			
1,2,4-Trichlorobenzene	20.14	1.0	20	0	101	65-135	0			
1,2-Dibromo-3-chloropropane	18.86	1.0	20	0	94.3	50-130	0			
1,2-Dibromoethane	24.37	1.0	20	0	122	87-179	0			
1,2-Dichlorobenzene	20.23	1.0	20	0	101	70-120	0			
1,2-Dichloroethane	22.07	1.0	20	0	110	87-179	0			
1,2-Dichloropropane	22.82	2.0	20	0	114	75-125	0			
1,3-Dichlorobenzene	21.12	2.0	20	0	106	75-125	0			
1,4-Dichlorobenzene	20.33	2.0	20	0	102	75-125	0			
2-Butanone	26.93	5.0	20	0	135	30-150	0			
2-Hexanone	23.19	5.0	20	0	116	55-130	0			
4-Methyl-2-pentanone	30.5	5.0	20	0	152	77-178	0			
Acetone	28.43	20	20	0	142	40-140	0			S
Benzene	23.94	1.0	20	0	120	80-120	0			
Bromodichloromethane	23.66	1.0	20	0	118	75-120	0			
Bromoform	17.88	1.0	20	0	89.4	70-130	0			
Bromomethane	33.84	1.0	20	0	169	30-145	0			S
Carbon disulfide	26.98	2.5	20	0	135	35-165	0			
Carbon tetrachloride	24.64	1.0	20	0	123	65-140	0			
Chlorobenzene	21.8	1.0	20	0	109	80-120	0			
Chloroethane	28.53	1.0	20	0	143	60-135	0			S
Chloroform	22.88	1.0	20	0	114	65-135	0			
Chloromethane	26.19	1.0	20	0	131	70-125	0			S
cis-1,2-Dichloroethene	23.67	1.0	20	0	118	70-125	0			
cis-1,3-Dichloropropene	23.8	1.0	20	0	119	70-130	0			
Dibromochloromethane	17.73	1.0	20	0	88.6	60-135	0			
Dichlorodifluoromethane	24.17	1.0	20	0	121	30-155	0			
Ethylbenzene	22.39	1.0	20	0	112	75-125	0			
Isopropylbenzene	22.76	1.0	20	0	114	75-125	0			
Methyl tert-butyl ether	22.89	5.0	20	0	114	65-125	0			
Methylene chloride	25.23	5.0	20	0	126	55-140	0			
Styrene	23.48	1.0	20	0	117	65-135	0			
Tetrachloroethene	22.21	2.0	20	0	111	45-150	0			
Toluene	21.74	1.0	20	0	109	75-120	0			
trans-1,2-Dichloroethene	25.36	1.0	20	0	127	60-140	0			
trans-1,3-Dichloropropene	21.4	1.0	20	0	107	55-140	0			
Trichloroethene	24.57	1.0	20	0	123	70-125	0			
Trichlorofluoromethane	25.81	1.0	20	0	129	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139278A	Instrument ID VMS5		Method: SW8260				
Vinyl chloride	27.42	1.0	20	0	137	50-145	0
Xylenes, Total	66.87	3.0	60	0	111	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.89</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.4</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.77</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.8</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>18.84</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>94.2</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139278A** Instrument ID **VMS5** Method: **SW8260**

MS				Sample ID: 1404658-06A MS			Units: µg/L		Analysis Date: 4/21/2014 07:07 AM	
Client ID:				Run ID: VMS5_140420A			SeqNo: 2722496		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	24.09	1.0	20	0	120	65-130	0			
1,1,2,2-Tetrachloroethane	18.54	1.0	20	0	92.7	65-130	0			
1,1,2-Trichloroethane	19.72	1.0	20	0	98.6	75-125	0			
1,1-Dichloroethane	23.64	1.0	20	0	118	70-135	0			
1,1-Dichloroethene	27.38	1.0	20	0	137	70-130	0			S
1,2,4-Trichlorobenzene	18.05	1.0	20	0	90.2	65-135	0			
1,2-Dibromo-3-chloropropane	15.31	1.0	20	0	76.6	50-130	0			
1,2-Dibromoethane	22.03	1.0	20	0	110	81-158	0			
1,2-Dichlorobenzene	19.04	1.0	20	0	95.2	70-120	0			
1,2-Dichloroethane	20.61	1.0	20	0	103	70-130	0			
1,2-Dichloropropane	21.21	2.0	20	0	106	75-125	0			
1,3-Dichlorobenzene	19.58	2.0	20	0	97.9	75-125	0			
1,4-Dichlorobenzene	19.02	2.0	20	0	95.1	75-125	0			
2-Butanone	24.42	5.0	20	0	122	30-150	0			
2-Hexanone	19.91	5.0	20	0	99.6	55-130	0			
4-Methyl-2-pentanone	25.78	5.0	20	0	129	73-162	0			
Acetone	33.38	20	20	0	167	40-140	0			S
Benzene	23.33	1.0	20	0	117	80-120	0			
Bromodichloromethane	21.5	1.0	20	0	108	75-120	0			
Bromoform	15.73	1.0	20	0	78.6	70-130	0			
Bromomethane	28.97	1.0	20	0	145	30-145	0			
Carbon disulfide	28.78	2.5	20	0	144	35-165	0			
Carbon tetrachloride	24.71	1.0	20	0	124	65-140	0			
Chlorobenzene	20.66	1.0	20	0	103	80-120	0			
Chloroethane	29.63	1.0	20	0	148	60-135	0			S
Chloroform	22.36	1.0	20	0	112	65-135	0			
Chloromethane	26.48	1.0	20	0	132	70-125	0			S
cis-1,2-Dichloroethene	22.51	1.0	20	0	113	70-125	0			
cis-1,3-Dichloropropene	21.3	1.0	20	0	106	70-130	0			
Dibromochloromethane	15.8	1.0	20	0	79	60-135	0			
Dichlorodifluoromethane	27.06	1.0	20	0	135	30-155	0			
Ethylbenzene	66.33	1.0	20	40.77	128	75-125	0			S
Isopropylbenzene	26.67	1.0	20	3.88	114	75-125	0			
Methyl tert-butyl ether	21.88	5.0	20	0	109	65-125	0			
Methylene chloride	24.61	5.0	20	0	123	55-140	0			
Styrene	21.97	1.0	20	0	110	65-135	0			
Tetrachloroethene	22.32	2.0	20	0	112	45-150	0			
Toluene	21.73	1.0	20	0.4	107	75-120	0			
trans-1,2-Dichloroethene	25.98	1.0	20	0	130	60-140	0			
trans-1,3-Dichloropropene	19.08	1.0	20	0	95.4	55-140	0			
Trichloroethene	23.76	1.0	20	0	119	70-125	0			
Trichlorofluoromethane	28.37	1.0	20	0	142	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139278A	Instrument ID VMS5		Method: SW8260					
Vinyl chloride	29.58	1.0	20	0	148	50-145	0	S
Xylenes, Total	72.59	3.0	60	5.81	111	75-130	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.58	0	20	0	87.9	70-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	20.01	0	20	0	100	75-120	0	
<i>Surr: Dibromofluoromethane</i>	19.35	0	20	0	96.8	85-115	0	
<i>Surr: Toluene-d8</i>	18.66	0	20	0	93.3	85-120	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139278A** Instrument ID **VMS5** Method: **SW8260**

MSD				Sample ID: 1404658-06A MSD			Units: µg/L		Analysis Date: 4/21/2014 07:32 AM		
Client ID:		Run ID: VMS5_140420A			SeqNo: 2722498		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	23.27	1.0	20	0	116	65-130	24.09	3.46	30		
1,1,2,2-Tetrachloroethane	18.82	1.0	20	0	94.1	65-130	18.54	1.5	30		
1,1,2-Trichloroethane	19.43	1.0	20	0	97.2	75-125	19.72	1.48	30		
1,1-Dichloroethane	22.78	1.0	20	0	114	70-135	23.64	3.71	30		
1,1-Dichloroethene	26.25	1.0	20	0	131	70-130	27.38	4.21	30	S	
1,2,4-Trichlorobenzene	18.78	1.0	20	0	93.9	65-135	18.05	3.96	30		
1,2-Dibromo-3-chloropropane	16.43	1.0	20	0	82.2	50-130	15.31	7.06	30		
1,2-Dibromoethane	21.82	1.0	20	0	109	81-158	22.03	0.958	30		
1,2-Dichlorobenzene	19.4	1.0	20	0	97	70-120	19.04	1.87	30		
1,2-Dichloroethane	20.31	1.0	20	0	102	70-130	20.61	1.47	30		
1,2-Dichloropropane	21.05	2.0	20	0	105	75-125	21.21	0.757	30		
1,3-Dichlorobenzene	19.97	2.0	20	0	99.8	75-125	19.58	1.97	30		
1,4-Dichlorobenzene	19.32	2.0	20	0	96.6	75-125	19.02	1.56	30		
2-Butanone	27.67	5.0	20	0	138	30-150	24.42	12.5	30		
2-Hexanone	21.79	5.0	20	0	109	55-130	19.91	9.02	30		
4-Methyl-2-pentanone	27.33	5.0	20	0	137	73-162	25.78	5.84	30		
Acetone	38.1	20	20	0	190	40-140	33.38	13.2	30	S	
Benzene	22.71	1.0	20	0	114	80-120	23.33	2.69	30		
Bromodichloromethane	21.17	1.0	20	0	106	75-120	21.5	1.55	30		
Bromoform	15.64	1.0	20	0	78.2	70-130	15.73	0.574	30		
Bromomethane	29.35	1.0	20	0	147	30-145	28.97	1.3	30	S	
Carbon disulfide	26.46	2.5	20	0	132	35-165	28.78	8.4	30		
Carbon tetrachloride	25.09	1.0	20	0	125	65-140	24.71	1.53	30		
Chlorobenzene	20.1	1.0	20	0	100	80-120	20.66	2.75	30		
Chloroethane	29.01	1.0	20	0	145	60-135	29.63	2.11	30	S	
Chloroform	21.54	1.0	20	0	108	65-135	22.36	3.74	30		
Chloromethane	25.36	1.0	20	0	127	70-125	26.48	4.32	30	S	
cis-1,2-Dichloroethene	21.77	1.0	20	0	109	70-125	22.51	3.34	30		
cis-1,3-Dichloropropene	21.15	1.0	20	0	106	70-130	21.3	0.707	30		
Dibromochloromethane	15.37	1.0	20	0	76.8	60-135	15.8	2.76	30		
Dichlorodifluoromethane	25.5	1.0	20	0	128	30-155	27.06	5.94	30		
Ethylbenzene	65.78	1.0	20	40.77	125	75-125	66.33	0.833	30	S	
Isopropylbenzene	27.2	1.0	20	3.88	117	75-125	26.67	1.97	30		
Methyl tert-butyl ether	21.32	5.0	20	0	107	65-125	21.88	2.59	30		
Methylene chloride	23.64	5.0	20	0	118	55-140	24.61	4.02	30		
Styrene	21.66	1.0	20	0	108	65-135	21.97	1.42	30		
Tetrachloroethene	21.95	2.0	20	0	110	45-150	22.32	1.67	30		
Toluene	20.92	1.0	20	0.4	103	75-120	21.73	3.8	30		
trans-1,2-Dichloroethene	24.69	1.0	20	0	123	60-140	25.98	5.09	30		
trans-1,3-Dichloropropene	18.66	1.0	20	0	93.3	55-140	19.08	2.23	30		
Trichloroethene	23.21	1.0	20	0	116	70-125	23.76	2.34	30		
Trichlorofluoromethane	27.42	1.0	20	0	137	60-145	28.37	3.41	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139278A	Instrument ID VMS5			Method: SW8260					
Vinyl chloride	27.21	1.0	20	0	136	50-145	29.58	8.35	30
Xylenes, Total	70.9	3.0	60	5.81	108	75-130	72.59	2.36	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>17.99</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>90</i>	<i>70-120</i>	<i>17.58</i>	<i>2.31</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.91</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.6</i>	<i>75-120</i>	<i>20.01</i>	<i>0.501</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.72</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.6</i>	<i>85-115</i>	<i>19.35</i>	<i>1.89</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>18.47</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>92.4</i>	<i>85-120</i>	<i>18.66</i>	<i>1.02</i>	<i>30</i>

The following samples were analyzed in this batch: | 1404640-07A |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139279** Instrument ID **VMS6** Method: **SW8260**

MBLK		Sample ID: VLKW1-140420-R139279				Units: µg/L		Analysis Date: 4/20/2014 09:45 PM		
Client ID:		Run ID: VMS6_140420A				SeqNo: 2722802		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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139279	Instrument ID VMS6	Method: SW8260
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>20.22</i>	<i>0 20 0 101 70-120 0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.27</i>	<i>0 20 0 101 75-120 0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.65</i>	<i>0 20 0 98.2 85-115 0</i>
<i>Surr: Toluene-d8</i>	<i>19.12</i>	<i>0 20 0 95.6 85-120 0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139279** Instrument ID **VMS6** Method: **SW8260**

LCS		Sample ID: VLCSW1-140420-R139279				Units: µg/L		Analysis Date: 4/20/2014 08:53 PM		
Client ID:		Run ID: VMS6_140420A				SeqNo: 2722801		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	22.85	1.0	20	0	114	65-130	0			
1,1,2,2-Tetrachloroethane	18.43	1.0	20	0	92.2	65-130	0			
1,1,2-Trichloroethane	19.76	1.0	20	0	98.8	75-125	0			
1,1-Dichloroethane	22.9	1.0	20	0	114	70-135	0			
1,1-Dichloroethene	25.82	1.0	20	0	129	70-130	0			
1,2,4-Trichlorobenzene	21.1	1.0	20	0	106	65-135	0			
1,2-Dibromo-3-chloropropane	15.51	1.0	20	0	77.6	50-130	0			
1,2-Dibromoethane	21.08	1.0	20	0	105	87-179	0			
1,2-Dichlorobenzene	20.77	1.0	20	0	104	70-120	0			
1,2-Dichloroethane	21.98	1.0	20	0	110	87-179	0			
1,2-Dichloropropane	20.59	2.0	20	0	103	75-125	0			
1,3-Dichlorobenzene	21.47	2.0	20	0	107	75-125	0			
1,4-Dichlorobenzene	21.05	2.0	20	0	105	75-125	0			
2-Butanone	22.88	5.0	20	0	114	30-150	0			
2-Hexanone	17.05	5.0	20	0	85.2	55-130	0			
4-Methyl-2-pentanone	22.9	5.0	20	0	114	77-178	0			
Acetone	24.22	20	20	0	121	40-140	0			
Benzene	22.84	1.0	20	0	114	80-120	0			
Bromodichloromethane	20.72	1.0	20	0	104	75-120	0			
Bromoform	19.77	1.0	20	0	98.8	70-130	0			
Bromomethane	20.95	1.0	20	0	105	30-145	0			
Carbon disulfide	34.01	2.5	20	0	170	35-165	0			S
Carbon tetrachloride	26.8	1.0	20	0	134	65-140	0			
Chlorobenzene	21.47	1.0	20	0	107	80-120	0			
Chloroethane	17.32	1.0	20	0	86.6	60-135	0			
Chloroform	21.55	1.0	20	0	108	65-135	0			
Chloromethane	18.39	1.0	20	0	92	70-125	0			
cis-1,2-Dichloroethene	24.54	1.0	20	0	123	70-125	0			
cis-1,3-Dichloropropene	25.28	1.0	20	0	126	70-130	0			
Dibromochloromethane	17.42	1.0	20	0	87.1	60-135	0			
Dichlorodifluoromethane	16.22	1.0	20	0	81.1	30-155	0			
Ethylbenzene	22.52	1.0	20	0	113	75-125	0			
Isopropylbenzene	21.66	1.0	20	0	108	75-125	0			
Methyl tert-butyl ether	20.89	5.0	20	0	104	65-125	0			
Methylene chloride	22.58	5.0	20	0	113	55-140	0			
Styrene	22.84	1.0	20	0	114	65-135	0			
Tetrachloroethene	22.13	2.0	20	0	111	45-150	0			
Toluene	21.67	1.0	20	0	108	75-120	0			
trans-1,2-Dichloroethene	24.42	1.0	20	0	122	60-140	0			
trans-1,3-Dichloropropene	22.24	1.0	20	0	111	55-140	0			
Trichloroethene	22.81	1.0	20	0	114	70-125	0			
Trichlorofluoromethane	18.5	1.0	20	0	92.5	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139279	Instrument ID VMS6	Method: SW8260					
Vinyl chloride	18.45	1.0	20	0	92.2	50-145	0
Xylenes, Total	67.83	3.0	60	0	113	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.55</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.26</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.56</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.8</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: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139279** Instrument ID **VMS6** Method: **SW8260**

MS				Sample ID: 1404297-11A MS			Units: µg/L		Analysis Date: 4/21/2014 07:45 AM	
Client ID:				Run ID: VMS6_140420A			SeqNo: 2722817		Prep Date:	
									DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	107	5.0	100	0	107	65-130	0			
1,1,2,2-Tetrachloroethane	83.6	5.0	100	0	83.6	65-130	0			
1,1,2-Trichloroethane	92.05	5.0	100	0	92	75-125	0			
1,1-Dichloroethane	117.7	5.0	100	0	118	70-135	0			
1,1-Dichloroethene	131.2	5.0	100	0	131	70-130	0			S
1,2,4-Trichlorobenzene	88.3	5.0	100	0	88.3	65-135	0			
1,2-Dibromo-3-chloropropane	54.05	5.0	100	0	54	50-130	0			
1,2-Dibromoethane	99.2	5.0	100	0	99.2	81-158	0			
1,2-Dichlorobenzene	98.3	5.0	100	0	98.3	70-120	0			
1,2-Dichloroethane	106.2	5.0	100	0	106	70-130	0			
1,2-Dichloropropane	100.1	10	100	0	100	75-125	0			
1,3-Dichlorobenzene	100.2	10	100	0	100	75-125	0			
1,4-Dichlorobenzene	99.9	10	100	0	99.9	75-125	0			
2-Butanone	104	25	100	0	104	30-150	0			
2-Hexanone	69.75	25	100	0	69.8	55-130	0			
4-Methyl-2-pentanone	96.5	25	100	0	96.5	73-162	0			
Acetone	396.4	100	100	283.8	113	40-140	0			
Benzene	112.4	5.0	100	0	112	80-120	0			
Bromodichloromethane	91.6	5.0	100	0	91.6	75-120	0			
Bromoform	75.35	5.0	100	0	75.4	70-130	0			
Bromomethane	64.95	5.0	100	0	65	30-145	0			
Carbon disulfide	149.6	12	100	0	150	35-165	0			
Carbon tetrachloride	121.2	5.0	100	0	121	65-140	0			
Chlorobenzene	103.7	5.0	100	0	104	80-120	0			
Chloroethane	80.8	5.0	100	0	80.8	60-135	0			
Chloroform	110.4	5.0	100	0	110	65-135	0			
Chloromethane	93	5.0	100	0	93	70-125	0			
cis-1,2-Dichloroethene	118.6	5.0	100	0	119	70-125	0			
cis-1,3-Dichloropropene	112.5	5.0	100	0	112	70-130	0			
Dibromochloromethane	71.75	5.0	100	0	71.8	60-135	0			
Dichlorodifluoromethane	80.55	5.0	100	0	80.6	30-155	0			
Ethylbenzene	107.8	5.0	100	0	108	75-125	0			
Isopropylbenzene	104.2	5.0	100	0	104	75-125	0			
Methyl tert-butyl ether	104.9	25	100	0	105	65-125	0			
Methylene chloride	118.6	25	100	0	119	55-140	0			
Styrene	105	5.0	100	0	105	65-135	0			
Tetrachloroethene	101.5	10	100	0	102	45-150	0			
Toluene	105.2	5.0	100	0	105	75-120	0			
trans-1,2-Dichloroethene	124.2	5.0	100	0	124	60-140	0			
trans-1,3-Dichloropropene	95.3	5.0	100	0	95.3	55-140	0			
Trichloroethene	107.2	5.0	100	0	107	70-125	0			
Trichlorofluoromethane	89.65	5.0	100	0	89.6	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139279** Instrument ID **VMS6** Method: **SW8260**

MSD				Sample ID: 1404297-11A MSD			Units: µg/L		Analysis Date: 4/21/2014 08:11 AM	
Client ID:				Run ID: VMS6_140420A			SeqNo: 2722818		Prep Date:	
									DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	102	5.0	100	0	102	65-130	107	4.83	30	
1,1,2,2-Tetrachloroethane	76.4	5.0	100	0	76.4	65-130	83.6	9	30	
1,1,2-Trichloroethane	89.6	5.0	100	0	89.6	75-125	92.05	2.7	30	
1,1-Dichloroethane	112.2	5.0	100	0	112	70-135	117.7	4.78	30	
1,1-Dichloroethene	122.2	5.0	100	0	122	70-130	131.2	7.1	30	
1,2,4-Trichlorobenzene	85.9	5.0	100	0	85.9	65-135	88.3	2.76	30	
1,2-Dibromo-3-chloropropane	51.05	5.0	100	0	51	50-130	54.05	5.71	30	
1,2-Dibromoethane	94.3	5.0	100	0	94.3	81-158	99.2	5.06	30	
1,2-Dichlorobenzene	99.15	5.0	100	0	99.2	70-120	98.3	0.861	30	
1,2-Dichloroethane	104.5	5.0	100	0	104	70-130	106.2	1.66	30	
1,2-Dichloropropane	97.45	10	100	0	97.4	75-125	100.1	2.68	30	
1,3-Dichlorobenzene	100.3	10	100	0	100	75-125	100.2	0.15	30	
1,4-Dichlorobenzene	99.15	10	100	0	99.2	75-125	99.9	0.754	30	
2-Butanone	92.35	25	100	0	92.4	30-150	104	11.8	30	
2-Hexanone	65.7	25	100	0	65.7	55-130	69.75	5.98	30	
4-Methyl-2-pentanone	92.1	25	100	0	92.1	73-162	96.5	4.67	30	
Acetone	369.6	100	100	283.8	85.8	40-140	396.4	7.01	30	
Benzene	107.6	5.0	100	0	108	80-120	112.4	4.36	30	
Bromodichloromethane	89.2	5.0	100	0	89.2	75-120	91.6	2.65	30	
Bromoform	74.15	5.0	100	0	74.2	70-130	75.35	1.61	30	
Bromomethane	92.5	5.0	100	0	92.5	30-145	64.95	35	30	R
Carbon disulfide	142.4	12	100	0	142	35-165	149.6	4.93	30	
Carbon tetrachloride	115.4	5.0	100	0	115	65-140	121.2	4.9	30	
Chlorobenzene	101.1	5.0	100	0	101	80-120	103.7	2.54	30	
Chloroethane	83.55	5.0	100	0	83.6	60-135	80.8	3.35	30	
Chloroform	105.6	5.0	100	0	106	65-135	110.4	4.44	30	
Chloromethane	82.8	5.0	100	0	82.8	70-125	93	11.6	30	
cis-1,2-Dichloroethene	115.7	5.0	100	0	116	70-125	118.6	2.48	30	
cis-1,3-Dichloropropene	107.6	5.0	100	0	108	70-130	112.5	4.5	30	
Dibromochloromethane	72.5	5.0	100	0	72.5	60-135	71.75	1.04	30	
Dichlorodifluoromethane	75.6	5.0	100	0	75.6	30-155	80.55	6.34	30	
Ethylbenzene	103.6	5.0	100	0	104	75-125	107.8	3.93	30	
Isopropylbenzene	99.9	5.0	100	0	99.9	75-125	104.2	4.21	30	
Methyl tert-butyl ether	101.4	25	100	0	101	65-125	104.9	3.44	30	
Methylene chloride	115.2	25	100	0	115	55-140	118.6	2.82	30	
Styrene	99.15	5.0	100	0	99.2	65-135	105	5.78	30	
Tetrachloroethene	99.55	10	100	0	99.6	45-150	101.5	1.94	30	
Toluene	100.1	5.0	100	0	100	75-120	105.2	4.92	30	
trans-1,2-Dichloroethene	115.8	5.0	100	0	116	60-140	124.2	6.92	30	
trans-1,3-Dichloropropene	91.15	5.0	100	0	91.2	55-140	95.3	4.45	30	
Trichloroethene	103.5	5.0	100	0	104	70-125	107.2	3.51	30	
Trichlorofluoromethane	90.55	5.0	100	0	90.6	60-145	89.65	0.999	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139279		Instrument ID VMS6		Method: SW8260					
Vinyl chloride	85.35	5.0	100	0	85.4	50-145	92.85	8.42	30
Xylenes, Total	311.1	15	300	0	104	75-130	325.2	4.42	30
<i>Surr: 1,2-Dichloroethane-d4</i>	96.75	0	100	0	96.8	70-120	99	2.3	30
<i>Surr: 4-Bromofluorobenzene</i>	103.1	0	100	0	103	75-120	103	0.097	30
<i>Surr: Dibromofluoromethane</i>	98.75	0	100	0	98.8	85-115	100.3	1.56	30
<i>Surr: Toluene-d8</i>	97.1	0	100	0	97.1	85-120	96.7	0.413	30
The following samples were analyzed in this batch:			1404640-02A		1404640-04A		1404640-06A		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57588** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57588-57588				Units: mg/Kg		Analysis Date: 4/16/2014 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716812		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	0.02982	0.50								J

LCS		Sample ID: LCS-57588-57588				Units: mg/Kg		Analysis Date: 4/16/2014 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716813		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.438	0.50	2.5	0	97.5	85-119	0			

MS		Sample ID: 1404444-01B MS				Units: mg/Kg		Analysis Date: 4/16/2014 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716815		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.457	0.50	2.5	0.05262	96.2	70-130	0			

MS		Sample ID: 1404640-01B MS				Units: mg/Kg		Analysis Date: 4/16/2014 04:03 PM		
Client ID: S-R2330012-040914-ACN-016		Run ID: LACHAT_140416B				SeqNo: 2716828		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.517	0.50	2.5	0.08842	97.1	70-130	0			

MSD		Sample ID: 1404444-01B MSD				Units: mg/Kg		Analysis Date: 4/16/2014 04:03 PM		
Client ID:		Run ID: LACHAT_140416B				SeqNo: 2716816		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.493	0.50	2.5	0.05262	97.6	70-130	2.457	1.45	30	

MSD		Sample ID: 1404640-01B MSD				Units: mg/Kg		Analysis Date: 4/16/2014 04:03 PM		
Client ID: S-R2330012-040914-ACN-016		Run ID: LACHAT_140416B				SeqNo: 2716829		Prep Date: 4/15/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Total	2.442	0.50	2.5	0.08842	94.1	70-130	2.517	3.02	30	

The following samples were analyzed in this batch:

1404640-01B	1404640-03B	1404640-05B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57624** Instrument ID **LACHAT** Method: **SW9012A**

MBLK				Sample ID: MBLK-57624-57624				Units: mg/L			Analysis Date: 4/16/2014 04:03 PM			
Client ID:				Run ID: LACHAT_140416C				SeqNo: 2716867			Prep Date: 4/16/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Cyanide, Amenable		0.002047	0.0050								J			

LCS		Sample ID: LCS-57624-57624					Units: mg/L		Analysis Date: 4/16/2014 04:03 PM		
Client ID:		Run ID: LACHAT_140416C			SeqNo: 2716868		Prep Date: 4/16/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Cyanide, Amenable	0.2493	0.0050	0.25	0	99.7	83-120	0				

The following samples were analyzed in this batch:

1404640-02C	1404640-04C	1404640-06C

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404640
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139021** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R139021				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID:		Run ID: MOIST_140415B				SeqNo: 2715743		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS		Sample ID: LCS-R139021				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID:		Run ID: MOIST_140415B				SeqNo: 2715742		Prep Date:		DF: 1
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

DUP		Sample ID: 1404640-01B DUP				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID: S-R2330012-040914-ACN-016		Run ID: MOIST_140415B				SeqNo: 2715731		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 11.03 0.050 0 0 0 0-0 11.84 7.08 20

DUP		Sample ID: 1404693-01B DUP				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID:		Run ID: MOIST_140415B				SeqNo: 2715735		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 14.66 0.050 0 0 0 0-0 13.87 5.54 20

The following samples were analyzed in this batch:

1404640-01B	1404640-03B	1404640-05B

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



Environmental

Cincinnati, OH
+1 513 733 5336

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Chain of Custody Form

Page 1 of 1

COC ID: 104998

Houston, TX
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Middletown, PA
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Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: *TSB*

ALS Work Order #: 1404640

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Van Buren Landfill	A	VOCs
Work Order		Project Number	R2330012	B	SVOCs
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs
Send Report To	Mike Friedhoff	Invoice Attn	Accounts Payable	D	Cyanide - total
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	F	Metals (Including Hg) - total
Phone	(734) 397-3100	Phone		G	Moisture
Fax	(734) 397-3131	Fax		H	Metals (Including Hg) - dissolved <i>Field Filtered</i>
e-Mail Address		e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-R2330012-040914-ACW-016	4-9-14	1140	S	7	3	X	X		X		X	X				
2	W-R2330012-040914-ACW-012	4-9-14	1200	Ah	1,2,4	8	(X)	X			X	X		(X)			
3	S-R2330012-040914-ACW-017	4-9-14	1300	S	7	3	X	X		X		X	X				
4	W-R2330012-040914-ACW-013	4-9-14	1330	Ah	1,2,4	8	(X)	X			X	X		(X)			
5	S-R2330012-040914-ACW-018	4-9-14	1430	S	7	3	X	X		X		X	X				
6	W-R2330012-040914-ACW-014	4-9-14	1445	Ah	1,2,4	8	(X)	X			X	X		(X)			
7	Thp Blank	—	—	Ah	1	1	X										
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Adam New</i>		Shipment Method <i>Carrier</i>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour		Results Due Date:	
Relinquished by: <i>[Signature]</i>	Date: 4/9/14	Time: 1615	Received by: <i>[Signature]</i>	Notes:			
Relinquished by: <i>[Signature]</i>	Date: 4/11/14	Time: 17:00	Received by (Laboratory): <i>[Signature]</i>	Cooler ID:	Cooler Temp: 4.0°C	QC Package: (Check One Box Below)	
Logged by (Laboratory): <i>[Signature]</i>	Date: 4/12/14	Time: 0930	Checked by (Laboratory): <i>[Signature]</i>			☒ Level II Std QC ☐ Level III Std QC/Res Data ☐ Level IV SW846/CLP ☐ Other	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035							

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.

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Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **12-Apr-14 08:30**

Work Order: **1404640**

Received by: **DS**

Checklist completed by Diane Shaw
eSignature

12-Apr-14
Date

Reviewed by: Tom Bramish
eSignature

14-Apr-14
Date

Matrices: Soil, Water

Carrier name: City Transfer

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>4.0 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/12/2014 9:21:32 AM</u>		
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:

Work Order: 1404693

Project Name:

RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

24-Apr-2014



Certificate No: MN 532786



24-Apr-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **1404693**

Dear Frank,

ALS Environmental received 5 samples on 15-Apr-2014 08:30 AM 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 83.

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: MN 532786

Report of Laboratory Analysis

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

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RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404693

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>
1404693-01	S-R2330012-041114-ACN-019	Soil		4/11/2014 12:20	4/15/2014 08:30	☐
1404693-02	W-R2330012-041114-ACN-015	Water		4/11/2014 13:00	4/15/2014 08:30	☐
1404693-03	S-R2330012-041114-ACN-020	Soil		4/11/2014 13:50	4/15/2014 08:30	☐
1404693-04	W-R2330012-041114-ACN-016	Water		4/11/2014 14:10	4/15/2014 08:30	☐
1404693-05	Trip Blank	Soil		4/11/2014	4/15/2014 08:30	☐

<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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<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
µg/L	Micrograms per Liter
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404693

Case Narrative

Batch 57591, Method VOC_8260_S, Sample 1404693-03A MS: The MS and/or MSD recovery was below the control limit. The corresponding result in the parent sample may be biased low: trans 1,4-Dichloro-2-Butene, THF

Batch 57591, Method VOC_8260_S, Sample 1404693-03A MS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Methyl Iodide

Batch 57591, Method VOC_8260_S, Sample 1404693-03A MSD: The MS and/or MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: trans 1,4-Dichloro-2-Butene, THF

Batch 57591, Method VOC_8260_S, Sample 1404693-03A MSD: The RPD between the MS and MSD was out of control. The corresponding result should be considered estimated for this compound: Bromomethane

Batch 57591, Method VOC_8260_S, Sample 1404693-03A MSD: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Methyl Iodide

Batch 57591, Method VOC_8260_S, Sample LCS-57591: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: 2,2-DCP

Batch 57615, Method SVO_8270_W, Sample 1404638-02D MS and MSD: The MS and/or MSD recovery was outside the control limit. The parent sample is unrelated to this project.

Batch 57657, Method ICP_6020_W, Sample 1404745-01AMSand MSD: The MS and/or MSD recovery was outside the control limit. The parent sample is unrelated to this project.

Batch 57657, Method ICP_6020_WD, Sample 1404693-02E: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Batch 57691, Method ICP_6020_S, Sample 1404693-01B: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Batch 57691, Method ICP_6020_S, Sample 1404693-01BMS: The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404693

Case Narrative

Batch 57691, Method ICP_6020_S, Sample 1404693-01BMS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: As, Cr, Li, K, V

Batch 57691, Method ICP_6020_S, Sample 1404693-01BMS: The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Ba, Fe, Pb, Mn, Zn

Batch 57691, Method ICP_6020_S, Sample 1404693-01BMSD: The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Al

Batch 57691, Method ICP_6020_S, Sample 1404693-01BMSD: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Cr, Co, Cu, Li, N, K, V

Batch 57691, Method ICP_6020_S, Sample 1404693-01BMSD: The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required for this analyte: Ba, Fe, Pb, Mn, Zn

Batch 57691, Method ICP_6020_S, Sample 1404693-03B: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Batch 57708, Method SVO_8270_S, Sample 1404844-01A MS and MSD: The MS and/or MSD recovery was outside the control limit. The parent sample is unrelated to this project.

Batch 57708, Method SVO_8270_S, Sample SLCSS1-57708: The LCS recovery was below the lower control limit. The sample results may be biased low for this analyte: Aniline.

Batch R139311A, Method VOC_8260_W, Sample 1404693-02A 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: 2,2-DCP
Bromomethane

Batch R139311A, Method VOC_8260_W, Sample 1404693-02A MSD: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: 2,2-DCP
Bromomethane

Batch R139353A, Method VOC_8260_W, Sample 1404783-01D MS and MSD: The MS and/or MSD recovery was outside the control limit. The parent sample is unrelated to this

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 1404693

Case Narrative

project.

Batch R139353A, Method VOC_8260_W, Sample VLCSW3-140421: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: 2,2-DCP

Batch R139353A, Method VOC_8260_W, Sample VLCSW3-140421: The LCS recovery was outside of the upper 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: Bromomethane
Hexachloroethane

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-019
Collection Date: 4/11/2014 12:20 PM

Work Order: 1404693
Lab ID: 1404693-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/18/14	Analyst: LR
BatchID: <u>57720</u>							
Mercury	0.037		0.00072	0.014	mg/Kg-dry	1	4/18/2014 13:37
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/17/14	Analyst: ML
BatchID: <u>57691</u>							
Antimony	0.25	J	0.0075	1.9	mg/Kg-dry	5	4/21/2014 03:52
Arsenic	5.6		0.25	0.75	mg/Kg-dry	5	4/21/2014 03:52
Barium	93		0.052	1.9	mg/Kg-dry	5	4/21/2014 03:52
Beryllium	0.44	J	0.015	0.75	mg/Kg-dry	5	4/21/2014 03:52
Cadmium	0.27	J	0.0075	0.75	mg/Kg-dry	5	4/21/2014 03:52
Chromium	13		0.31	1.9	mg/Kg-dry	5	4/21/2014 03:52
Cobalt	4.7		0.0075	1.9	mg/Kg-dry	5	4/21/2014 03:52
Copper	15		0.37	1.9	mg/Kg-dry	5	4/21/2014 03:52
Iron	14,000		6.2	30	mg/Kg-dry	5	4/21/2014 03:52
Lead	38		0.0075	1.9	mg/Kg-dry	5	4/21/2014 03:52
Manganese	250		0.16	1.9	mg/Kg-dry	5	4/21/2014 03:52
Nickel	13		0.19	1.9	mg/Kg-dry	5	4/21/2014 03:52
Selenium	0.57	J	0.24	1.5	mg/Kg-dry	5	4/21/2014 03:52
Silver	0.037	J	0.0075	0.75	mg/Kg-dry	5	4/21/2014 03:52
Thallium	0.13	J	0.045	1.9	mg/Kg-dry	5	4/21/2014 03:52
Vanadium	19		0.11	1.9	mg/Kg-dry	5	4/21/2014 03:52
Zinc	45		0.16	3.7	mg/Kg-dry	5	4/21/2014 03:52
BatchID: <u>57691</u>							
Aluminum	6,200	B	4.7	37	mg/Kg-dry	50	4/21/2014 14:34
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/18/14	Analyst: HL
BatchID: <u>57708</u>							
1,1'-Biphenyl	U		5.7	380	µg/Kg-dry	1	4/19/2014 12:06
2,4,5-Trichlorophenol	U		9.6	190	µg/Kg-dry	1	4/19/2014 12:06
2,4,6-Trichlorophenol	U		6.5	190	µg/Kg-dry	1	4/19/2014 12:06
2,4-Dichlorophenol	U		11	190	µg/Kg-dry	1	4/19/2014 12:06
2,4-Dimethylphenol	U		62	380	µg/Kg-dry	1	4/19/2014 12:06
2,4-Dinitrophenol	U		35	760	µg/Kg-dry	1	4/19/2014 12:06
2,4-Dinitrotoluene	U		12	190	µg/Kg-dry	1	4/19/2014 12:06
2,6-Dinitrotoluene	U		20	190	µg/Kg-dry	1	4/19/2014 12:06
2-Chloronaphthalene	U		1.8	93	µg/Kg-dry	1	4/19/2014 12:06
2-Chlorophenol	U		12	190	µg/Kg-dry	1	4/19/2014 12:06
2-Methylnaphthalene	U		3.2	93	µg/Kg-dry	1	4/19/2014 12:06
2-Methylphenol	U		16	190	µg/Kg-dry	1	4/19/2014 12:06

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-019
Collection Date: 4/11/2014 12:20 PM

Work Order: 1404693
Lab ID: 1404693-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitroaniline	U		15	760	µg/Kg-dry	1	4/19/2014 12:06
2-Nitrophenol	U		13	190	µg/Kg-dry	1	4/19/2014 12:06
3,3'-Dichlorobenzidine	U		480	760	µg/Kg-dry	1	4/19/2014 12:06
3-Nitroaniline	U		13	760	µg/Kg-dry	1	4/19/2014 12:06
4,6-Dinitro-2-methylphenol	U		32	380	µg/Kg-dry	1	4/19/2014 12:06
4-Bromophenyl phenyl ether	U		10	190	µg/Kg-dry	1	4/19/2014 12:06
4-Chloro-3-methylphenol	U		8.9	190	µg/Kg-dry	1	4/19/2014 12:06
4-Chloroaniline	U		11	380	µg/Kg-dry	1	4/19/2014 12:06
4-Chlorophenyl phenyl ether	U		11	190	µg/Kg-dry	1	4/19/2014 12:06
4-Methylphenol	U		18	190	µg/Kg-dry	1	4/19/2014 12:06
4-Nitroaniline	U		11	760	µg/Kg-dry	1	4/19/2014 12:06
4-Nitrophenol	U		7.6	760	µg/Kg-dry	1	4/19/2014 12:06
Acenaphthene	25	J	1.2	35	µg/Kg-dry	1	4/19/2014 12:06
Acenaphthylene	110		1.4	35	µg/Kg-dry	1	4/19/2014 12:06
Acetophenone	U		5.8	380	µg/Kg-dry	1	4/19/2014 12:06
Anthracene	170		1.5	35	µg/Kg-dry	1	4/19/2014 12:06
Atrazine	U		12	58	µg/Kg-dry	1	4/19/2014 12:06
Benzaldehyde	U		15	380	µg/Kg-dry	1	4/19/2014 12:06
Benzo(a)anthracene	580		1.5	35	µg/Kg-dry	1	4/19/2014 12:06
Benzo(a)pyrene	600		2.5	35	µg/Kg-dry	1	4/19/2014 12:06
Benzo(b)fluoranthene	830		2.3	35	µg/Kg-dry	1	4/19/2014 12:06
Benzo(g,h,i)perylene	370		3.0	35	µg/Kg-dry	1	4/19/2014 12:06
Benzo(k)fluoranthene	270		1.6	35	µg/Kg-dry	1	4/19/2014 12:06
Bis(2-chloroethoxy)methane	U		12	190	µg/Kg-dry	1	4/19/2014 12:06
Bis(2-chloroethyl)ether	U		12	190	µg/Kg-dry	1	4/19/2014 12:06
Bis(2-chloroisopropyl)ether	U		16	190	µg/Kg-dry	1	4/19/2014 12:06
Bis(2-ethylhexyl)phthalate	39	J	13	380	µg/Kg-dry	1	4/19/2014 12:06
Butyl benzyl phthalate	22	J	14	190	µg/Kg-dry	1	4/19/2014 12:06
Caprolactam	U		17	380	µg/Kg-dry	1	4/19/2014 12:06
Carbazole	50	J	11	190	µg/Kg-dry	1	4/19/2014 12:06
Chrysene	610		1.8	35	µg/Kg-dry	1	4/19/2014 12:06
Dibenzo(a,h)anthracene	110		2.9	35	µg/Kg-dry	1	4/19/2014 12:06
Dibenzofuran	U		12	190	µg/Kg-dry	1	4/19/2014 12:06
Diethyl phthalate	U		12	380	µg/Kg-dry	1	4/19/2014 12:06
Dimethyl phthalate	U		13	380	µg/Kg-dry	1	4/19/2014 12:06
Di-n-butyl phthalate	U		5.6	380	µg/Kg-dry	1	4/19/2014 12:06
Di-n-octyl phthalate	U		12	190	µg/Kg-dry	1	4/19/2014 12:06
Fluoranthene	1,100		2.7	35	µg/Kg-dry	1	4/19/2014 12:06
Fluorene	50		2.6	35	µg/Kg-dry	1	4/19/2014 12:06
Hexachlorobenzene	U		11	190	µg/Kg-dry	1	4/19/2014 12:06

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-019
Collection Date: 4/11/2014 12:20 PM

Work Order: 1404693
Lab ID: 1404693-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorobutadiene	U		13	58	µg/Kg-dry	1	4/19/2014 12:06
Hexachlorocyclopentadiene	U		12	380	µg/Kg-dry	1	4/19/2014 12:06
Hexachloroethane	U		18	190	µg/Kg-dry	1	4/19/2014 12:06
Indeno(1,2,3-cd)pyrene	430		2.6	35	µg/Kg-dry	1	4/19/2014 12:06
Isophorone	U		13	190	µg/Kg-dry	1	4/19/2014 12:06
Naphthalene	U		2.8	35	µg/Kg-dry	1	4/19/2014 12:06
Nitrobenzene	U		15	190	µg/Kg-dry	1	4/19/2014 12:06
N-Nitrosodi-n-propylamine	U		15	190	µg/Kg-dry	1	4/19/2014 12:06
N-Nitrosodiphenylamine	U		69	190	µg/Kg-dry	1	4/19/2014 12:06
Pentachlorophenol	U		7.4	23	µg/Kg-dry	1	4/19/2014 12:06
Phenanthrene	530		1.5	35	µg/Kg-dry	1	4/19/2014 12:06
Phenol	U		13	190	µg/Kg-dry	1	4/19/2014 12:06
Pyrene	1,000		2.6	35	µg/Kg-dry	1	4/19/2014 12:06
Surr: 2,4,6-Tribromophenol	96.3			34-140	%REC	1	4/19/2014 12:06
Surr: 2-Fluorobiphenyl	79.0			12-100	%REC	1	4/19/2014 12:06
Surr: 2-Fluorophenol	65.5			33-117	%REC	1	4/19/2014 12:06
Surr: 4-Terphenyl-d14	107			25-137	%REC	1	4/19/2014 12:06
Surr: Nitrobenzene-d5	49.0			37-107	%REC	1	4/19/2014 12:06
Surr: Phenol-d6	56.5			40-106	%REC	1	4/19/2014 12:06
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/15/14		Analyst: RS
<u>BatchID: 57591</u>							
1,1,1-Trichloroethane	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
1,1,2,2-Tetrachloroethane	U		16	36	µg/Kg-dry	1	4/22/2014 07:38
1,1,2-Trichloroethane	U		13	36	µg/Kg-dry	1	4/22/2014 07:38
1,1,2-Trichlorotrifluoroethane	U		13	36	µg/Kg-dry	1	4/22/2014 07:38
1,1-Dichloroethane	U		13	36	µg/Kg-dry	1	4/22/2014 07:38
1,1-Dichloroethene	U		15	36	µg/Kg-dry	1	4/22/2014 07:38
1,2,4-Trichlorobenzene	U		18	36	µg/Kg-dry	1	4/22/2014 07:38
1,2-Dibromo-3-chloropropane	U		17	36	µg/Kg-dry	1	4/22/2014 07:38
1,2-Dibromoethane	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
1,2-Dichlorobenzene	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
1,2-Dichloroethane	U		17	36	µg/Kg-dry	1	4/22/2014 07:38
1,2-Dichloropropane	U		12	36	µg/Kg-dry	1	4/22/2014 07:38
1,3-Dichlorobenzene	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
1,4-Dichlorobenzene	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
2-Butanone	U		88	240	µg/Kg-dry	1	4/22/2014 07:38
2-Hexanone	U		8.8	36	µg/Kg-dry	1	4/22/2014 07:38
4-Methyl-2-pentanone	U		12	36	µg/Kg-dry	1	4/22/2014 07:38
Acetone	U		76	120	µg/Kg-dry	1	4/22/2014 07:38

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-019
Collection Date: 4/11/2014 12:20 PM

Work Order: 1404693
Lab ID: 1404693-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzene	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
Bromodichloromethane	U		8.0	36	µg/Kg-dry	1	4/22/2014 07:38
Bromoform	U		7.0	36	µg/Kg-dry	1	4/22/2014 07:38
Bromomethane	U		14	89	µg/Kg-dry	1	4/22/2014 07:38
Carbon disulfide	U		18	36	µg/Kg-dry	1	4/22/2014 07:38
Carbon tetrachloride	U		10	36	µg/Kg-dry	1	4/22/2014 07:38
Chlorobenzene	U		15	36	µg/Kg-dry	1	4/22/2014 07:38
Chloroethane	U		76	120	µg/Kg-dry	1	4/22/2014 07:38
Chloroform	U		15	36	µg/Kg-dry	1	4/22/2014 07:38
Chloromethane	U		20	120	µg/Kg-dry	1	4/22/2014 07:38
cis-1,2-Dichloroethene	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
cis-1,3-Dichloropropene	U		12	36	µg/Kg-dry	1	4/22/2014 07:38
Cyclohexane	U		16	36	µg/Kg-dry	1	4/22/2014 07:38
Dibromochloromethane	U		6.6	36	µg/Kg-dry	1	4/22/2014 07:38
Dichlorodifluoromethane	U		16	36	µg/Kg-dry	1	4/22/2014 07:38
Ethylbenzene	U		13	36	µg/Kg-dry	1	4/22/2014 07:38
Isopropylbenzene	U		15	36	µg/Kg-dry	1	4/22/2014 07:38
Methyl acetate	65	J	48	240	µg/Kg-dry	1	4/22/2014 07:38
Methyl tert-butyl ether	U		15	36	µg/Kg-dry	1	4/22/2014 07:38
Methylcyclohexane	U		17	36	µg/Kg-dry	1	4/22/2014 07:38
Methylene chloride	U		14	36	µg/Kg-dry	1	4/22/2014 07:38
Styrene	U		13	36	µg/Kg-dry	1	4/22/2014 07:38
Tetrachloroethene	U		16	36	µg/Kg-dry	1	4/22/2014 07:38
Toluene	U		13	36	µg/Kg-dry	1	4/22/2014 07:38
trans-1,2-Dichloroethene	U		11	36	µg/Kg-dry	1	4/22/2014 07:38
trans-1,3-Dichloropropene	U		12	36	µg/Kg-dry	1	4/22/2014 07:38
Trichloroethene	U		17	36	µg/Kg-dry	1	4/22/2014 07:38
Trichlorofluoromethane	U		9.8	36	µg/Kg-dry	1	4/22/2014 07:38
Vinyl chloride	U		16	36	µg/Kg-dry	1	4/22/2014 07:38
Xylenes, Total	U		42	110	µg/Kg-dry	1	4/22/2014 07:38
Surr: 1,2-Dichloroethane-d4	96.6			70-130	%REC	1	4/22/2014 07:38
Surr: 4-Bromofluorobenzene	86.4			70-130	%REC	1	4/22/2014 07:38
Surr: Dibromofluoromethane	93.6			70-130	%REC	1	4/22/2014 07:38
Surr: Toluene-d8	104			70-130	%REC	1	4/22/2014 07:38

CYANIDE, TOTAL

SW9012A

Prep: SW9012A / 4/18/14

Analyst: JB

BatchID: 57752

Cyanide, Total	0.066	J	0.026	0.57	mg/Kg-dry	1	4/18/2014 14:27

MOISTURE

A2540 G

Analyst: AT

BatchID: R139021

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-019
Collection Date: 4/11/2014 12:20 PM

Work Order: 1404693
Lab ID: 1404693-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Moisture	14		0.025	0.050	% of sample	1	4/15/2014 15:11

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-015
Collection Date: 4/11/2014 01:00 PM

Work Order: 1404693
Lab ID: 1404693-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/20/14	Analyst: LR
BatchID: <u>57790</u>							
Mercury	0.00029		0.00010	0.00020	mg/L	1	4/21/2014 14:51
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/20/14	Analyst: LR
BatchID: <u>57790</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/21/2014 14:53
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/17/14	Analyst: RH
BatchID: <u>57657</u>							
Aluminum	59		0.0039	0.25	mg/L	5	4/19/2014 09:23
Antimony	0.0019	J	0.00018	0.010	mg/L	5	4/19/2014 09:23
Arsenic	0.077		0.0029	0.025	mg/L	5	4/19/2014 09:23
Barium	0.87		0.00032	0.50	mg/L	5	4/19/2014 09:23
Beryllium	0.0032	J	0.00041	0.0050	mg/L	5	4/19/2014 09:23
Cadmium	0.0029	J	0.00022	0.0050	mg/L	5	4/19/2014 09:23
Chromium	0.13		0.0014	0.050	mg/L	5	4/19/2014 09:23
Cobalt	0.064	J	0.00020	0.10	mg/L	5	4/19/2014 09:23
Copper	0.24		0.0026	0.020	mg/L	5	4/19/2014 09:23
Iron	140		0.027	1.0	mg/L	5	4/19/2014 09:23
Lead	0.28		0.00026	0.015	mg/L	5	4/19/2014 09:23
Manganese	4.4		0.00027	0.25	mg/L	5	4/19/2014 09:23
Nickel	0.19		0.0013	0.10	mg/L	5	4/19/2014 09:23
Selenium	0.012	J	0.0032	0.025	mg/L	5	4/19/2014 09:23
Silver	0.00075	J	0.00021	0.0010	mg/L	5	4/19/2014 09:23
Thallium	0.0048	J	0.00031	0.010	mg/L	5	4/19/2014 09:23
Vanadium	0.15		0.00082	0.020	mg/L	5	4/19/2014 09:23
Zinc	0.58		0.0024	0.25	mg/L	5	4/19/2014 09:23
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/17/14	Analyst: RH
BatchID: <u>57657</u>							
Aluminum	0.038	J	0.0039	0.25	mg/L	5	4/19/2014 09:29
Antimony	0.00040	J	0.00018	0.010	mg/L	5	4/19/2014 09:29
Arsenic	0.0064	J	0.0029	0.025	mg/L	5	4/19/2014 09:29
Barium	0.10	J	0.00032	0.50	mg/L	5	4/19/2014 09:29
Beryllium	U		0.00041	0.0050	mg/L	5	4/19/2014 09:29
Cadmium	U		0.00022	0.0050	mg/L	5	4/19/2014 09:29
Chromium	0.0018	J	0.0014	0.050	mg/L	5	4/19/2014 09:29
Cobalt	0.0031	J	0.00020	0.10	mg/L	5	4/19/2014 09:29
Copper	0.0027	J	0.0026	0.020	mg/L	5	4/19/2014 09:29
Iron	5.1		0.027	1.0	mg/L	5	4/19/2014 09:29

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-015
Collection Date: 4/11/2014 01:00 PM

Work Order: 1404693
Lab ID: 1404693-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.0012	J	0.00026	0.015	mg/L	5	4/19/2014 09:29
Manganese	0.96		0.00027	0.25	mg/L	5	4/19/2014 09:29
Nickel	0.0096	J	0.0013	0.10	mg/L	5	4/19/2014 09:29
Selenium	U		0.0032	0.025	mg/L	5	4/19/2014 09:29
Silver	U		0.00021	0.0010	mg/L	5	4/19/2014 09:29
Thallium	U		0.00031	0.010	mg/L	5	4/19/2014 09:29
Vanadium	U		0.00082	0.020	mg/L	5	4/19/2014 09:29
Zinc	0.0078	J	0.0024	0.25	mg/L	5	4/19/2014 09:29

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/16/14

Analyst: HL

BatchID: 57615

1,1'-Biphenyl	U	0.095	10	µg/L	1	4/17/2014 01:18
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	4/17/2014 01:18
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	4/17/2014 01:18
2,4-Dichlorophenol	U	0.22	10	µg/L	1	4/17/2014 01:18
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	4/17/2014 01:18
2,4-Dinitrophenol	U	0.67	25	µg/L	1	4/17/2014 01:18
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	4/17/2014 01:18
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	4/17/2014 01:18
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	4/17/2014 01:18
2-Chlorophenol	U	0.32	10	µg/L	1	4/17/2014 01:18
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	4/17/2014 01:18
2-Methylphenol	U	0.20	10	µg/L	1	4/17/2014 01:18
2-Nitroaniline	U	0.34	25	µg/L	1	4/17/2014 01:18
2-Nitrophenol	U	0.28	5.0	µg/L	1	4/17/2014 01:18
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	4/17/2014 01:18
3-Nitroaniline	U	0.34	25	µg/L	1	4/17/2014 01:18
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	4/17/2014 01:18
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	4/17/2014 01:18
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	4/17/2014 01:18
4-Chloroaniline	U	0.32	10	µg/L	1	4/17/2014 01:18
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	4/17/2014 01:18
4-Methylphenol	U	0.20	10	µg/L	1	4/17/2014 01:18
4-Nitroaniline	U	0.30	25	µg/L	1	4/17/2014 01:18
4-Nitrophenol	U	0.51	25	µg/L	1	4/17/2014 01:18
Acenaphthene	U	0.11	5.0	µg/L	1	4/17/2014 01:18
Acenaphthylene	U	0.12	5.0	µg/L	1	4/17/2014 01:18
Acetophenone	U	0.090	5.0	µg/L	1	4/17/2014 01:18
Anthracene	U	0.72	5.0	µg/L	1	4/17/2014 01:18
Atrazine	U	0.13	5.0	µg/L	1	4/17/2014 01:18

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-015
Collection Date: 4/11/2014 01:00 PM

Work Order: 1404693
Lab ID: 1404693-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	4/17/2014 01:18
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	4/17/2014 01:18
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	4/17/2014 01:18
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	4/17/2014 01:18
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	4/17/2014 01:18
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	4/17/2014 01:18
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	4/17/2014 01:18
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	4/17/2014 01:18
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	4/17/2014 01:18
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	4/17/2014 01:18
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	4/17/2014 01:18
Caprolactam	U		4.7	10	µg/L	1	4/17/2014 01:18
Carbazole	U		0.16	10	µg/L	1	4/17/2014 01:18
Chrysene	U		0.71	1.0	µg/L	1	4/17/2014 01:18
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	4/17/2014 01:18
Dibenzofuran	U		0.28	4.0	µg/L	1	4/17/2014 01:18
Diethyl phthalate	U		0.24	5.0	µg/L	1	4/17/2014 01:18
Dimethyl phthalate	U		0.27	5.0	µg/L	1	4/17/2014 01:18
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	4/17/2014 01:18
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	4/17/2014 01:18
Fluoranthene	U		0.77	1.0	µg/L	1	4/17/2014 01:18
Fluorene	U		0.10	5.0	µg/L	1	4/17/2014 01:18
Hexachlorobenzene	U		0.22	0.50	µg/L	1	4/17/2014 01:18
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	4/17/2014 01:18
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	4/17/2014 01:18
Hexachloroethane	U		0.47	5.0	µg/L	1	4/17/2014 01:18
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	4/17/2014 01:18
Isophorone	U		0.30	5.0	µg/L	1	4/17/2014 01:18
Naphthalene	U		0.12	5.0	µg/L	1	4/17/2014 01:18
Nitrobenzene	U		0.33	3.0	µg/L	1	4/17/2014 01:18
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	4/17/2014 01:18
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	4/17/2014 01:18
Pentachlorophenol	U		0.22	1.0	µg/L	1	4/17/2014 01:18
Phenanthrene	U		0.86	2.0	µg/L	1	4/17/2014 01:18
Phenol	U		0.32	5.0	µg/L	1	4/17/2014 01:18
Pyrene	U		0.65	5.0	µg/L	1	4/17/2014 01:18
Surr: 2,4,6-Tribromophenol	73.7			32-115	%REC	1	4/17/2014 01:18
Surr: 2-Fluorobiphenyl	65.5			32-100	%REC	1	4/17/2014 01:18
Surr: 2-Fluorophenol	35.1			22-59	%REC	1	4/17/2014 01:18
Surr: 4-Terphenyl-d14	95.2			23-112	%REC	1	4/17/2014 01:18

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-015
Collection Date: 4/11/2014 01:00 PM

Work Order: 1404693
Lab ID: 1404693-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	53.5			31-93	%REC	1	4/17/2014 01:18
Surr: Phenol-d6	14.5			13-36	%REC	1	4/17/2014 01:18
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R139311							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 21:55
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/21/2014 21:55
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 21:55
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/21/2014 21:55
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/21/2014 21:55
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 21:55
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/21/2014 21:55
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/21/2014 21:55
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/21/2014 21:55
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/21/2014 21:55
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/21/2014 21:55
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/21/2014 21:55
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 21:55
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/21/2014 21:55
2-Butanone	U		0.64	25	µg/L	1	4/21/2014 21:55
2-Hexanone	U		0.19	50	µg/L	1	4/21/2014 21:55
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/21/2014 21:55
Acetone	U		3.0	50	µg/L	1	4/21/2014 21:55
Benzene	U		0.14	1.0	µg/L	1	4/21/2014 21:55
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/21/2014 21:55
Bromoform	U		0.18	1.0	µg/L	1	4/21/2014 21:55
Bromomethane	U		0.38	5.0	µg/L	1	4/21/2014 21:55
Carbon disulfide	U		0.26	5.0	µg/L	1	4/21/2014 21:55
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/21/2014 21:55
Chlorobenzene	U		0.12	1.0	µg/L	1	4/21/2014 21:55
Chloroethane	U		0.25	5.0	µg/L	1	4/21/2014 21:55
Chloroform	U		0.15	1.0	µg/L	1	4/21/2014 21:55
Chloromethane	U		0.29	5.0	µg/L	1	4/21/2014 21:55
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/21/2014 21:55
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/21/2014 21:55
Cyclohexane	U		0.20	1.0	µg/L	1	4/21/2014 21:55
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/21/2014 21:55
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/21/2014 21:55
Ethylbenzene	U		0.12	1.0	µg/L	1	4/21/2014 21:55
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/21/2014 21:55

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-015
Collection Date: 4/11/2014 01:00 PM

Work Order: 1404693
Lab ID: 1404693-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/21/2014 21:55
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/21/2014 21:55
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/21/2014 21:55
Methylene chloride	U		0.75	5.0	µg/L	1	4/21/2014 21:55
Styrene	U		0.12	1.0	µg/L	1	4/21/2014 21:55
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/21/2014 21:55
Toluene	0.30	J	0.13	1.0	µg/L	1	4/21/2014 21:55
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/21/2014 21:55
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/21/2014 21:55
Trichloroethene	U		0.16	1.0	µg/L	1	4/21/2014 21:55
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/21/2014 21:55
Vinyl chloride	U		0.15	1.0	µg/L	1	4/21/2014 21:55
Xylenes, Total	U		0.30	3.0	µg/L	1	4/21/2014 21:55
Surr: 1,2-Dichloroethane-d4	100			70-120	%REC	1	4/21/2014 21:55
Surr: 4-Bromofluorobenzene	95.2			75-120	%REC	1	4/21/2014 21:55
Surr: Dibromofluoromethane	99.3			85-115	%REC	1	4/21/2014 21:55
Surr: Toluene-d8	104			85-120	%REC	1	4/21/2014 21:55
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/16/14		Analyst: JB
BatchID: 57651							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	4/16/2014 16:03

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-020
Collection Date: 4/11/2014 01:50 PM

Work Order: 1404693
Lab ID: 1404693-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471			Prep: SW7471 / 4/18/14	Analyst: LR
BatchID: <u>57720</u>							
Mercury	0.022		0.00071	0.014	mg/Kg-dry	1	4/18/2014 13:40
METALS BY ICP-MS			SW6020A			Prep: SW3050B / 4/17/14	Analyst: ML
BatchID: <u>57691</u>							
Aluminum	5,500		0.46	3.6	mg/Kg-dry	5	4/22/2014 16:46
Antimony	0.22	J	0.0072	1.8	mg/Kg-dry	5	4/21/2014 04:16
Arsenic	5.8		0.25	0.72	mg/Kg-dry	5	4/21/2014 04:16
Barium	23		0.051	1.8	mg/Kg-dry	5	4/21/2014 04:16
Beryllium	0.31	J	0.014	0.72	mg/Kg-dry	5	4/21/2014 04:16
Cadmium	0.31	J	0.0072	0.72	mg/Kg-dry	5	4/21/2014 04:16
Chromium	11		0.30	1.8	mg/Kg-dry	5	4/21/2014 04:16
Cobalt	5.3		0.0072	1.8	mg/Kg-dry	5	4/21/2014 04:16
Copper	8.1		0.35	1.8	mg/Kg-dry	5	4/21/2014 04:16
Iron	12,000		6.0	29	mg/Kg-dry	5	4/21/2014 04:16
Lead	7.4		0.0072	1.8	mg/Kg-dry	5	4/21/2014 04:16
Manganese	480		0.16	1.8	mg/Kg-dry	5	4/21/2014 04:16
Nickel	9.9		0.18	1.8	mg/Kg-dry	5	4/21/2014 04:16
Selenium	0.60	J	0.23	1.4	mg/Kg-dry	5	4/21/2014 04:16
Silver	0.023	J	0.0072	0.72	mg/Kg-dry	5	4/21/2014 04:16
Thallium	0.17	J	0.043	1.8	mg/Kg-dry	5	4/21/2014 04:16
Vanadium	16		0.11	1.8	mg/Kg-dry	5	4/21/2014 04:16
Zinc	25		0.15	3.6	mg/Kg-dry	5	4/21/2014 04:16
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270			Prep: SW3541 / 4/18/14	Analyst: HL
BatchID: <u>57708</u>							
1,1'-Biphenyl	U		5.6	370	µg/Kg-dry	1	4/19/2014 12:28
2,4,5-Trichlorophenol	U		9.3	180	µg/Kg-dry	1	4/19/2014 12:28
2,4,6-Trichlorophenol	U		6.3	180	µg/Kg-dry	1	4/19/2014 12:28
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	4/19/2014 12:28
2,4-Dimethylphenol	U		60	370	µg/Kg-dry	1	4/19/2014 12:28
2,4-Dinitrophenol	U		34	740	µg/Kg-dry	1	4/19/2014 12:28
2,4-Dinitrotoluene	U		12	180	µg/Kg-dry	1	4/19/2014 12:28
2,6-Dinitrotoluene	U		19	180	µg/Kg-dry	1	4/19/2014 12:28
2-Chloronaphthalene	U		1.8	90	µg/Kg-dry	1	4/19/2014 12:28
2-Chlorophenol	U		11	180	µg/Kg-dry	1	4/19/2014 12:28
2-Methylnaphthalene	U		3.1	90	µg/Kg-dry	1	4/19/2014 12:28
2-Methylphenol	U		15	180	µg/Kg-dry	1	4/19/2014 12:28
2-Nitroaniline	U		15	740	µg/Kg-dry	1	4/19/2014 12:28

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-020
Collection Date: 4/11/2014 01:50 PM

Work Order: 1404693
Lab ID: 1404693-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Nitrophenol	U		13	180	µg/Kg-dry	1	4/19/2014 12:28
3,3'-Dichlorobenzidine	U		460	740	µg/Kg-dry	1	4/19/2014 12:28
3-Nitroaniline	U		13	740	µg/Kg-dry	1	4/19/2014 12:28
4,6-Dinitro-2-methylphenol	U		31	370	µg/Kg-dry	1	4/19/2014 12:28
4-Bromophenyl phenyl ether	U		10	180	µg/Kg-dry	1	4/19/2014 12:28
4-Chloro-3-methylphenol	U		8.6	180	µg/Kg-dry	1	4/19/2014 12:28
4-Chloroaniline	U		11	370	µg/Kg-dry	1	4/19/2014 12:28
4-Chlorophenyl phenyl ether	U		11	180	µg/Kg-dry	1	4/19/2014 12:28
4-Methylphenol	U		18	180	µg/Kg-dry	1	4/19/2014 12:28
4-Nitroaniline	U		10	740	µg/Kg-dry	1	4/19/2014 12:28
4-Nitrophenol	U		7.4	740	µg/Kg-dry	1	4/19/2014 12:28
Acenaphthene	U		1.1	34	µg/Kg-dry	1	4/19/2014 12:28
Acenaphthylene	U		1.4	34	µg/Kg-dry	1	4/19/2014 12:28
Acetophenone	U		5.6	370	µg/Kg-dry	1	4/19/2014 12:28
Anthracene	U		1.5	34	µg/Kg-dry	1	4/19/2014 12:28
Atrazine	U		11	56	µg/Kg-dry	1	4/19/2014 12:28
Benzaldehyde	U		14	370	µg/Kg-dry	1	4/19/2014 12:28
Benzo(a)anthracene	24	J	1.5	34	µg/Kg-dry	1	4/19/2014 12:28
Benzo(a)pyrene	U		2.4	34	µg/Kg-dry	1	4/19/2014 12:28
Benzo(b)fluoranthene	U		2.2	34	µg/Kg-dry	1	4/19/2014 12:28
Benzo(g,h,i)perylene	U		2.9	34	µg/Kg-dry	1	4/19/2014 12:28
Benzo(k)fluoranthene	U		1.6	34	µg/Kg-dry	1	4/19/2014 12:28
Bis(2-chloroethoxy)methane	U		12	180	µg/Kg-dry	1	4/19/2014 12:28
Bis(2-chloroethyl)ether	U		12	180	µg/Kg-dry	1	4/19/2014 12:28
Bis(2-chloroisopropyl)ether	U		16	180	µg/Kg-dry	1	4/19/2014 12:28
Bis(2-ethylhexyl)phthalate	45	J	12	370	µg/Kg-dry	1	4/19/2014 12:28
Butyl benzyl phthalate	U		14	180	µg/Kg-dry	1	4/19/2014 12:28
Caprolactam	U		16	370	µg/Kg-dry	1	4/19/2014 12:28
Carbazole	U		11	180	µg/Kg-dry	1	4/19/2014 12:28
Chrysene	U		1.8	34	µg/Kg-dry	1	4/19/2014 12:28
Dibenzo(a,h)anthracene	U		2.8	34	µg/Kg-dry	1	4/19/2014 12:28
Dibenzofuran	U		12	180	µg/Kg-dry	1	4/19/2014 12:28
Diethyl phthalate	U		12	370	µg/Kg-dry	1	4/19/2014 12:28
Dimethyl phthalate	U		13	370	µg/Kg-dry	1	4/19/2014 12:28
Di-n-butyl phthalate	U		5.4	370	µg/Kg-dry	1	4/19/2014 12:28
Di-n-octyl phthalate	U		12	180	µg/Kg-dry	1	4/19/2014 12:28
Fluoranthene	U		2.6	34	µg/Kg-dry	1	4/19/2014 12:28
Fluorene	U		2.5	34	µg/Kg-dry	1	4/19/2014 12:28
Hexachlorobenzene	U		10	180	µg/Kg-dry	1	4/19/2014 12:28
Hexachlorobutadiene	U		13	56	µg/Kg-dry	1	4/19/2014 12:28

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-020
Collection Date: 4/11/2014 01:50 PM

Work Order: 1404693
Lab ID: 1404693-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Hexachlorocyclopentadiene	U		12	370	µg/Kg-dry	1	4/19/2014 12:28
Hexachloroethane	U		17	180	µg/Kg-dry	1	4/19/2014 12:28
Indeno(1,2,3-cd)pyrene	U		2.5	34	µg/Kg-dry	1	4/19/2014 12:28
Isophorone	U		12	180	µg/Kg-dry	1	4/19/2014 12:28
Naphthalene	U		2.7	34	µg/Kg-dry	1	4/19/2014 12:28
Nitrobenzene	U		14	180	µg/Kg-dry	1	4/19/2014 12:28
N-Nitrosodi-n-propylamine	U		14	180	µg/Kg-dry	1	4/19/2014 12:28
N-Nitrosodiphenylamine	U		67	180	µg/Kg-dry	1	4/19/2014 12:28
Pentachlorophenol	U		7.2	22	µg/Kg-dry	1	4/19/2014 12:28
Phenanthrene	37		1.5	34	µg/Kg-dry	1	4/19/2014 12:28
Phenol	U		13	180	µg/Kg-dry	1	4/19/2014 12:28
Pyrene	U		2.5	34	µg/Kg-dry	1	4/19/2014 12:28
Surr: 2,4,6-Tribromophenol	98.0			34-140	%REC	1	4/19/2014 12:28
Surr: 2-Fluorobiphenyl	78.1			12-100	%REC	1	4/19/2014 12:28
Surr: 2-Fluorophenol	80.7			33-117	%REC	1	4/19/2014 12:28
Surr: 4-Terphenyl-d14	113			25-137	%REC	1	4/19/2014 12:28
Surr: Nitrobenzene-d5	61.4			37-107	%REC	1	4/19/2014 12:28
Surr: Phenol-d6	65.8			40-106	%REC	1	4/19/2014 12:28
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/15/14		Analyst: BG
BatchID: 57591							
1,1,1-Trichloroethane	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
1,1,2,2-Tetrachloroethane	U		15	34	µg/Kg-dry	1	4/21/2014 19:19
1,1,2-Trichloroethane	U		12	34	µg/Kg-dry	1	4/21/2014 19:19
1,1,2-Trichlorotrifluoroethane	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
1,1-Dichloroethane	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
1,1-Dichloroethene	U		14	34	µg/Kg-dry	1	4/21/2014 19:19
1,2,4-Trichlorobenzene	U		18	34	µg/Kg-dry	1	4/21/2014 19:19
1,2-Dibromo-3-chloropropane	U		17	34	µg/Kg-dry	1	4/21/2014 19:19
1,2-Dibromoethane	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
1,2-Dichlorobenzene	U		14	34	µg/Kg-dry	1	4/21/2014 19:19
1,2-Dichloroethane	U		16	34	µg/Kg-dry	1	4/21/2014 19:19
1,2-Dichloropropane	U		11	34	µg/Kg-dry	1	4/21/2014 19:19
1,3-Dichlorobenzene	U		14	34	µg/Kg-dry	1	4/21/2014 19:19
1,4-Dichlorobenzene	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
2-Butanone	U		85	230	µg/Kg-dry	1	4/21/2014 19:19
2-Hexanone	U		8.4	34	µg/Kg-dry	1	4/21/2014 19:19
4-Methyl-2-pentanone	U		12	34	µg/Kg-dry	1	4/21/2014 19:19
Acetone	U		72	110	µg/Kg-dry	1	4/21/2014 19:19
Benzene	U		14	34	µg/Kg-dry	1	4/21/2014 19:19

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: S-R2330012-041114-ACN-020
Collection Date: 4/11/2014 01:50 PM

Work Order: 1404693
Lab ID: 1404693-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		7.7	34	µg/Kg-dry	1	4/21/2014 19:19
Bromoform	U		6.7	34	µg/Kg-dry	1	4/21/2014 19:19
Bromomethane	U		13	86	µg/Kg-dry	1	4/21/2014 19:19
Carbon disulfide	U		17	34	µg/Kg-dry	1	4/21/2014 19:19
Carbon tetrachloride	U		9.7	34	µg/Kg-dry	1	4/21/2014 19:19
Chlorobenzene	U		14	34	µg/Kg-dry	1	4/21/2014 19:19
Chloroethane	U		73	110	µg/Kg-dry	1	4/21/2014 19:19
Chloroform	U		14	34	µg/Kg-dry	1	4/21/2014 19:19
Chloromethane	U		19	110	µg/Kg-dry	1	4/21/2014 19:19
cis-1,2-Dichloroethene	U		14	34	µg/Kg-dry	1	4/21/2014 19:19
cis-1,3-Dichloropropene	U		12	34	µg/Kg-dry	1	4/21/2014 19:19
Cyclohexane	U		15	34	µg/Kg-dry	1	4/21/2014 19:19
Dibromochloromethane	U		6.3	34	µg/Kg-dry	1	4/21/2014 19:19
Dichlorodifluoromethane	U		15	34	µg/Kg-dry	1	4/21/2014 19:19
Ethylbenzene	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
Isopropylbenzene	U		15	34	µg/Kg-dry	1	4/21/2014 19:19
Methyl acetate	58	J	46	230	µg/Kg-dry	1	4/21/2014 19:19
Methyl tert-butyl ether	U		14	34	µg/Kg-dry	1	4/21/2014 19:19
Methylcyclohexane	U		16	34	µg/Kg-dry	1	4/21/2014 19:19
Methylene chloride	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
Styrene	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
Tetrachloroethene	U		15	34	µg/Kg-dry	1	4/21/2014 19:19
Toluene	U		13	34	µg/Kg-dry	1	4/21/2014 19:19
trans-1,2-Dichloroethene	U		11	34	µg/Kg-dry	1	4/21/2014 19:19
trans-1,3-Dichloropropene	U		11	34	µg/Kg-dry	1	4/21/2014 19:19
Trichloroethene	U		16	34	µg/Kg-dry	1	4/21/2014 19:19
Trichlorofluoromethane	U		9.4	34	µg/Kg-dry	1	4/21/2014 19:19
Vinyl chloride	U		15	34	µg/Kg-dry	1	4/21/2014 19:19
Xylenes, Total	U		40	100	µg/Kg-dry	1	4/21/2014 19:19
Surr: 1,2-Dichloroethane-d4	93.6			70-130	%REC	1	4/21/2014 19:19
Surr: 4-Bromofluorobenzene	87.2			70-130	%REC	1	4/21/2014 19:19
Surr: Dibromofluoromethane	100			70-130	%REC	1	4/21/2014 19:19
Surr: Toluene-d8	97.8			70-130	%REC	1	4/21/2014 19:19
CYANIDE, TOTAL			SW9012A			Prep: SW9012A / 4/18/14	Analyst: JB
BatchID: <u>57752</u>							
Cyanide, Total	0.043	J	0.027	0.58	mg/Kg-dry	1	4/18/2014 14:27
MOISTURE			A2540 G				Analyst: AT
BatchID: <u>R139021</u>							
Moisture	12		0.025	0.050	% of sample	1	4/15/2014 15:11

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-016
Collection Date: 4/11/2014 02:10 PM

Work Order: 1404693
Lab ID: 1404693-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/20/14	Analyst: LR
<u>BatchID: 57790</u>							
Mercury	0.00082		0.00010	0.00020	mg/L	1	4/21/2014 14:55
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/20/14	Analyst: LR
<u>BatchID: 57790</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/21/2014 14:58
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/17/14	Analyst: RH
<u>BatchID: 57657</u>							
Aluminum	170		0.0078	0.50	mg/L	10	4/22/2014 19:33
Antimony	0.0012	J	0.00036	0.020	mg/L	10	4/22/2014 19:33
Arsenic	0.12		0.0058	0.050	mg/L	10	4/22/2014 19:33
Barium	1.1		0.00063	1.0	mg/L	10	4/22/2014 19:33
Beryllium	0.0088	J	0.00082	0.010	mg/L	10	4/22/2014 19:33
Cadmium	0.0071	J	0.00045	0.010	mg/L	10	4/22/2014 19:33
Chromium	0.55		0.0027	0.10	mg/L	10	4/22/2014 19:33
Cobalt	0.17	J	0.00041	0.20	mg/L	10	4/22/2014 19:33
Copper	0.49		0.0053	0.040	mg/L	10	4/22/2014 19:33
Iron	370		0.053	2.0	mg/L	10	4/22/2014 19:33
Lead	0.41		0.00051	0.030	mg/L	10	4/22/2014 19:33
Manganese	9.3		0.00054	0.50	mg/L	10	4/22/2014 19:33
Nickel	0.53		0.0025	0.20	mg/L	10	4/22/2014 19:33
Selenium	0.020	J	0.0064	0.050	mg/L	10	4/22/2014 19:33
Silver	0.00082	J	0.00042	0.0020	mg/L	10	4/22/2014 19:33
Thallium	0.0092	J	0.00062	0.020	mg/L	10	4/22/2014 19:33
Vanadium	0.42		0.0016	0.040	mg/L	10	4/22/2014 19:33
Zinc	1.5		0.0048	0.50	mg/L	10	4/22/2014 19:33
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/17/14	Analyst: RH
<u>BatchID: 57657</u>							
Aluminum	0.039	J	0.00078	0.050	mg/L	1	4/22/2014 19:39
Antimony	0.00043	J	0.000036	0.0020	mg/L	1	4/22/2014 19:39
Arsenic	0.0028	J	0.00058	0.0050	mg/L	1	4/22/2014 19:39
Barium	0.16		0.000063	0.10	mg/L	1	4/22/2014 19:39
Beryllium	U		0.000082	0.0010	mg/L	1	4/22/2014 19:39
Cadmium	U		0.000045	0.0010	mg/L	1	4/22/2014 19:39
Chromium	0.00095	J	0.00027	0.010	mg/L	1	4/22/2014 19:39
Cobalt	0.0067	J	0.000041	0.020	mg/L	1	4/22/2014 19:39
Copper	0.0024	J	0.00053	0.0040	mg/L	1	4/22/2014 19:39
Iron	3.2		0.0053	0.20	mg/L	1	4/22/2014 19:39

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-016
Collection Date: 4/11/2014 02:10 PM

Work Order: 1404693
Lab ID: 1404693-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.00018	J	0.000051	0.0030	mg/L	1	4/22/2014 19:39
Manganese	1.2		0.000054	0.050	mg/L	1	4/22/2014 19:39
Nickel	0.017	J	0.00025	0.020	mg/L	1	4/22/2014 19:39
Selenium	0.0072		0.00064	0.0050	mg/L	1	4/22/2014 19:39
Silver	U		0.000042	0.00020	mg/L	1	4/22/2014 19:39
Thallium	U		0.000062	0.0020	mg/L	1	4/22/2014 19:39
Vanadium	0.00059	J	0.00016	0.0040	mg/L	1	4/22/2014 19:39
Zinc	0.0090	J	0.00048	0.050	mg/L	1	4/22/2014 19:39

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/16/14

Analyst: HL

BatchID: 57615

1,1'-Biphenyl	U	0.095	10	µg/L	1	4/17/2014 01:41
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	4/17/2014 01:41
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	4/17/2014 01:41
2,4-Dichlorophenol	U	0.22	10	µg/L	1	4/17/2014 01:41
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	4/17/2014 01:41
2,4-Dinitrophenol	U	0.67	25	µg/L	1	4/17/2014 01:41
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	4/17/2014 01:41
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	4/17/2014 01:41
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	4/17/2014 01:41
2-Chlorophenol	U	0.32	10	µg/L	1	4/17/2014 01:41
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	4/17/2014 01:41
2-Methylphenol	U	0.20	10	µg/L	1	4/17/2014 01:41
2-Nitroaniline	U	0.34	25	µg/L	1	4/17/2014 01:41
2-Nitrophenol	U	0.28	5.0	µg/L	1	4/17/2014 01:41
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	4/17/2014 01:41
3-Nitroaniline	U	0.34	25	µg/L	1	4/17/2014 01:41
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	4/17/2014 01:41
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	4/17/2014 01:41
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	4/17/2014 01:41
4-Chloroaniline	U	0.32	10	µg/L	1	4/17/2014 01:41
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	4/17/2014 01:41
4-Methylphenol	U	0.20	10	µg/L	1	4/17/2014 01:41
4-Nitroaniline	U	0.30	25	µg/L	1	4/17/2014 01:41
4-Nitrophenol	U	0.51	25	µg/L	1	4/17/2014 01:41
Acenaphthene	U	0.11	5.0	µg/L	1	4/17/2014 01:41
Acenaphthylene	U	0.12	5.0	µg/L	1	4/17/2014 01:41
Acetophenone	U	0.090	5.0	µg/L	1	4/17/2014 01:41
Anthracene	U	0.72	5.0	µg/L	1	4/17/2014 01:41
Atrazine	U	0.13	5.0	µg/L	1	4/17/2014 01:41

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-016
Collection Date: 4/11/2014 02:10 PM

Work Order: 1404693
Lab ID: 1404693-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	4/17/2014 01:41
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	4/17/2014 01:41
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	4/17/2014 01:41
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	4/17/2014 01:41
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	4/17/2014 01:41
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	4/17/2014 01:41
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	4/17/2014 01:41
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	4/17/2014 01:41
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	4/17/2014 01:41
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	4/17/2014 01:41
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	4/17/2014 01:41
Caprolactam	U		4.7	10	µg/L	1	4/17/2014 01:41
Carbazole	U		0.16	10	µg/L	1	4/17/2014 01:41
Chrysene	U		0.71	1.0	µg/L	1	4/17/2014 01:41
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	4/17/2014 01:41
Dibenzofuran	U		0.28	4.0	µg/L	1	4/17/2014 01:41
Diethyl phthalate	U		0.24	5.0	µg/L	1	4/17/2014 01:41
Dimethyl phthalate	U		0.27	5.0	µg/L	1	4/17/2014 01:41
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	4/17/2014 01:41
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	4/17/2014 01:41
Fluoranthene	U		0.77	1.0	µg/L	1	4/17/2014 01:41
Fluorene	U		0.10	5.0	µg/L	1	4/17/2014 01:41
Hexachlorobenzene	U		0.22	0.50	µg/L	1	4/17/2014 01:41
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	4/17/2014 01:41
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	4/17/2014 01:41
Hexachloroethane	U		0.47	5.0	µg/L	1	4/17/2014 01:41
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	4/17/2014 01:41
Isophorone	U		0.30	5.0	µg/L	1	4/17/2014 01:41
Naphthalene	U		0.12	5.0	µg/L	1	4/17/2014 01:41
Nitrobenzene	U		0.33	3.0	µg/L	1	4/17/2014 01:41
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	4/17/2014 01:41
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	4/17/2014 01:41
Pentachlorophenol	U		0.22	1.0	µg/L	1	4/17/2014 01:41
Phenanthrene	U		0.86	2.0	µg/L	1	4/17/2014 01:41
Phenol	U		0.32	5.0	µg/L	1	4/17/2014 01:41
Pyrene	U		0.65	5.0	µg/L	1	4/17/2014 01:41
Surr: 2,4,6-Tribromophenol	88.3			32-115	%REC	1	4/17/2014 01:41
Surr: 2-Fluorobiphenyl	78.0			32-100	%REC	1	4/17/2014 01:41
Surr: 2-Fluorophenol	40.6			22-59	%REC	1	4/17/2014 01:41
Surr: 4-Terphenyl-d14	113	S		23-112	%REC	1	4/17/2014 01:41

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-016
Collection Date: 4/11/2014 02:10 PM

Work Order: 1404693
Lab ID: 1404693-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	60.3			31-93	%REC	1	4/17/2014 01:41
Surr: Phenol-d6	21.6			13-36	%REC	1	4/17/2014 01:41
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R139353							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/22/2014 08:02
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/22/2014 08:02
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/22/2014 08:02
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/22/2014 08:02
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/22/2014 08:02
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/22/2014 08:02
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/22/2014 08:02
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/22/2014 08:02
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/22/2014 08:02
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/22/2014 08:02
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/22/2014 08:02
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/22/2014 08:02
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/22/2014 08:02
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/22/2014 08:02
2-Butanone	U		0.64	25	µg/L	1	4/22/2014 08:02
2-Hexanone	U		0.19	50	µg/L	1	4/22/2014 08:02
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/22/2014 08:02
Acetone	U		3.0	50	µg/L	1	4/22/2014 08:02
Benzene	0.31	J	0.14	1.0	µg/L	1	4/22/2014 08:02
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/22/2014 08:02
Bromoform	U		0.18	1.0	µg/L	1	4/22/2014 08:02
Bromomethane	U		0.38	5.0	µg/L	1	4/22/2014 08:02
Carbon disulfide	U		0.26	5.0	µg/L	1	4/22/2014 08:02
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/22/2014 08:02
Chlorobenzene	U		0.12	1.0	µg/L	1	4/22/2014 08:02
Chloroethane	U		0.25	5.0	µg/L	1	4/22/2014 08:02
Chloroform	U		0.15	1.0	µg/L	1	4/22/2014 08:02
Chloromethane	U		0.29	5.0	µg/L	1	4/22/2014 08:02
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/22/2014 08:02
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/22/2014 08:02
Cyclohexane	U		0.20	1.0	µg/L	1	4/22/2014 08:02
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/22/2014 08:02
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/22/2014 08:02
Ethylbenzene	U		0.12	1.0	µg/L	1	4/22/2014 08:02
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/22/2014 08:02

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-041114-ACN-016
Collection Date: 4/11/2014 02:10 PM

Work Order: 1404693
Lab ID: 1404693-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/22/2014 08:02
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/22/2014 08:02
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/22/2014 08:02
Methylene chloride	U		0.75	5.0	µg/L	1	4/22/2014 08:02
Styrene	U		0.12	1.0	µg/L	1	4/22/2014 08:02
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/22/2014 08:02
Toluene	0.49	J	0.13	1.0	µg/L	1	4/22/2014 08:02
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/22/2014 08:02
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/22/2014 08:02
Trichloroethene	U		0.16	1.0	µg/L	1	4/22/2014 08:02
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/22/2014 08:02
Vinyl chloride	U		0.15	1.0	µg/L	1	4/22/2014 08:02
Xylenes, Total	U		0.30	3.0	µg/L	1	4/22/2014 08:02
Surr: 1,2-Dichloroethane-d4	99.0			70-120	%REC	1	4/22/2014 08:02
Surr: 4-Bromofluorobenzene	86.2			75-120	%REC	1	4/22/2014 08:02
Surr: Dibromofluoromethane	97.1			85-115	%REC	1	4/22/2014 08:02
Surr: Toluene-d8	106			85-120	%REC	1	4/22/2014 08:02
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/16/14		Analyst: JB
<u>BatchID: 57651</u>							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	4/16/2014 16:03

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

ALS Group USA, Corp

Date: 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 4/11/2014

Work Order: 1404693
Lab ID: 1404693-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 4/15/14	Analyst: RS	
<u>BatchID: 57591</u>							
1,1,1-Trichloroethane	U		11	30	µg/Kg	1	4/22/2014 07:14
1,1,2,2-Tetrachloroethane	U		13	30	µg/Kg	1	4/22/2014 07:14
1,1,2-Trichloroethane	U		11	30	µg/Kg	1	4/22/2014 07:14
1,1,2-Trichlorotrifluoroethane	U		11	30	µg/Kg	1	4/22/2014 07:14
1,1-Dichloroethane	U		11	30	µg/Kg	1	4/22/2014 07:14
1,1-Dichloroethene	U		13	30	µg/Kg	1	4/22/2014 07:14
1,2,4-Trichlorobenzene	U		16	30	µg/Kg	1	4/22/2014 07:14
1,2-Dibromo-3-chloropropane	U		15	30	µg/Kg	1	4/22/2014 07:14
1,2-Dibromoethane	U		12	30	µg/Kg	1	4/22/2014 07:14
1,2-Dichlorobenzene	U		12	30	µg/Kg	1	4/22/2014 07:14
1,2-Dichloroethane	U		14	30	µg/Kg	1	4/22/2014 07:14
1,2-Dichloropropane	U		9.9	30	µg/Kg	1	4/22/2014 07:14
1,3-Dichlorobenzene	U		12	30	µg/Kg	1	4/22/2014 07:14
1,4-Dichlorobenzene	U		11	30	µg/Kg	1	4/22/2014 07:14
2-Butanone	U		74	200	µg/Kg	1	4/22/2014 07:14
2-Hexanone	U		7.4	30	µg/Kg	1	4/22/2014 07:14
4-Methyl-2-pentanone	U		10	30	µg/Kg	1	4/22/2014 07:14
Acetone	U		64	100	µg/Kg	1	4/22/2014 07:14
Benzene	U		12	30	µg/Kg	1	4/22/2014 07:14
Bromodichloromethane	U		6.7	30	µg/Kg	1	4/22/2014 07:14
Bromoform	U		5.9	30	µg/Kg	1	4/22/2014 07:14
Bromomethane	14	J	11	75	µg/Kg	1	4/22/2014 07:14
Carbon disulfide	U		15	30	µg/Kg	1	4/22/2014 07:14
Carbon tetrachloride	U		8.5	30	µg/Kg	1	4/22/2014 07:14
Chlorobenzene	U		12	30	µg/Kg	1	4/22/2014 07:14
Chloroethane	U		64	100	µg/Kg	1	4/22/2014 07:14
Chloroform	U		12	30	µg/Kg	1	4/22/2014 07:14
Chloromethane	22	J	17	100	µg/Kg	1	4/22/2014 07:14
cis-1,2-Dichloroethene	U		12	30	µg/Kg	1	4/22/2014 07:14
cis-1,3-Dichloropropene	U		10	30	µg/Kg	1	4/22/2014 07:14
Cyclohexane	U		13	30	µg/Kg	1	4/22/2014 07:14
Dibromochloromethane	U		5.6	30	µg/Kg	1	4/22/2014 07:14
Dichlorodifluoromethane	U		14	30	µg/Kg	1	4/22/2014 07:14
Ethylbenzene	U		11	30	µg/Kg	1	4/22/2014 07:14
Isopropylbenzene	U		13	30	µg/Kg	1	4/22/2014 07:14
Methyl acetate	U		40	200	µg/Kg	1	4/22/2014 07:14
Methyl tert-butyl ether	U		13	30	µg/Kg	1	4/22/2014 07:14

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

ALS Group USA, Corp**Date:** 24-Apr-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 4/11/2014

Work Order: 1404693
Lab ID: 1404693-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		14	30	µg/Kg	1	4/22/2014 07:14
Methylene chloride	U		12	30	µg/Kg	1	4/22/2014 07:14
Styrene	U		11	30	µg/Kg	1	4/22/2014 07:14
Tetrachloroethene	U		13	30	µg/Kg	1	4/22/2014 07:14
Toluene	U		11	30	µg/Kg	1	4/22/2014 07:14
trans-1,2-Dichloroethene	U		9.2	30	µg/Kg	1	4/22/2014 07:14
trans-1,3-Dichloropropene	U		10	30	µg/Kg	1	4/22/2014 07:14
Trichloroethene	U		14	30	µg/Kg	1	4/22/2014 07:14
Trichlorofluoromethane	U		8.3	30	µg/Kg	1	4/22/2014 07:14
Vinyl chloride	U		14	30	µg/Kg	1	4/22/2014 07:14
Xylenes, Total	U		35	90	µg/Kg	1	4/22/2014 07:14
Surr: 1,2-Dichloroethane-d4	94.1			70-130	%REC	1	4/22/2014 07:14
Surr: 4-Bromofluorobenzene	89.1			70-130	%REC	1	4/22/2014 07:14
Surr: Dibromofluoromethane	95.6			70-130	%REC	1	4/22/2014 07:14
Surr: Toluene-d8	102			70-130	%REC	1	4/22/2014 07:14

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

Client: The Mannik & Smith Group, Inc.

Work Order: 1404693

Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57720**

Instrument ID **HG1**

Method: **SW7471**

MBLK		Sample ID: MBLK-57720-57720				Units: mg/Kg		Analysis Date: 4/18/2014 01:26 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720046		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.020

LCS		Sample ID: LCS-57720-57720				Units: mg/Kg		Analysis Date: 4/18/2014 01:28 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720048		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1552 0.020 0.1665 0 93.2 80-120 0

MS		Sample ID: 1404924-01BMS				Units: mg/Kg		Analysis Date: 4/18/2014 01:33 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720307		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1451 0.015 0.1229 0.01938 102 75-125 0

MSD		Sample ID: 1404924-01BMSD				Units: mg/Kg		Analysis Date: 4/18/2014 01:35 PM		
Client ID:		Run ID: HG1_140418A				SeqNo: 2720308		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1445 0.014 0.1199 0.01938 104 75-125 0.1451 0.417 35

The following samples were analyzed in this batch:

1404693-01B 1404693-03B

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57790** Instrument ID **HG1** Method: **SW7470**

MBLK		Sample ID: MBLK-57790-57790				Units: mg/L		Analysis Date: 4/21/2014 02:46 PM		
Client ID:		Run ID: HG1_140421A				SeqNo: 2724124		Prep Date: 4/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS		Sample ID: LCS-57790-57790				Units: mg/L		Analysis Date: 4/21/2014 02:48 PM		
Client ID:		Run ID: HG1_140421A				SeqNo: 2724125		Prep Date: 4/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001988 0.00020 0.002 0 99.4 80-120 0

MS		Sample ID: 1404927-01CMS				Units: mg/L		Analysis Date: 4/21/2014 03:25 PM		
Client ID:		Run ID: HG1_140421A				SeqNo: 2724141		Prep Date: 4/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002087 0.00020 0.002 0.00002 103 75-125 0

MSD		Sample ID: 1404927-01CMSD				Units: mg/L		Analysis Date: 4/21/2014 03:28 PM		
Client ID:		Run ID: HG1_140421A				SeqNo: 2724142		Prep Date: 4/20/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00216 0.00020 0.002 0.00002 107 75-125 0.002087 3.44 20

The following samples were analyzed in this batch:

1404693-02D	1404693-02E	1404693-04D
1404693-04E		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57657** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK		Sample ID: MBLK-57657-57657				Units: mg/L		Analysis Date: 4/19/2014 09:11 AM		
Client ID:		Run ID: ICPMS2_140418A				SeqNo: 2722689		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.010								
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Chromium	0.0002811	0.0050								J
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	U	0.0050								
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	0.002851	0.010								J

LCS		Sample ID: LCS-57657-57657				Units: mg/L		Analysis Date: 4/19/2014 09:17 AM		
Client ID:		Run ID: ICPMS2_140418A				SeqNo: 2722690		Prep Date: 4/17/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09658	0.010	0.1	0	96.6	80-120	0			
Antimony	0.1012	0.0050	0.1	0	101	80-120	0			
Arsenic	0.09763	0.0050	0.1	0	97.6	80-120	0			
Barium	0.09687	0.0050	0.1	0	96.9	80-120	0			
Beryllium	0.1034	0.0020	0.1	0	103	80-120	0			
Cadmium	0.0974	0.0020	0.1	0	97.4	80-120	0			
Chromium	0.09439	0.0050	0.1	0	94.4	80-120	0			
Cobalt	0.09594	0.0050	0.1	0	95.9	80-120	0			
Copper	0.09667	0.0050	0.1	0	96.7	80-120	0			
Iron	9.827	0.080	10	0	98.3	80-120	0			
Lead	0.0965	0.0050	0.1	0	96.5	80-120	0			
Manganese	0.09393	0.0050	0.1	0	93.9	80-120	0			
Nickel	0.09414	0.0050	0.1	0	94.1	80-120	0			
Selenium	0.09605	0.0050	0.1	0	96	80-120	0			
Silver	0.09562	0.0050	0.1	0	95.6	80-120	0			
Thallium	0.0922	0.0050	0.1	0	92.2	80-120	0			
Vanadium	0.09049	0.0050	0.1	0	90.5	80-120	0			
Zinc	0.1003	0.010	0.1	0	100	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57657** Instrument ID **ICPMS2** Method: **SW6020A**

MS				Sample ID: 1404745-01AMS			Units: mg/L		Analysis Date: 4/22/2014 07:50 PM		
Client ID:			Run ID: ICPMS2_140422A			SeqNo: 2726301		Prep Date: 4/17/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1249	0.010	0.1	0.008101	117	75-125	0				
Antimony	0.1041	0.0050	0.1	8.178E-06	104	75-125	0				
Arsenic	0.1037	0.0050	0.1	0.0001675	104	75-125	0				
Barium	0.1684	0.0050	0.1	0.07481	93.6	75-125	0				
Beryllium	0.1075	0.0020	0.1	-1.093E-06	108	75-125	0				
Cadmium	0.103	0.0020	0.1	0.00004872	103	75-125	0				
Chromium	0.09931	0.0050	0.1	0.00006381	99.2	75-125	0				
Cobalt	0.1016	0.0050	0.1	0.000877	101	75-125	0				
Copper	0.102	0.0050	0.1	0.0021	99.9	75-125	0				
Iron	10.57	0.080	10	0.3983	102	75-125	0				
Lead	0.1057	0.0050	0.1	0.0000162	106	75-125	0				
Manganese	0.1845	0.0050	0.1	0.09669	87.8	75-125	0				
Nickel	0.1031	0.0050	0.1	0.004574	98.5	75-125	0				
Selenium	0.103	0.0050	0.1	0.000793	102	75-125	0				
Silver	0.09734	0.0050	0.1	-1.243E-06	97.3	75-125	0				
Thallium	0.1035	0.0050	0.1	-1.694E-05	104	75-125	0				
Vanadium	0.1082	0.0050	0.1	0.0002095	108	75-125	0				
Zinc	0.1038	0.010	0.1	0.004644	99.2	75-125	0				

MSD					Sample ID: 1404745-01AMSD		Units: mg/L		Analysis Date: 4/22/2014 07:55 PM		
Client ID:			Run ID: ICPMS2_140422A			SeqNo: 2726302		Prep Date: 4/17/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1264	0.010	0.1	0.008101	118	75-125	0.1249	1.19	20		
Antimony	0.1045	0.0050	0.1	8.178E-06	104	75-125	0.1041	0.384	20		
Arsenic	0.1045	0.0050	0.1	0.0001675	104	75-125	0.1037	0.768	20		
Barium	0.168	0.0050	0.1	0.07481	93.2	75-125	0.1684	0.238	20		
Beryllium	0.1089	0.0020	0.1	-1.093E-06	109	75-125	0.1075	1.29	20		
Cadmium	0.1035	0.0020	0.1	0.00004872	103	75-125	0.103	0.484	20		
Chromium	0.09956	0.0050	0.1	0.00006381	99.5	75-125	0.09931	0.251	20		
Cobalt	0.1011	0.0050	0.1	0.000877	100	75-125	0.1016	0.493	20		
Copper	0.1024	0.0050	0.1	0.0021	100	75-125	0.102	0.391	20		
Iron	10.61	0.080	10	0.3983	102	75-125	10.57	0.378	20		
Lead	0.1058	0.0050	0.1	0.0000162	106	75-125	0.1057	0.0946	20		
Manganese	0.1846	0.0050	0.1	0.09669	87.9	75-125	0.1845	0.0542	20		
Nickel	0.1039	0.0050	0.1	0.004574	99.3	75-125	0.1031	0.773	20		
Selenium	0.1041	0.0050	0.1	0.000793	103	75-125	0.103	1.06	20		
Silver	0.09747	0.0050	0.1	-1.243E-06	97.5	75-125	0.09734	0.133	20		
Thallium	0.1038	0.0050	0.1	-1.694E-05	104	75-125	0.1035	0.289	20		
Vanadium	0.1083	0.0050	0.1	0.0002095	108	75-125	0.1082	0.0924	20		
Zinc	0.1051	0.010	0.1	0.004644	100	75-125	0.1038	1.24	20		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57657** Instrument ID **ICPMS2** Method: **SW6020A**

The following samples were analyzed in this batch:

1404693-02D	1404693-02E	1404693-04D
1404693-04E		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57691** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-57691-57691				Units: mg/Kg		Analysis Date: 4/21/2014 03:34 AM			
Client ID:		Run ID: ICPMS1_140420A				SeqNo: 2722158		Prep Date: 4/17/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	U	0.25									
Arsenic	U	0.25									
Barium	U	0.25									
Beryllium	U	0.10									
Cadmium	U	0.10									
Chromium	U	0.25									
Cobalt	U	0.25									
Copper	U	0.25									
Iron	1.022	4.0								J	
Lead	0.002518	0.25								J	
Manganese	U	0.25									
Nickel	U	0.25									
Selenium	U	0.25									
Silver	U	0.25									
Thallium	U	0.25									
Vanadium	U	0.25									
Zinc	0.2224	0.50								J	

MBLK		Sample ID: MBLK-57691-57691					Units: mg/Kg		Analysis Date: 4/22/2014 02:56 PM		
Client ID:			Run ID: ICPMS1_140422A			SeqNo: 2726173		Prep Date: 4/17/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1378	0.50								J	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57691** Instrument ID **ICPMS1** Method: **SW6020A**

LCS				Sample ID: LCS-57691-57691			Units: mg/Kg		Analysis Date: 4/21/2014 03:40 AM		
Client ID:			Run ID: ICPMS1_140420A			SeqNo: 2722159		Prep Date: 4/17/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	5.27	0.25	5	0	105	80-120	0				
Arsenic	4.744	0.25	5	0	94.9	80-120	0				
Barium	5.215	0.25	5	0	104	80-120	0				
Beryllium	4.892	0.10	5	0	97.8	80-120	0				
Cadmium	5.005	0.10	5	0	100	80-120	0				
Chromium	5.475	0.25	5	0	110	80-120	0				
Cobalt	5.53	0.25	5	0	111	80-120	0				
Copper	5.5	0.25	5	0	110	80-120	0				
Iron	563.5	4.0	500	0	113	80-120	0				
Lead	5.425	0.25	5	0	108	80-120	0				
Manganese	5.505	0.25	5	0	110	80-120	0				
Nickel	5.455	0.25	5	0	109	80-120	0				
Selenium	4.504	0.25	5	0	90.1	80-120	0				
Silver	5.23	0.25	5	0	105	80-120	0				
Thallium	5.215	0.25	5	0	104	80-120	0				
Vanadium	5.585	0.25	5	0	112	80-120	0				
Zinc	5.1	0.50	5	0	102	80-120	0				

LCS		Sample ID: LCS-57691-57691					Units: mg/Kg		Analysis Date: 4/22/2014 03:02 PM		
Client ID:		Run ID: ICPMS1_140422A			SeqNo: 2726174		Prep Date: 4/17/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	4.694	0.50	5	0	93.9	80-120	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57691** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 1404693-01BMS			Units: mg/Kg		Analysis Date: 4/21/2014 03:58 AM		
Client ID: S-R2330012-041114-ACN-019			Run ID: ICPMS1_140420A			SeqNo: 2722162		Prep Date: 4/17/2014		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	6.296	1.6	6.305	0.2112	96.5	75-125	0				
Arsenic	14.16	1.6	6.305	4.856	148	75-125	0			S	
Barium	61.35	1.6	6.305	80.13	-298	75-125	0			SO	
Beryllium	6.516	0.63	6.305	0.3777	97.4	75-125	0				
Cadmium	6.895	0.63	6.305	0.2299	106	75-125	0				
Chromium	21.95	1.6	6.305	11.62	164	75-125	0			S	
Cobalt	11.23	1.6	6.305	4.005	115	75-125	0				
Copper	18.98	1.6	6.305	12.57	102	75-125	0				
Iron	13140	25	630.5	11760	219	75-125	0			SO	
Lead	48.05	1.6	6.305	32.7	243	75-125	0			SO	
Manganese	397.2	1.6	6.305	217.8	2850	75-125	0			SO	
Nickel	18.53	1.6	6.305	11.18	117	75-125	0				
Selenium	7.147	1.6	6.305	0.4936	106	75-125	0				
Silver	6.28	1.6	6.305	0.03209	99.1	75-125	0				
Thallium	6.561	1.6	6.305	0.1107	102	75-125	0				
Vanadium	30.59	1.6	6.305	16.42	225	75-125	0			S	
Zinc	55.71	3.2	6.305	38.48	273	75-125	0			SO	

MS				Sample ID: 1404693-01BMS				Units: mg/Kg		Analysis Date: 4/21/2014 02:40 PM			
Client ID: S-R2330012-041114-ACN-019				Run ID: ICPMS1_140421A				SeqNo: 2723867		Prep Date: 4/17/2014		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Aluminum	6343	32	6.305	5375	15300	75-125	0			BSO			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57691** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1404693-01BMSD			Units: mg/Kg		Analysis Date: 4/21/2014 04:04 AM		
Client ID: S-R2330012-041114-ACN-019			Run ID: ICPMS1_140420A			SeqNo: 2722163		Prep Date: 4/17/2014		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	6.843	1.6	6.57	0.2112	101	75-125	6.296	8.33	25		
Arsenic	11.5	1.6	6.57	4.856	101	75-125	14.16	20.8	25		
Barium	63.44	1.6	6.57	80.13	-254	75-125	61.35	3.34	25	SO	
Beryllium	6.968	0.66	6.57	0.3777	100	75-125	6.516	6.7	25		
Cadmium	7.526	0.66	6.57	0.2299	111	75-125	6.895	8.76	25		
Chromium	27.03	1.6	6.57	11.62	235	75-125	21.95	20.7	25	S	
Cobalt	12.22	1.6	6.57	4.005	125	75-125	11.23	8.48	25	S	
Copper	20.9	1.6	6.57	12.57	127	75-125	18.98	9.59	25	S	
Iron	12870	26	657	11760	170	75-125	13140	2.04	25	SO	
Lead	42.58	1.6	6.57	32.7	150	75-125	48.05	12.1	25	SO	
Manganese	267.7	1.6	6.57	217.8	759	75-125	397.2	39	25	SRO	
Nickel	20.44	1.6	6.57	11.18	141	75-125	18.53	9.8	25	S	
Selenium	7.263	1.6	6.57	0.4936	103	75-125	7.147	1.62	25		
Silver	6.718	1.6	6.57	0.03209	102	75-125	6.28	6.74	25		
Thallium	7.135	1.6	6.57	0.1107	107	75-125	6.561	8.39	25		
Vanadium	31.26	1.6	6.57	16.42	226	75-125	30.59	2.17	25	S	
Zinc	52.17	3.3	6.57	38.48	208	75-125	55.71	6.56	25	SO	

MSD				Sample ID: 1404693-01BMSD				Units: mg/Kg			Analysis Date: 4/21/2014 02:46 PM			
Client ID: S-R2330012-041114-ACN-019				Run ID: ICPMS1_140421A				SeqNo: 2723868			Prep Date: 4/17/2014		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Aluminum	7474	33	6.57	5375	31900	75-125	6343	16.4	25	BSO				

The following samples were analyzed in this batch:

1404693-01B 1404693-03B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57615** Instrument ID **SVMS7** Method: **SW8270**

MBLK		Sample ID: SBLKW1-57615-57615				Units: µg/L		Analysis Date: 4/16/2014 06:33 PM		
Client ID:		Run ID: SVMS7_140416A				SeqNo: 2718164		Prep Date: 4/16/2014		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	1.0								
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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57615	Instrument ID SVMS7	Method: SW8270						
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>	35.82	0	50	0	71.6	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	32.7	0	50	0	65.4	32-100	0	
<i>Surr: 2-Fluorophenol</i>	17.92	0	50	0	35.8	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	43.94	0	50	0	87.9	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	26.2	0	50	0	52.4	31-93	0	
<i>Surr: Phenol-d6</i>	8.13	0	50	0	16.3	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57615** Instrument ID **SVMS7** Method: **SW8270**

LCS		Sample ID: SLCSW1-57615-57615				Units: µg/L		Analysis Date: 4/16/2014 06:55 PM		
Client ID:		Run ID: SVMS7_140416A				SeqNo: 2718167		Prep Date: 4/16/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	14.9	5.0	20	0	74.5	50-110	0			
2,4,6-Trichlorophenol	13.4	5.0	20	0	67	50-115	0			
2,4-Dichlorophenol	13.12	10	20	0	65.6	50-105	0			
2,4-Dimethylphenol	10.81	5.0	20	0	54	30-110	0			
2,4-Dinitrophenol	10.29	5.0	20	0	51.4	15-140	0			
2,4-Dinitrotoluene	14.41	5.0	20	0	72	50-120	0			
2,6-Dinitrotoluene	13.87	5.0	20	0	69.4	50-115	0			
2-Chloronaphthalene	14.17	5.0	20	0	70.8	50-105	0			
2-Chlorophenol	11.61	5.0	20	0	58	35-105	0			
2-Methylnaphthalene	13.83	5.0	20	0	69.2	45-105	0			
2-Methylphenol	9.85	5.0	20	0	49.2	40-110	0			
2-Nitroaniline	13.92	20	20	0	69.6	50-115	0			J
2-Nitrophenol	13	5.0	20	0	65	40-115	0			
3-Nitroaniline	14.49	20	20	0	72.4	20-125	0			J
4,6-Dinitro-2-methylphenol	15	20	20	0	75	40-130	0			J
4-Bromophenyl phenyl ether	16.29	5.0	20	0	81.4	50-115	0			
4-Chloro-3-methylphenol	12.38	5.0	20	0	61.9	45-110	0			
4-Chloroaniline	13.12	20	20	0	65.6	15-110	0			J
4-Chlorophenyl phenyl ether	14.41	5.0	20	0	72	50-110	0			
4-Methylphenol	9.9	5.0	20	0	49.5	30-110	0			
4-Nitroaniline	12.7	20	20	0	63.5	35-150	0			J
4-Nitrophenol	5.14	20	20	0	25.7	1-58	0			J
Acenaphthene	13.74	5.0	20	0	68.7	45-110	0			
Acenaphthylene	14.77	5.0	20	0	73.8	50-105	0			
Anthracene	15.59	5.0	20	0	78	55-110	0			
Benzo(a)anthracene	15.8	5.0	20	0	79	55-110	0			
Benzo(a)pyrene	16.62	5.0	20	0	83.1	55-110	0			
Benzo(b)fluoranthene	16.37	5.0	20	0	81.8	45-120	0			
Benzo(g,h,i)perylene	14.39	5.0	20	0	72	40-125	0			
Benzo(k)fluoranthene	16.79	5.0	20	0	84	45-125	0			
Bis(2-chloroethoxy)methane	13.28	5.0	20	0	66.4	45-105	0			
Bis(2-chloroethyl)ether	14.26	5.0	20	0	71.3	35-110	0			
Bis(2-chloroisopropyl)ether	11.84	5.0	20	0	59.2	25-130	0			
Bis(2-ethylhexyl)phthalate	16.9	5.0	20	0	84.5	40-125	0			
Butyl benzyl phthalate	18.27	5.0	20	0	91.4	45-115	0			
Carbazole	15.46	10	20	0	77.3	50-150	0			
Chrysene	15.69	5.0	20	0	78.4	55-110	0			
Dibenzo(a,h)anthracene	14.94	5.0	20	0	74.7	40-125	0			
Dibenzofuran	14.74	5.0	20	0	73.7	55-105	0			
Diethyl phthalate	14.3	20	20	0	71.5	40-120	0			J
Dimethyl phthalate	14.87	20	20	0	74.4	25-125	0			J
Di-n-butyl phthalate	14.41	5.0	20	0	72	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57615		Instrument ID SVMS7		Method: SW8270				
Di-n-octyl phthalate	18.97	5.0	20	0	94.8	35-135	0	
Fluoranthene	15.23	5.0	20	0	76.2	55-115	0	
Fluorene	15.29	5.0	20	0	76.4	50-110	0	
Hexachlorobenzene	15.21	5.0	20	0	76	50-110	0	
Hexachlorobutadiene	14.02	5.0	20	0	70.1	25-105	0	
Hexachlorocyclopentadiene	8.77	20	20	0	43.8	25-105	0	J
Hexachloroethane	14.37	5.0	20	0	71.8	30-95	0	
Indeno(1,2,3-cd)pyrene	15.1	5.0	20	0	75.5	45-125	0	
Isophorone	14.44	5.0	20	0	72.2	50-110	0	
Naphthalene	14.33	5.0	20	0	71.6	40-100	0	
Nitrobenzene	14.64	5.0	20	0	73.2	45-110	0	
N-Nitrosodi-n-propylamine	13.92	5.0	20	0	69.6	35-130	0	
N-Nitrosodiphenylamine	15.86	5.0	20	0	79.3	50-110	0	
Pentachlorophenol	12.8	20	20	0	64	40-115	0	J
Phenanthrene	15.04	5.0	20	0	75.2	50-115	0	
Phenol	4.35	5.0	20	0	21.8	12-43	0	J
Pyrene	17.04	5.0	20	0	85.2	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	39.83	0	50	0	79.7	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	36.14	0	50	0	72.3	32-100	0	
<i>Surr: 2-Fluorophenol</i>	18.04	0	50	0	36.1	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	50.4	0	50	0	101	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	31.88	0	50	0	63.8	31-93	0	
<i>Surr: Phenol-d6</i>	10.05	0	50	0	20.1	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57615** Instrument ID **SVMS7** Method: **SW8270**

MS Sample ID: 1404638-02D MS				Units: µg/L			Analysis Date: 4/16/2014 09:34 PM			
Client ID:		Run ID: SVMS7_140416A		SeqNo: 2718169		Prep Date: 4/16/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	116.8	50	200	0	58.4	50-110	0			
2,4,6-Trichlorophenol	102.8	50	200	0	51.4	50-115	0			
2,4-Dichlorophenol	95	100	200	0	47.5	50-105	0			JS
2,4-Dimethylphenol	76.5	50	200	0	38.2	30-110	0			
2,4-Dinitrophenol	100.6	50	200	0	50.3	15-140	0			
2,4-Dinitrotoluene	126.9	50	200	0	63.4	50-120	0			
2,6-Dinitrotoluene	126.3	50	200	0	63.2	50-115	0			
2-Chloronaphthalene	114.2	50	200	0	57.1	50-105	0			
2-Chlorophenol	105.1	50	200	0	52.6	35-105	0			
2-Methylnaphthalene	113.7	50	200	0	56.8	45-105	0			
2-Methylphenol	75	50	200	0	37.5	40-110	0			S
2-Nitroaniline	115.9	200	200	0	58	50-115	0			J
2-Nitrophenol	104.5	50	200	0	52.2	40-115	0			
3-Nitroaniline	84.4	200	200	0	42.2	20-125	0			J
4,6-Dinitro-2-methylphenol	138.6	200	200	0	69.3	40-130	0			J
4-Bromophenyl phenyl ether	139.9	50	200	0	70	50-115	0			
4-Chloro-3-methylphenol	93.3	50	200	0	46.6	45-110	0			
4-Chloroaniline	85	200	200	0	42.5	15-110	0			J
4-Chlorophenyl phenyl ether	115.1	50	200	0	57.6	50-110	0			
4-Methylphenol	86.5	50	200	0	43.2	30-110	0			
4-Nitroaniline	84.7	200	200	0	42.4	35-150	0			J
4-Nitrophenol	50.2	200	200	0	25.1	1-58	0			J
Acenaphthene	109.2	50	200	0	54.6	45-110	0			
Acenaphthylene	108.9	50	200	0	54.4	50-105	0			
Anthracene	144.3	50	200	0	72.2	55-110	0			
Benzo(a)anthracene	149.5	50	200	0	74.8	55-110	0			
Benzo(a)pyrene	150	50	200	0	75	55-110	0			
Benzo(b)fluoranthene	153.9	50	200	0	77	45-120	0			
Benzo(g,h,i)perylene	134.1	50	200	0	67	40-125	0			
Benzo(k)fluoranthene	162.4	50	200	0	81.2	45-125	0			
Bis(2-chloroethoxy)methane	109.4	50	200	0	54.7	45-105	0			
Bis(2-chloroethyl)ether	111.9	50	200	3.42	54.2	35-110	0			
Bis(2-chloroisopropyl)ether	98.3	50	200	0	49.2	25-130	0			
Bis(2-ethylhexyl)phthalate	160.7	50	200	0	80.4	40-125	0			
Butyl benzyl phthalate	179.3	50	200	0	89.6	45-115	0			
Carbazole	161.4	100	200	0	80.7	50-150	0			
Chrysene	146.5	50	200	0	73.2	55-110	0			
Dibenzo(a,h)anthracene	129.6	50	200	0	64.8	40-125	0			
Dibenzofuran	109.5	50	200	0	54.8	55-105	0			S
Diethyl phthalate	121.6	200	200	0	60.8	40-120	0			J
Dimethyl phthalate	124.1	200	200	0	62	25-125	0			J
Di-n-butyl phthalate	136.5	50	200	0	68.2	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57615		Instrument ID SVMS7		Method: SW8270				
Di-n-octyl phthalate	187.2	50	200	0	93.6	35-135	0	
Fluoranthene	139.9	50	200	0	70	55-115	0	
Fluorene	120.6	50	200	0	60.3	50-110	0	
Hexachlorobenzene	146.1	50	200	0	73	50-110	0	
Hexachlorobutadiene	114.5	50	200	0	57.2	25-105	0	
Hexachlorocyclopentadiene	76.2	200	200	0	38.1	25-105	0	J
Hexachloroethane	109.5	50	200	0	54.8	30-95	0	
Indeno(1,2,3-cd)pyrene	141.6	50	200	0	70.8	45-125	0	
Isophorone	110.9	50	200	0	55.4	50-110	0	
Naphthalene	106.1	50	200	0	53	40-100	0	
Nitrobenzene	110.6	50	200	0	55.3	45-110	0	
N-Nitrosodi-n-propylamine	108.6	50	200	0	54.3	35-130	0	
N-Nitrosodiphenylamine	69.7	50	200	0	34.8	50-110	0	S
Pentachlorophenol	126.2	200	200	0	63.1	40-115	0	J
Phenanthrene	136.4	50	200	0	68.2	50-115	0	
Phenol	38.6	50	200	0	19.3	12-43	0	J
Pyrene	156	50	200	0	78	50-130	0	
Surr: 2,4,6-Tribromophenol	316.2	0	500	0	63.2	38-115	0	
Surr: 2-Fluorobiphenyl	264.9	0	500	0	53	32-100	0	
Surr: 2-Fluorophenol	146.1	0	500	0	29.2	22-59	0	
Surr: 4-Terphenyl-d14	456.3	0	500	0	91.3	23-112	0	
Surr: Nitrobenzene-d5	238.7	0	500	0	47.7	31-93	0	
Surr: Phenol-d6	71	0	500	0	14.2	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57615** Instrument ID **SVMS7** Method: **SW8270**

MSD				Sample ID: 1404638-02D MSD			Units: µg/L		Analysis Date: 4/16/2014 09:57 PM		
Client ID:		Run ID: SVMS7_140416A			SeqNo: 2718171		Prep Date: 4/16/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	122.7	50	200	0	61.4	50-110	116.8	4.93	30		
2,4,6-Trichlorophenol	106.4	50	200	0	53.2	50-115	102.8	3.44	30		
2,4-Dichlorophenol	89.1	100	200	0	44.6	50-105	95	0	30	JS	
2,4-Dimethylphenol	60.3	50	200	0	30.2	30-110	76.5	23.7	30		
2,4-Dinitrophenol	107.9	50	200	0	54	15-140	100.6	7	30		
2,4-Dinitrotoluene	123.2	50	200	0	61.6	50-120	126.9	2.96	30		
2,6-Dinitrotoluene	124.5	50	200	0	62.2	50-115	126.3	1.44	30		
2-Chloronaphthalene	102.5	50	200	0	51.2	50-105	114.2	10.8	30		
2-Chlorophenol	89.9	50	200	0	45	35-105	105.1	15.6	30		
2-Methylnaphthalene	103.2	50	200	0	51.6	45-105	113.7	9.68	30		
2-Methylphenol	67.3	50	200	0	33.6	40-110	75	10.8	30	S	
2-Nitroaniline	113.4	200	200	0	56.7	50-115	115.9	0	30	J	
2-Nitrophenol	90	50	200	0	45	40-115	104.5	14.9	30		
3-Nitroaniline	79	200	200	0	39.5	20-125	84.4	0	30	J	
4,6-Dinitro-2-methylphenol	134.6	200	200	0	67.3	40-130	138.6	0	30	J	
4-Bromophenyl phenyl ether	148	50	200	0	74	50-115	139.9	5.63	30		
4-Chloro-3-methylphenol	99.1	50	200	0	49.6	45-110	93.3	6.03	30		
4-Chloroaniline	83.2	200	200	0	41.6	15-110	85	0	30	J	
4-Chlorophenyl phenyl ether	120	50	200	0	60	50-110	115.1	4.17	30		
4-Methylphenol	67.2	50	200	0	33.6	30-110	86.5	25.1	30		
4-Nitroaniline	80.8	200	200	0	40.4	35-150	84.7	0	30	J	
4-Nitrophenol	40.4	200	200	0	20.2	1-58	50.2	0	0	J	
Acenaphthene	109.2	50	200	0	54.6	45-110	109.2	0	30		
Acenaphthylene	109.5	50	200	0	54.8	50-105	108.9	0.549	30		
Anthracene	135.7	50	200	0	67.8	55-110	144.3	6.14	30		
Benzo(a)anthracene	141.2	50	200	0	70.6	55-110	149.5	5.71	30		
Benzo(a)pyrene	144.1	50	200	0	72	55-110	150	4.01	30		
Benzo(b)fluoranthene	147.7	50	200	0	73.8	45-120	153.9	4.11	30		
Benzo(g,h,i)perylene	131.7	50	200	0	65.8	40-125	134.1	1.81	30		
Benzo(k)fluoranthene	159.4	50	200	0	79.7	45-125	162.4	1.86	30		
Bis(2-chloroethoxy)methane	101.8	50	200	0	50.9	45-105	109.4	7.2	30		
Bis(2-chloroethyl)ether	103.7	50	200	3.42	50.1	35-110	111.9	7.61	30		
Bis(2-chloroisopropyl)ether	94.5	50	200	0	47.2	25-130	98.3	3.94	30		
Bis(2-ethylhexyl)phthalate	155.6	50	200	0	77.8	40-125	160.7	3.22	30		
Butyl benzyl phthalate	165.6	50	200	0	82.8	45-115	179.3	7.94	30		
Carbazole	157.3	100	200	0	78.6	50-150	161.4	2.57	30		
Chrysene	145.7	50	200	0	72.8	55-110	146.5	0.548	30		
Dibenzo(a,h)anthracene	129.5	50	200	0	64.8	40-125	129.6	0.0772	30		
Dibenzofuran	116.4	50	200	0	58.2	55-105	109.5	6.11	30		
Diethyl phthalate	124.4	200	200	0	62.2	40-120	121.6	0	30	J	
Dimethyl phthalate	131	200	200	0	65.5	25-125	124.1	0	30	J	
Di-n-butyl phthalate	131.9	50	200	0	66	55-115	136.5	3.43	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57615		Instrument ID SVMS7		Method: SW8270					
Di-n-octyl phthalate	185.4	50	200	0	92.7	35-135	187.2	0.966	30
Fluoranthene	135.3	50	200	0	67.6	55-115	139.9	3.34	30
Fluorene	130.6	50	200	0	65.3	50-110	120.6	7.96	30
Hexachlorobenzene	136.7	50	200	0	68.4	50-110	146.1	6.65	30
Hexachlorobutadiene	96.6	50	200	0	48.3	25-105	114.5	17	30
Hexachlorocyclopentadiene	76.3	200	200	0	38.2	25-105	76.2	0	30 J
Hexachloroethane	106.5	50	200	0	53.2	30-95	109.5	2.78	30
Indeno(1,2,3-cd)pyrene	137.1	50	200	0	68.6	45-125	141.6	3.23	30
Isophorone	107.2	50	200	0	53.6	50-110	110.9	3.39	30
Naphthalene	95.3	50	200	0	47.6	40-100	106.1	10.7	30
Nitrobenzene	114.5	50	200	0	57.2	45-110	110.6	3.47	30
N-Nitrosodi-n-propylamine	98.5	50	200	0	49.2	35-130	108.6	9.75	30
N-Nitrosodiphenylamine	57	50	200	0	28.5	50-110	69.7	20	30 S
Pentachlorophenol	116.5	200	200	0	58.2	40-115	126.2	0	30 J
Phenanthrene	131.9	50	200	0	66	50-115	136.4	3.35	30
Phenol	29.6	50	200	0	14.8	12-43	38.6	0	30 J
Pyrene	152.2	50	200	0	76.1	50-130	156	2.47	30
<i>Surr: 2,4,6-Tribromophenol</i>	328.6	0	500	0	65.7	38-115	316.2	3.85	40
<i>Surr: 2-Fluorobiphenyl</i>	259.6	0	500	0	51.9	32-100	264.9	2.02	40
<i>Surr: 2-Fluorophenol</i>	131.4	0	500	0	26.3	22-59	146.1	10.6	40
<i>Surr: 4-Terphenyl-d14</i>	444.3	0	500	0	88.9	23-112	456.3	2.66	40
<i>Surr: Nitrobenzene-d5</i>	230.9	0	500	0	46.2	31-93	238.7	3.32	40
<i>Surr: Phenol-d6</i>	67.6	0	500	0	13.5	13-36	71	4.91	40

The following samples were analyzed in this batch:

1404693-02B	1404693-04B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57708** Instrument ID **SVMS7** Method: **SW8270**

MBLK		Sample ID: SBLKS1-57708-57708				Units: µg/Kg		Analysis Date: 4/18/2014 07:12 PM		
Client ID:		Run ID: SVMS7_140418A				SeqNo: 2725198		Prep Date: 4/18/2014		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	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
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	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57708		Instrument ID SVMS7		Method: SW8270				
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
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	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	160						
Naphthalene	U	6.7						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	6.7						
Phenol	U	160						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1398</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>83.9</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>1350</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>81</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>1433</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>86</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>1819</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>109</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>1007</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>60.4</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>1060</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>63.6</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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57708** Instrument ID **SVMS7** Method: **SW8270**

LCS		Sample ID: SLCSS1-57708-57708				Units: µg/Kg		Analysis Date: 4/18/2014 07:35 PM		
Client ID:		Run ID: SVMS7_140418A				SeqNo: 2725199		Prep Date: 4/18/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	501.7	160	666.7	0	75.2	50-110	0			
2,4,6-Trichlorophenol	506.7	160	666.7	0	76	45-110	0			
2,4-Dichlorophenol	403.7	160	666.7	0	60.5	45-110	0			
2,4-Dimethylphenol	310.3	330	666.7	0	46.5	30-105	0			J
2,4-Dinitrophenol	388	660	666.7	0	58.2	15-130	0			J
2,4-Dinitrotoluene	513	160	666.7	0	76.9	50-115	0			
2,6-Dinitrotoluene	512.7	160	666.7	0	76.9	50-110	0			
2-Chloronaphthalene	517.7	6.7	666.7	0	77.6	45-105	0			
2-Chlorophenol	390	160	666.7	0	58.5	45-105	0			
2-Methylnaphthalene	445	6.7	666.7	0	66.7	45-105	0			
2-Methylphenol	406	160	666.7	0	60.9	40-105	0			
2-Nitroaniline	514.3	660	666.7	0	77.1	45-120	0			J
2-Nitrophenol	445.3	160	666.7	0	66.8	40-110	0			
3-Nitroaniline	316.7	660	666.7	0	47.5	25-150	0			J
4-Bromophenyl phenyl ether	608.7	160	666.7	0	91.3	45-115	0			
4-Chloro-3-methylphenol	435.7	160	666.7	0	65.3	45-115	0			
4-Chloroaniline	292	660	666.7	0	43.8	15-110	0			J
4-Chlorophenyl phenyl ether	494	160	666.7	0	74.1	45-110	0			
4-Methylphenol	402.3	160	666.7	0	60.3	40-105	0			
4-Nitroaniline	419.3	660	666.7	0	62.9	35-150	0			J
4-Nitrophenol	464.3	660	666.7	0	69.6	15-140	0			J
Acenaphthene	494.3	6.7	666.7	0	74.1	45-110	0			
Acenaphthylene	530.7	6.7	666.7	0	79.6	45-105	0			
Anthracene	577.7	6.7	666.7	0	86.6	55-105	0			
Benzo(a)anthracene	572	6.7	666.7	0	85.8	50-110	0			
Benzo(a)pyrene	637	6.7	666.7	0	95.5	50-110	0			
Benzo(b)fluoranthene	615.7	6.7	666.7	0	92.3	45-115	0			
Benzo(g,h,i)perylene	595.3	6.7	666.7	0	89.3	40-125	0			
Benzo(k)fluoranthene	654.7	6.7	666.7	0	98.2	45-115	0			
Bis(2-chloroethoxy)methane	484.3	160	666.7	0	72.6	45-110	0			
Bis(2-chloroethyl)ether	485	160	666.7	0	72.7	40-105	0			
Bis(2-chloroisopropyl)ether	396.7	160	666.7	0	59.5	20-115	0			
Bis(2-ethylhexyl)phthalate	656.3	330	666.7	0	98.4	45-125	0			
Butyl benzyl phthalate	688	160	666.7	0	103	50-125	0			
Carbazole	608.7	160	666.7	0	91.3	50-150	0			
Chrysene	591.3	6.7	666.7	0	88.7	55-110	0			
Dibenzo(a,h)anthracene	581	6.7	666.7	0	87.1	40-125	0			
Dibenzofuran	517	160	666.7	0	77.5	50-105	0			
Diethyl phthalate	528.7	330	666.7	0	79.3	50-115	0			
Dimethyl phthalate	577.3	330	666.7	0	86.6	50-110	0			
Di-n-butyl phthalate	591.7	330	666.7	0	88.7	55-110	0			
Di-n-octyl phthalate	717.3	160	666.7	0	108	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57708	Instrument ID SVMS7		Method: SW8270				
Fluoranthene	573.3	6.7	666.7	0	86	55-115	0
Fluorene	556	6.7	666.7	0	83.4	50-110	0
Hexachlorobenzene	617.7	160	666.7	0	92.6	45-120	0
Hexachlorobutadiene	459	160	666.7	0	68.8	40-115	0
Hexachlorocyclopentadiene	344	330	666.7	0	51.6	40-115	0
Hexachloroethane	472.7	160	666.7	0	70.9	35-110	0
Indeno(1,2,3-cd)pyrene	616.3	6.7	666.7	0	92.4	40-120	0
Isophorone	455.3	160	666.7	0	68.3	45-110	0
Naphthalene	446.7	6.7	666.7	0	67	40-105	0
Nitrobenzene	500.3	160	666.7	0	75	40-115	0
N-Nitrosodi-n-propylamine	403.3	160	666.7	0	60.5	40-115	0
N-Nitrosodiphenylamine	623	160	666.7	0	93.4	50-115	0
Pentachlorophenol	456	330	666.7	0	68.4	25-120	0
Phenanthrene	567.3	6.7	666.7	0	85.1	50-110	0
Phenol	395.3	160	666.7	0	59.3	40-100	0
Pyrene	614.3	6.7	666.7	0	92.1	45-125	0
Surr: 2,4,6-Tribromophenol	1334	0	1667	0	80.1	34-140	0
Surr: 2-Fluorobiphenyl	1175	0	1667	0	70.5	12-100	0
Surr: 2-Fluorophenol	1093	0	1667	0	65.6	33-117	0
Surr: 4-Terphenyl-d14	1711	0	1667	0	103	25-137	0
Surr: Nitrobenzene-d5	959.3	0	1667	0	57.6	37-107	0
Surr: Phenol-d6	918.7	0	1667	0	55.1	40-106	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57708** Instrument ID **SVMS7** Method: **SW8270**

MS Sample ID: 1404844-01A MS				Units: µg/Kg			Analysis Date: 4/18/2014 09:50 PM			
Client ID:		Run ID: SVMS7_140418A		SeqNo: 2725200		Prep Date: 4/18/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1325	310	1296	0	102	50-110	0			
2,4,6-Trichlorophenol	1093	310	1296	0	84.3	45-110	0			
2,4-Dichlorophenol	969.9	310	1296	0	74.8	45-110	0			
2,4-Dimethylphenol	848.1	640	1296	0	65.4	30-105	0			
2,4-Dinitrophenol	882.5	1,300	1296	0	68.1	15-130	0			J
2,4-Dinitrotoluene	1096	310	1296	0	84.5	50-115	0			
2,6-Dinitrotoluene	1201	310	1296	0	92.6	50-110	0			
2-Chloronaphthalene	1102	13	1296	0	85	45-105	0			
2-Chlorophenol	842.9	310	1296	0	65	45-105	0			
2-Methylnaphthalene	905.1	13	1296	0	69.8	45-105	0			
2-Methylphenol	898.7	310	1296	0	69.3	40-105	0			
2-Nitroaniline	1262	1,300	1296	0	97.3	45-120	0			J
2-Nitrophenol	843.6	310	1296	0	65.1	40-110	0			
3-Nitroaniline	1018	1,300	1296	0	78.5	25-110	0			J
4-Bromophenyl phenyl ether	1269	310	1296	0	97.9	45-115	0			
4-Chloro-3-methylphenol	1045	310	1296	0	80.6	45-115	0			
4-Chloroaniline	596.7	1,300	1296	0	46	15-110	0			J
4-Chlorophenyl phenyl ether	1157	310	1296	0	89.3	45-110	0			
4-Methylphenol	950.5	310	1296	0	73.3	40-105	0			
4-Nitroaniline	1006	1,300	1296	0	77.6	35-150	0			J
4-Nitrophenol	1114	1,300	1296	0	85.9	15-140	0			J
Acenaphthene	1080	13	1296	0	83.3	45-110	0			
Acenaphthylene	1092	13	1296	0	84.3	45-105	0			
Anthracene	1187	13	1296	0	91.6	55-105	0			
Benzo(a)anthracene	1221	13	1296	0	94.2	50-110	0			
Benzo(a)pyrene	1252	13	1296	0	96.6	50-110	0			
Benzo(b)fluoranthene	1264	13	1296	0	97.5	45-115	0			
Benzo(g,h,i)perylene	1207	13	1296	0	93.1	40-125	0			
Benzo(k)fluoranthene	1326	13	1296	0	102	45-115	0			
Bis(2-chloroethoxy)methane	893.5	310	1296	0	68.9	45-110	0			
Bis(2-chloroethyl)ether	964.1	310	1296	0	74.4	40-105	0			
Bis(2-chloroisopropyl)ether	784.6	310	1296	0	60.5	20-115	0			
Bis(2-ethylhexyl)phthalate	1385	640	1296	0	107	45-125	0			
Butyl benzyl phthalate	1383	310	1296	0	107	50-125	0			
Carbazole	1221	310	1296	0	94.2	50-150	0			
Chrysene	1210	13	1296	0	93.4	55-110	0			
Dibenzo(a,h)anthracene	1181	13	1296	0	91.1	40-125	0			
Dibenzofuran	1166	310	1296	0	89.9	50-105	0			
Diethyl phthalate	1122	640	1296	0	86.6	50-115	0			
Dimethyl phthalate	1193	640	1296	0	92.1	50-110	0			
Di-n-butyl phthalate	1107	640	1296	0	85.4	55-110	0			
Di-n-octyl phthalate	1443	310	1296	0	111	40-130	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57708		Instrument ID SVMS7		Method: SW8270			
Fluoranthene	1094	13	1296	0	84.4	55-115	0
Fluorene	1245	13	1296	0	96.1	50-110	0
Hexachlorobenzene	1252	310	1296	0	96.6	45-120	0
Hexachlorobutadiene	905.1	310	1296	0	69.8	40-115	0
Hexachlorocyclopentadiene	701	640	1296	0	54.1	40-115	0
Hexachloroethane	1013	310	1296	0	78.2	35-110	0
Indeno(1,2,3-cd)pyrene	1251	13	1296	0	96.5	40-120	0
Isophorone	911	310	1296	0	70.3	45-110	0
Naphthalene	903.2	13	1296	0	69.7	40-105	0
Nitrobenzene	991.3	310	1296	0	76.5	40-115	0
N-Nitrosodi-n-propylamine	775.6	310	1296	0	59.8	40-115	0
N-Nitrosodiphenylamine	1348	310	1296	0	104	50-115	0
Pentachlorophenol	921.3	640	1296	0	71.1	25-120	0
Phenanthrene	1156	13	1296	29.81	86.9	50-110	0
Phenol	752.9	310	1296	0	58.1	40-100	0
Pyrene	1263	13	1296	0	97.4	45-125	0
Surr: 2,4,6-Tribromophenol	3020	0	3240	0	93.2	34-140	0
Surr: 2-Fluorobiphenyl	2540	0	3240	0	78.4	12-100	0
Surr: 2-Fluorophenol	2347	0	3240	0	72.5	33-117	0
Surr: 4-Terphenyl-d14	3491	0	3240	0	108	25-137	0
Surr: Nitrobenzene-d5	2080	0	3240	0	64.2	37-107	0
Surr: Phenol-d6	1913	0	3240	0	59	40-106	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57708** Instrument ID **SVMS7** Method: **SW8270**

MSD				Sample ID: 1404844-01A MSD			Units: µg/Kg		Analysis Date: 4/18/2014 10:13 PM	
Client ID:				Run ID: SVMS7_140418A			SeqNo: 2725201		Prep Date: 4/18/2014	
							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	1292	0	94.2	50-110	1325	8.47	30	
2,4,6-Trichlorophenol	1145	310	1292	0	88.6	45-110	1093	4.65	30	
2,4-Dichlorophenol	992.6	310	1292	0	76.8	45-110	969.9	2.31	30	
2,4-Dimethylphenol	867.3	640	1292	0	67.1	30-105	848.1	2.24	30	
2,4-Dinitrophenol	836.3	1,300	1292	0	64.7	15-130	882.5	0	30	J
2,4-Dinitrotoluene	1101	310	1292	0	85.2	50-115	1096	0.501	30	
2,6-Dinitrotoluene	1095	310	1292	0	84.8	50-110	1201	9.17	30	
2-Chloronaphthalene	1031	13	1292	0	79.8	45-105	1102	6.69	30	
2-Chlorophenol	892.5	310	1292	0	69.1	45-105	842.9	5.71	30	
2-Methylnaphthalene	919	13	1292	0	71.1	45-105	905.1	1.52	30	
2-Methylphenol	936.5	310	1292	0	72.5	40-105	898.7	4.12	30	
2-Nitroaniline	1151	1,300	1292	0	89.1	45-120	1262	0	30	J
2-Nitrophenol	811.8	310	1292	0	62.8	40-110	843.6	3.84	30	
3-Nitroaniline	1042	1,300	1292	0	80.7	25-110	1018	0	30	J
4-Bromophenyl phenyl ether	1287	310	1292	0	99.6	45-115	1269	1.45	30	
4-Chloro-3-methylphenol	1131	310	1292	0	87.6	45-115	1045	7.94	30	
4-Chloroaniline	658.7	1,300	1292	0	51	15-110	596.7	0	30	J
4-Chlorophenyl phenyl ether	1104	310	1292	0	85.4	45-110	1157	4.73	30	
4-Methylphenol	1026	310	1292	0	79.4	40-105	950.5	7.6	30	
4-Nitroaniline	922.2	1,300	1292	0	71.4	35-150	1006	0	30	J
4-Nitrophenol	946.1	1,300	1292	0	73.2	15-140	1114	0	30	J
Acenaphthene	1088	13	1292	0	84.2	45-110	1080	0.691	30	
Acenaphthylene	1086	13	1292	0	84.1	45-105	1092	0.561	30	
Anthracene	1208	13	1292	0	93.5	55-105	1187	1.78	30	
Benzo(a)anthracene	1177	13	1292	0	91.1	50-110	1221	3.67	30	
Benzo(a)pyrene	1232	13	1292	0	95.3	50-110	1252	1.63	30	
Benzo(b)fluoranthene	1208	13	1292	0	93.5	45-115	1264	4.51	30	
Benzo(g,h,i)perylene	1179	13	1292	0	91.2	40-125	1207	2.38	30	
Benzo(k)fluoranthene	1254	13	1292	0	97	45-115	1326	5.59	30	
Bis(2-chloroethoxy)methane	897.7	310	1292	0	69.5	45-110	893.5	0.471	30	
Bis(2-chloroethyl)ether	1006	310	1292	0	77.8	40-105	964.1	4.21	30	
Bis(2-chloroisopropyl)ether	1017	310	1292	0	78.7	20-115	784.6	25.8	30	
Bis(2-ethylhexyl)phthalate	1283	640	1292	0	99.3	45-125	1385	7.65	30	
Butyl benzyl phthalate	1335	310	1292	0	103	50-125	1383	3.51	30	
Carbazole	1168	310	1292	0	90.4	50-150	1221	4.44	30	
Chrysene	1190	13	1292	0	92.1	55-110	1210	1.67	30	
Dibenzo(a,h)anthracene	1169	13	1292	0	90.5	40-125	1181	0.984	30	
Dibenzofuran	1117	310	1292	0	86.4	50-105	1166	4.29	30	
Diethyl phthalate	1112	640	1292	0	86.1	50-115	1122	0.902	30	
Dimethyl phthalate	1093	640	1292	0	84.6	50-110	1193	8.81	30	
Di-n-butyl phthalate	1149	640	1292	0	88.9	55-110	1107	3.75	30	
Di-n-octyl phthalate	1458	310	1292	0	113	40-130	1443	1.01	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57708		Instrument ID SVMS7		Method: SW8270					
Fluoranthene	1089	13	1292	0	84.3	55-115	1094	0.501	30
Fluorene	1166	13	1292	0	90.3	50-110	1245	6.55	30
Hexachlorobenzene	1257	310	1292	0	97.3	45-120	1252	0.347	30
Hexachlorobutadiene	984.2	310	1292	0	76.2	40-115	905.1	8.37	30
Hexachlorocyclopentadiene	574.8	640	1292	0	44.5	40-115	701	0	30 J
Hexachloroethane	1073	310	1292	0	83.1	35-110	1013	5.75	30
Indeno(1,2,3-cd)pyrene	1240	13	1292	0	96	40-120	1251	0.895	30
Isophorone	930	310	1292	0	72	45-110	911	2.07	30
Naphthalene	940.3	13	1292	0	72.8	40-105	903.2	4.03	30
Nitrobenzene	961.6	310	1292	0	74.4	40-115	991.3	3.04	30
N-Nitrosodi-n-propylamine	790.5	310	1292	0	61.2	40-115	775.6	1.91	30
N-Nitrosodiphenylamine	1376	310	1292	0	106	50-115	1348	2	30
Pentachlorophenol	1044	640	1292	0	80.8	25-120	921.3	12.5	30
Phenanthrene	1148	13	1292	29.81	86.5	50-110	1156	0.717	30
Phenol	806	310	1292	0	62.4	40-100	752.9	6.81	30
Pyrene	1177	13	1292	0	91.1	45-125	1263	7	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3188</i>	<i>0</i>	<i>3229</i>	<i>0</i>	<i>98.7</i>	<i>34-140</i>	<i>3020</i>	<i>5.43</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2491</i>	<i>0</i>	<i>3229</i>	<i>0</i>	<i>77.1</i>	<i>12-100</i>	<i>2540</i>	<i>1.94</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>2291</i>	<i>0</i>	<i>3229</i>	<i>0</i>	<i>70.9</i>	<i>33-117</i>	<i>2347</i>	<i>2.44</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>3432</i>	<i>0</i>	<i>3229</i>	<i>0</i>	<i>106</i>	<i>25-137</i>	<i>3491</i>	<i>1.71</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2063</i>	<i>0</i>	<i>3229</i>	<i>0</i>	<i>63.9</i>	<i>37-107</i>	<i>2080</i>	<i>0.823</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>1950</i>	<i>0</i>	<i>3229</i>	<i>0</i>	<i>60.4</i>	<i>40-106</i>	<i>1913</i>	<i>1.95</i>	<i>40</i>

The following samples were analyzed in this batch: | 1404693-01B | 1404693-03B |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

MBLK		Sample ID: MBLK-57591-57591				Units: µg/Kg		Analysis Date: 4/15/2014 02:29 PM		
Client ID:		Run ID: VMS9_140415A				SeqNo: 2714768		Prep Date: 4/15/2014		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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591	Instrument ID VMS9	Method: SW8260B						
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>1017</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>838.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>83.8</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1004</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>965</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.5</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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

LCS				Sample ID: LCS-57591-57591			Units: µg/Kg		Analysis Date: 4/15/2014 12:46 PM		
Client ID:		Run ID: VMS9_140415A			SeqNo: 2714767		Prep Date: 4/15/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	1074	30	1000	0	107	70-135	0				
1,1,2,2-Tetrachloroethane	910.5	30	1000	0	91	55-130	0				
1,1,2-Trichloroethane	988	30	1000	0	98.8	60-125	0				
1,1-Dichloroethane	1144	30	1000	0	114	75-125	0				
1,1-Dichloroethene	1236	30	1000	0	124	65-135	0				
1,2,4-Trichlorobenzene	1018	30	1000	0	102	65-130	0				
1,2-Dibromo-3-chloropropane	867.5	30	1000	0	86.8	40-135	0				
1,2-Dibromoethane	1017	30	1000	0	102	75-125	0				
1,2-Dichlorobenzene	1036	30	1000	0	104	75-120	0				
1,2-Dichloroethane	998.5	30	1000	0	99.8	70-135	0				
1,2-Dichloropropane	1004	30	1000	0	100	70-120	0				
1,3-Dichlorobenzene	1119	30	1000	0	112	70-125	0				
1,4-Dichlorobenzene	1051	30	1000	0	105	70-125	0				
2-Butanone	1029	200	1000	0	103	30-160	0				
2-Hexanone	824	30	1000	0	82.4	45-145	0				
4-Methyl-2-pentanone	1138	30	1000	0	114	96-168	0				
Acetone	1070	100	1000	0	107	20-160	0				
Benzene	1121	30	1000	0	112	75-125	0				
Bromodichloromethane	991.5	30	1000	0	99.2	70-130	0				
Bromoform	868.5	30	1000	0	86.8	55-135	0				
Bromomethane	1041	75	1000	0	104	30-160	0				
Carbon disulfide	1317	30	1000	0	132	45-160	0				
Carbon tetrachloride	970	30	1000	0	97	65-135	0				
Chlorobenzene	1068	30	1000	0	107	75-125	0				
Chloroethane	1024	100	1000	0	102	40-155	0				
Chloroform	1096	30	1000	0	110	70-125	0				
Chloromethane	891	100	1000	0	89.1	50-130	0				
cis-1,2-Dichloroethene	1138	30	1000	0	114	65-125	0				
cis-1,3-Dichloropropene	1042	30	1000	0	104	70-125	0				
Dibromochloromethane	837.5	30	1000	0	83.8	65-135	0				
Dichlorodifluoromethane	832	30	1000	0	83.2	35-135	0				
Ethylbenzene	1060	30	1000	0	106	75-125	0				
Isopropylbenzene	1050	30	1000	0	105	75-130	0				
Methyl tert-butyl ether	1050	30	1000	0	105	75-125	0				
Methylene chloride	1172	30	1000	0	117	55-145	0				
Styrene	1000	30	1000	0	100	75-125	0				
Tetrachloroethene	1250	30	1000	0	125	64-140	0				
Toluene	1146	30	1000	0	115	70-125	0				
trans-1,2-Dichloroethene	1216	30	1000	0	122	65-135	0				
trans-1,3-Dichloropropene	995.5	30	1000	0	99.6	65-125	0				
Trichloroethene	1146	30	1000	0	115	75-125	0				
Trichlorofluoromethane	1012	30	1000	0	101	25-185	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591	Instrument ID VMS9		Method: SW8260B				
Vinyl chloride	985	30	1000	0	98.5	60-125	0
Xylenes, Total	3168	90	3000	0	106	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>953.5</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>996.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.6</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</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: Toluene-d8</i>	<i>1014</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

MS				Sample ID: 1404693-03A MS			Units: µg/Kg		Analysis Date: 4/21/2014 08:08 PM	
Client ID: S-R2330012-041114-ACN-020				Run ID: VMS5_140421A			SeqNo: 2724670		Prep Date: 4/15/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	943	30	1000	0	94.3	70-135	0			
1,1,2,2-Tetrachloroethane	959	30	1000	0	95.9	55-130	0			
1,1,2-Trichloroethane	955	30	1000	0	95.5	60-125	0			
1,1-Dichloroethane	943.5	30	1000	0	94.4	75-125	0			
1,1-Dichloroethene	1024	30	1000	0	102	65-135	0			
1,2,4-Trichlorobenzene	909.5	30	1000	0	91	65-130	0			
1,2-Dibromo-3-chloropropane	754.5	30	1000	0	75.4	40-135	0			
1,2-Dibromoethane	1046	30	1000	0	105	75-125	0			
1,2-Dichlorobenzene	940.5	30	1000	0	94	75-120	0			
1,2-Dichloroethane	883	30	1000	0	88.3	70-135	0			
1,2-Dichloropropane	900.5	30	1000	0	90	70-120	0			
1,3-Dichlorobenzene	956	30	1000	0	95.6	70-125	0			
1,4-Dichlorobenzene	918.5	30	1000	0	91.8	70-125	0			
2-Butanone	921.5	200	1000	0	92.2	30-160	0			
2-Hexanone	853	30	1000	0	85.3	45-145	0			
4-Methyl-2-pentanone	1138	30	1000	0	114	89-161	0			
Acetone	925	100	1000	0	92.5	20-160	0			
Benzene	956	30	1000	0	95.6	75-125	0			
Bromodichloromethane	932.5	30	1000	0	93.2	70-130	0			
Bromoform	755.5	30	1000	0	75.6	55-135	0			
Bromomethane	893.5	75	1000	0	89.4	30-160	0			
Carbon disulfide	1042	30	1000	0	104	45-160	0			
Carbon tetrachloride	967.5	30	1000	0	96.8	65-135	0			
Chlorobenzene	952	30	1000	0	95.2	75-125	0			
Chloroethane	1112	100	1000	0	111	40-155	0			
Chloroform	903.5	30	1000	0	90.4	70-125	0			
Chloromethane	901.5	100	1000	0	90.2	50-130	0			
cis-1,2-Dichloroethene	921	30	1000	0	92.1	65-125	0			
cis-1,3-Dichloropropene	913	30	1000	0	91.3	70-125	0			
Dibromochloromethane	760	30	1000	0	76	65-135	0			
Dichlorodifluoromethane	913.5	30	1000	0	91.4	35-135	0			
Ethylbenzene	989	30	1000	0	98.9	75-125	0			
Isopropylbenzene	986.5	30	1000	0	98.6	75-130	0			
Methyl tert-butyl ether	878.5	30	1000	0	87.8	75-125	0			
Methylene chloride	1006	30	1000	0	101	55-145	0			
Styrene	1014	30	1000	0	101	75-125	0			
Tetrachloroethene	997	30	1000	0	99.7	64-140	0			
Toluene	984	30	1000	0	98.4	70-125	0			
trans-1,2-Dichloroethene	1010	30	1000	0	101	65-135	0			
trans-1,3-Dichloropropene	891	30	1000	0	89.1	65-125	0			
Trichloroethene	965.5	30	1000	0	96.6	75-125	0			
Trichlorofluoromethane	1050	30	1000	0	105	25-185	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591	Instrument ID VMS9		Method: SW8260B				
Vinyl chloride	1036	30	1000	0	104	60-125	0
Xylenes, Total	2919	90	3000	0	97.3	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>942.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>912.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>91.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1003</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57591** Instrument ID **VMS9** Method: **SW8260B**

MSD				Sample ID: 1404693-03A MSD			Units: µg/Kg		Analysis Date: 4/21/2014 08:33 PM	
Client ID: S-R2330012-041114-ACN-020				Run ID: VMS5_140421A			SeqNo: 2724671		Prep Date: 4/15/2014	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	941	30	1000	0	94.1	70-135	943	0.212	30	
1,1,2,2-Tetrachloroethane	960.5	30	1000	0	96	55-130	959	0.156	30	
1,1,2-Trichloroethane	959.5	30	1000	0	96	60-125	955	0.47	30	
1,1-Dichloroethane	909.5	30	1000	0	91	75-125	943.5	3.67	30	
1,1-Dichloroethene	965	30	1000	0	96.5	65-135	1024	5.93	30	
1,2,4-Trichlorobenzene	966	30	1000	0	96.6	65-130	909.5	6.03	30	
1,2-Dibromo-3-chloropropane	759.5	30	1000	0	76	40-135	754.5	0.661	30	
1,2-Dibromoethane	1060	30	1000	0	106	75-125	1046	1.33	30	
1,2-Dichlorobenzene	981.5	30	1000	0	98.2	75-120	940.5	4.27	30	
1,2-Dichloroethane	877.5	30	1000	0	87.8	70-135	883	0.625	30	
1,2-Dichloropropane	897.5	30	1000	0	89.8	70-120	900.5	0.334	30	
1,3-Dichlorobenzene	979	30	1000	0	97.9	70-125	956	2.38	30	
1,4-Dichlorobenzene	950.5	30	1000	0	95	70-125	918.5	3.42	30	
2-Butanone	889.5	200	1000	0	89	30-160	921.5	3.53	30	
2-Hexanone	880.5	30	1000	0	88	45-145	853	3.17	30	
4-Methyl-2-pentanone	1144	30	1000	0	114	89-161	1138	0.482	30	
Acetone	876	100	1000	0	87.6	20-160	925	5.44	30	
Benzene	946.5	30	1000	0	94.6	75-125	956	0.999	30	
Bromodichloromethane	892	30	1000	0	89.2	70-130	932.5	4.44	30	
Bromoform	722.5	30	1000	0	72.2	55-135	755.5	4.47	30	
Bromomethane	461.5	75	1000	0	46.2	30-160	893.5	63.8	30	R
Carbon disulfide	949	30	1000	0	94.9	45-160	1042	9.34	30	
Carbon tetrachloride	940	30	1000	0	94	65-135	967.5	2.88	30	
Chlorobenzene	959	30	1000	0	95.9	75-125	952	0.733	30	
Chloroethane	1180	100	1000	0	118	40-155	1112	5.93	30	
Chloroform	875.5	30	1000	0	87.6	70-125	903.5	3.15	30	
Chloromethane	855.5	100	1000	0	85.6	50-130	901.5	5.24	30	
cis-1,2-Dichloroethene	889	30	1000	0	88.9	65-125	921	3.54	30	
cis-1,3-Dichloropropene	885	30	1000	0	88.5	70-125	913	3.11	30	
Dibromochloromethane	745	30	1000	0	74.5	65-135	760	1.99	30	
Dichlorodifluoromethane	864	30	1000	0	86.4	35-135	913.5	5.57	30	
Ethylbenzene	999	30	1000	0	99.9	75-125	989	1.01	30	
Isopropylbenzene	1028	30	1000	0	103	75-130	986.5	4.12	30	
Methyl tert-butyl ether	866.5	30	1000	0	86.6	75-125	878.5	1.38	30	
Methylene chloride	970	30	1000	0	97	55-145	1006	3.64	30	
Styrene	1010	30	1000	0	101	75-125	1014	0.395	30	
Tetrachloroethene	1015	30	1000	0	102	64-140	997	1.79	30	
Toluene	974	30	1000	0	97.4	70-125	984	1.02	30	
trans-1,2-Dichloroethene	958.5	30	1000	0	95.8	65-135	1010	5.18	30	
trans-1,3-Dichloropropene	882.5	30	1000	0	88.2	65-125	891	0.959	30	
Trichloroethene	945	30	1000	0	94.5	75-125	965.5	2.15	30	
Trichlorofluoromethane	994	30	1000	0	99.4	25-185	1050	5.53	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 57591		Instrument ID VMS9		Method: SW8260B					
Vinyl chloride	952	30	1000	0	95.2	60-125	1036	8.5	30
Xylenes, Total	2954	90	3000	0	98.5	75-125	2919	1.19	30
Surr: 1,2-Dichloroethane-d4	947.5	0	1000	0	94.8	70-130	942.5	0.529	30
Surr: 4-Bromofluorobenzene	914	0	1000	0	91.4	70-130	912.5	0.164	30
Surr: Dibromofluoromethane	986	0	1000	0	98.6	70-130	1003	1.71	30
Surr: Toluene-d8	992.5	0	1000	0	99.2	70-130	990.5	0.202	30
The following samples were analyzed in this batch:			1404693-01A	1404693-03A	1404693-05A				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139311A** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VLKW2-140421-R139311A				Units: µg/L		Analysis Date: 4/21/2014 03:02 PM		
Client ID:		Run ID: VMS9_140421A				SeqNo: 2724686		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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139311A	Instrument ID VMS9	Method: SW8260						
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						
Surr: 1,2-Dichloroethane-d4	19.54	0	20	0	97.7	70-120	0	
Surr: 4-Bromofluorobenzene	17.07	0	20	0	85.4	75-120	0	
Surr: Dibromofluoromethane	20.03	0	20	0	100	85-115	0	
Surr: Toluene-d8	20.69	0	20	0	103	85-120	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139311A** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW2-140421-R139311A				Units: µg/L		Analysis Date: 4/21/2014 02:13 PM		
Client ID:		Run ID: VMS9_140421A				SeqNo: 2724685		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	21.11	1.0	20	0	106	65-130	0			
1,1,2,2-Tetrachloroethane	19.1	1.0	20	0	95.5	65-130	0			
1,1,2-Trichloroethane	19.74	1.0	20	0	98.7	75-125	0			
1,1-Dichloroethane	22.04	1.0	20	0	110	70-135	0			
1,1-Dichloroethene	24.53	1.0	20	0	123	70-130	0			
1,2,4-Trichlorobenzene	17.53	1.0	20	0	87.6	65-135	0			
1,2-Dibromo-3-chloropropane	18.34	1.0	20	0	91.7	50-130	0			
1,2-Dibromoethane	20.67	1.0	20	0	103	87-179	0			
1,2-Dichlorobenzene	20.52	1.0	20	0	103	70-120	0			
1,2-Dichloroethane	20.38	1.0	20	0	102	87-179	0			
1,2-Dichloropropane	21.04	2.0	20	0	105	75-125	0			
1,3-Dichlorobenzene	21.39	2.0	20	0	107	75-125	0			
1,4-Dichlorobenzene	20.55	2.0	20	0	103	75-125	0			
2-Butanone	20.64	5.0	20	0	103	30-150	0			
2-Hexanone	16.39	5.0	20	0	82	55-130	0			
4-Methyl-2-pentanone	24.73	5.0	20	0	124	77-178	0			
Acetone	18.99	20	20	0	95	40-140	0			J
Benzene	22.8	1.0	20	0	114	80-120	0			
Bromodichloromethane	20.48	1.0	20	0	102	75-120	0			
Bromoform	17.71	1.0	20	0	88.6	70-130	0			
Bromomethane	23.35	1.0	20	0	117	30-145	0			
Carbon disulfide	26.32	2.5	20	0	132	35-165	0			
Carbon tetrachloride	20.29	1.0	20	0	101	65-140	0			
Chlorobenzene	20.75	1.0	20	0	104	80-120	0			
Chloroethane	22.11	1.0	20	0	111	60-135	0			
Chloroform	21.49	1.0	20	0	107	65-135	0			
Chloromethane	19.37	1.0	20	0	96.8	70-125	0			
cis-1,2-Dichloroethene	22.12	1.0	20	0	111	70-125	0			
cis-1,3-Dichloropropene	20.43	1.0	20	0	102	70-130	0			
Dibromochloromethane	17.36	1.0	20	0	86.8	60-135	0			
Dichlorodifluoromethane	20.04	1.0	20	0	100	30-155	0			
Ethylbenzene	20.45	1.0	20	0	102	75-125	0			
Isopropylbenzene	20.29	1.0	20	0	101	75-125	0			
Methyl tert-butyl ether	19.87	5.0	20	0	99.4	65-125	0			
Methylene chloride	22.98	5.0	20	0	115	55-140	0			
Styrene	20	1.0	20	0	100	65-135	0			
Tetrachloroethene	25.82	2.0	20	0	129	45-150	0			
Toluene	22.79	1.0	20	0	114	75-120	0			
trans-1,2-Dichloroethene	23.13	1.0	20	0	116	60-140	0			
trans-1,3-Dichloropropene	19.92	1.0	20	0	99.6	55-140	0			
Trichloroethene	22	1.0	20	0	110	70-125	0			
Trichlorofluoromethane	19.89	1.0	20	0	99.4	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139311A** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 1404693-02A MS			Units: µg/L		Analysis Date: 4/21/2014 11:08 PM	
Client ID: W-R2330012-041114-ACN-015				Run ID: VMS9_140421A			SeqNo: 2724690		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	20.88	1.0	20	0	104	65-130	0			
1,1,2,2-Tetrachloroethane	15.78	1.0	20	0	78.9	65-130	0			
1,1,2-Trichloroethane	17.71	1.0	20	0	88.6	75-125	0			
1,1-Dichloroethane	21.28	1.0	20	0	106	70-135	0			
1,1-Dichloroethene	23.2	1.0	20	0	116	70-130	0			
1,2,4-Trichlorobenzene	13.88	1.0	20	0	69.4	65-135	0			
1,2-Dibromo-3-chloropropane	14.96	1.0	20	0	74.8	50-130	0			
1,2-Dibromoethane	17.9	1.0	20	0	89.5	81-158	0			
1,2-Dichlorobenzene	16.44	1.0	20	0	82.2	70-120	0			
1,2-Dichloroethane	19.26	1.0	20	0	96.3	70-130	0			
1,2-Dichloropropane	20.17	2.0	20	0	101	75-125	0			
1,3-Dichlorobenzene	16.7	2.0	20	0	83.5	75-125	0			
1,4-Dichlorobenzene	15.77	2.0	20	0	78.8	75-125	0			
2-Butanone	17.83	5.0	20	0	89.2	30-150	0			
2-Hexanone	16.3	5.0	20	0	81.5	55-130	0			
4-Methyl-2-pentanone	23.14	5.0	20	0	116	73-162	0			
Acetone	18.72	20	20	0	93.6	40-140	0			J
Benzene	22.19	1.0	20	0	111	80-120	0			
Bromodichloromethane	17.93	1.0	20	0	89.6	75-120	0			
Bromoform	14.09	1.0	20	0	70.4	70-130	0			
Bromomethane	29.92	1.0	20	0	150	30-145	0			S
Carbon disulfide	24.61	2.5	20	0	123	35-165	0			
Carbon tetrachloride	18.78	1.0	20	0	93.9	65-140	0			
Chlorobenzene	18.12	1.0	20	0	90.6	80-120	0			
Chloroethane	26.63	1.0	20	0	133	60-135	0			
Chloroform	21.15	1.0	20	0	106	65-135	0			
Chloromethane	20.04	1.0	20	0	100	70-125	0			
cis-1,2-Dichloroethene	22.62	1.0	20	0	113	70-125	0			
cis-1,3-Dichloropropene	18.35	1.0	20	0	91.8	70-130	0			
Dibromochloromethane	14.1	1.0	20	0	70.5	60-135	0			
Dichlorodifluoromethane	17.1	1.0	20	0	85.5	30-155	0			
Ethylbenzene	18.09	1.0	20	0	90.4	75-125	0			
Isopropylbenzene	17.3	1.0	20	0	86.5	75-125	0			
Methyl tert-butyl ether	19.39	5.0	20	0	97	65-125	0			
Methylene chloride	22.17	5.0	20	0	111	55-140	0			
Styrene	16.63	1.0	20	0	83.2	65-135	0			
Tetrachloroethene	21.41	2.0	20	0	107	45-150	0			
Toluene	21.57	1.0	20	0.3	106	75-120	0			
trans-1,2-Dichloroethene	22.47	1.0	20	0	112	60-140	0			
trans-1,3-Dichloropropene	16.81	1.0	20	0	84	55-140	0			
Trichloroethene	19.99	1.0	20	0	100	70-125	0			
Trichlorofluoromethane	18.07	1.0	20	0	90.4	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139311A	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	22.16	1.0	20	0	111	50-145	0
Xylenes, Total	54.51	3.0	60	0	90.8	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	18.36	0	20	0	91.8	70-120	0
<i>Surr: 4-Bromofluorobenzene</i>	19.48	0	20	0	97.4	75-120	0
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0
<i>Surr: Toluene-d8</i>	20.86	0	20	0	104	85-120	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139311A** Instrument ID **VMS9** Method: **SW8260**

MSD		Sample ID: 1404693-02A MSD				Units: µg/L		Analysis Date: 4/21/2014 11:32 PM		
Client ID: W-R2330012-041114-ACN-015		Run ID: VMS9_140421A				SeqNo: 2724693		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	21.02	1.0	20	0	105	65-130	20.88	0.668	30	
1,1,2,2-Tetrachloroethane	16.08	1.0	20	0	80.4	65-130	15.78	1.88	30	
1,1,2-Trichloroethane	17.95	1.0	20	0	89.8	75-125	17.71	1.35	30	
1,1-Dichloroethane	21.48	1.0	20	0	107	70-135	21.28	0.935	30	
1,1-Dichloroethene	23.17	1.0	20	0	116	70-130	23.2	0.129	30	
1,2,4-Trichlorobenzene	13.45	1.0	20	0	67.2	65-135	13.88	3.15	30	
1,2-Dibromo-3-chloropropane	13.89	1.0	20	0	69.4	50-130	14.96	7.42	30	
1,2-Dibromoethane	18.28	1.0	20	0	91.4	81-158	17.9	2.1	30	
1,2-Dichlorobenzene	16.6	1.0	20	0	83	70-120	16.44	0.969	30	
1,2-Dichloroethane	19.07	1.0	20	0	95.4	70-130	19.26	0.991	30	
1,2-Dichloropropane	19.97	2.0	20	0	99.8	75-125	20.17	0.997	30	
1,3-Dichlorobenzene	16.6	2.0	20	0	83	75-125	16.7	0.601	30	
1,4-Dichlorobenzene	15.79	2.0	20	0	79	75-125	15.77	0.127	30	
2-Butanone	20.27	5.0	20	0	101	30-150	17.83	12.8	30	
2-Hexanone	16.78	5.0	20	0	83.9	55-130	16.3	2.9	30	
4-Methyl-2-pentanone	24.12	5.0	20	0	121	73-162	23.14	4.15	30	
Acetone	19.66	20	20	0	98.3	40-140	18.72	0	30	J
Benzene	22.03	1.0	20	0	110	80-120	22.19	0.724	30	
Bromodichloromethane	17.96	1.0	20	0	89.8	75-120	17.93	0.167	30	
Bromoform	14.11	1.0	20	0	70.6	70-130	14.09	0.142	30	
Bromomethane	32.6	1.0	20	0	163	30-145	29.92	8.57	30	S
Carbon disulfide	25.43	2.5	20	0	127	35-165	24.61	3.28	30	
Carbon tetrachloride	19.54	1.0	20	0	97.7	65-140	18.78	3.97	30	
Chlorobenzene	18.68	1.0	20	0	93.4	80-120	18.12	3.04	30	
Chloroethane	25.58	1.0	20	0	128	60-135	26.63	4.02	30	
Chloroform	21.37	1.0	20	0	107	65-135	21.15	1.03	30	
Chloromethane	20.65	1.0	20	0	103	70-125	20.04	3	30	
cis-1,2-Dichloroethene	23.11	1.0	20	0	116	70-125	22.62	2.14	30	
cis-1,3-Dichloropropene	18.5	1.0	20	0	92.5	70-130	18.35	0.814	30	
Dibromochloromethane	14.39	1.0	20	0	72	60-135	14.1	2.04	30	
Dichlorodifluoromethane	17.66	1.0	20	0	88.3	30-155	17.1	3.22	30	
Ethylbenzene	18.54	1.0	20	0	92.7	75-125	18.09	2.46	30	
Isopropylbenzene	17.73	1.0	20	0	88.6	75-125	17.3	2.46	30	
Methyl tert-butyl ether	19.66	5.0	20	0	98.3	65-125	19.39	1.38	30	
Methylene chloride	22.26	5.0	20	0	111	55-140	22.17	0.405	30	
Styrene	16.88	1.0	20	0	84.4	65-135	16.63	1.49	30	
Tetrachloroethene	21.83	2.0	20	0	109	45-150	21.41	1.94	30	
Toluene	22.18	1.0	20	0.3	109	75-120	21.57	2.79	30	
trans-1,2-Dichloroethene	23.04	1.0	20	0	115	60-140	22.47	2.5	30	
trans-1,3-Dichloropropene	17.17	1.0	20	0	85.8	55-140	16.81	2.12	30	
Trichloroethene	20.66	1.0	20	0	103	70-125	19.99	3.3	30	
Trichlorofluoromethane	18.8	1.0	20	0	94	60-145	18.07	3.96	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139353A** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VLKW2-140421-R139353A				Units: µg/L		Analysis Date: 4/22/2014 02:46 AM		
Client ID:		Run ID: VMS9_140421B				SeqNo: 2725322		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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139353A	Instrument ID VMS9	Method: SW8260						
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>19.36</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.8</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>17.98</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>89.9</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19.47</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.4</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>20.58</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</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: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139353A** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW3-140421-R139353A				Units: µg/L		Analysis Date: 4/22/2014 01:33 AM		
Client ID:		Run ID: VMS9_140421B				SeqNo: 2725319		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	21.92	1.0	20	0	110	65-130	0			
1,1,2,2-Tetrachloroethane	17.68	1.0	20	0	88.4	65-130	0			
1,1,2-Trichloroethane	18.84	1.0	20	0	94.2	75-125	0			
1,1-Dichloroethane	21.59	1.0	20	0	108	70-135	0			
1,1-Dichloroethene	22.76	1.0	20	0	114	70-130	0			
1,2,4-Trichlorobenzene	22.74	1.0	20	0	114	65-135	0			
1,2-Dibromo-3-chloropropane	17.67	1.0	20	0	88.4	50-130	0			
1,2-Dibromoethane	19.8	1.0	20	0	99	87-179	0			
1,2-Dichlorobenzene	21.52	1.0	20	0	108	70-120	0			
1,2-Dichloroethane	19.71	1.0	20	0	98.6	87-179	0			
1,2-Dichloropropane	21.14	2.0	20	0	106	75-125	0			
1,3-Dichlorobenzene	22.55	2.0	20	0	113	75-125	0			
1,4-Dichlorobenzene	21.12	2.0	20	0	106	75-125	0			
2-Butanone	22.85	5.0	20	0	114	30-150	0			
2-Hexanone	18.39	5.0	20	0	92	55-130	0			
4-Methyl-2-pentanone	24.74	5.0	20	0	124	77-178	0			
Acetone	19.66	20	20	0	98.3	40-140	0			J
Benzene	23.54	1.0	20	0	118	80-120	0			
Bromodichloromethane	19.53	1.0	20	0	97.6	75-120	0			
Bromoform	16.7	1.0	20	0	83.5	70-130	0			
Bromomethane	29.8	1.0	20	0	149	30-145	0			S
Carbon disulfide	26.42	2.5	20	0	132	35-165	0			
Carbon tetrachloride	24.49	1.0	20	0	122	65-140	0			
Chlorobenzene	21.06	1.0	20	0	105	80-120	0			
Chloroethane	23.5	1.0	20	0	118	60-135	0			
Chloroform	22.21	1.0	20	0	111	65-135	0			
Chloromethane	19.41	1.0	20	0	97	70-125	0			
cis-1,2-Dichloroethene	22.8	1.0	20	0	114	70-125	0			
cis-1,3-Dichloropropene	20.5	1.0	20	0	102	70-130	0			
Dibromochloromethane	16.05	1.0	20	0	80.2	60-135	0			
Dichlorodifluoromethane	19.71	1.0	20	0	98.6	30-155	0			
Ethylbenzene	20.95	1.0	20	0	105	75-125	0			
Isopropylbenzene	20.92	1.0	20	0	105	75-125	0			
Methyl tert-butyl ether	20.3	5.0	20	0	102	65-125	0			
Methylene chloride	22.45	5.0	20	0	112	55-140	0			
Styrene	20.42	1.0	20	0	102	65-135	0			
Tetrachloroethene	23.93	2.0	20	0	120	45-150	0			
Toluene	23.97	1.0	20	0	120	75-120	0			
trans-1,2-Dichloroethene	22.25	1.0	20	0	111	60-140	0			
trans-1,3-Dichloropropene	19.06	1.0	20	0	95.3	55-140	0			
Trichloroethene	22.07	1.0	20	0	110	70-125	0			
Trichlorofluoromethane	19.68	1.0	20	0	98.4	60-145	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139353A	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	21.93	1.0	20	0	110	50-145	0
Xylenes, Total	63.53	3.0	60	0	106	75-130	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18.84</i>	0	20	0	94.2	70-120	0
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.84</i>	0	20	0	99.2	75-120	0
<i>Surr: Dibromofluoromethane</i>	<i>19.89</i>	0	20	0	99.4	85-115	0
<i>Surr: Toluene-d8</i>	<i>21.24</i>	0	20	0	106	85-120	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139353A** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 1404783-01D MS			Units: µg/L		Analysis Date: 4/22/2014 11:17 AM		
Client ID:		Run ID: VMS9_140421B			SeqNo: 2725347		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	21.68	1.0	20	0	108	65-130	0				
1,1,2,2-Tetrachloroethane	17.74	1.0	20	0	88.7	65-130	0				
1,1,2-Trichloroethane	18.59	1.0	20	0	93	75-125	0				
1,1-Dichloroethane	21.93	1.0	20	0	110	70-135	0				
1,1-Dichloroethene	25.44	1.0	20	0	127	70-130	0				
1,2,4-Trichlorobenzene	16.65	1.0	20	0	83.2	65-135	0				
1,2-Dibromo-3-chloropropane	15.4	1.0	20	0	77	50-130	0				
1,2-Dibromoethane	19.44	1.0	20	0	97.2	81-158	0				
1,2-Dichlorobenzene	19.8	1.0	20	0	99	70-120	0				
1,2-Dichloroethane	20	1.0	20	0	100	70-130	0				
1,2-Dichloropropane	21.37	2.0	20	0	107	75-125	0				
1,3-Dichlorobenzene	21.16	2.0	20	0	106	75-125	0				
1,4-Dichlorobenzene	19.78	2.0	20	0	98.9	75-125	0				
2-Butanone	18.29	5.0	20	0	91.4	30-150	0				
2-Hexanone	15.74	5.0	20	0	78.7	55-130	0				
4-Methyl-2-pentanone	22.49	5.0	20	0	112	73-162	0				
Acetone	23.7	20	20	0	118	40-140	0				
Benzene	23.9	1.0	20	0	120	80-120	0				
Bromodichloromethane	19.17	1.0	20	0	95.8	75-120	0				
Bromoform	15.51	1.0	20	0	77.6	70-130	0				
Bromomethane	21.81	1.0	20	0	109	30-145	0				
Carbon disulfide	26.1	2.5	20	0	130	35-165	0				
Carbon tetrachloride	19.09	1.0	20	0	95.4	65-140	0				
Chlorobenzene	20.74	1.0	20	0	104	80-120	0				
Chloroethane	23.46	1.0	20	0	117	60-135	0				
Chloroform	20.72	1.0	20	0	104	65-135	0				
Chloromethane	21.17	1.0	20	0	106	70-125	0				
cis-1,2-Dichloroethene	21.4	1.0	20	0	107	70-125	0				
cis-1,3-Dichloropropene	18.36	1.0	20	0	91.8	70-130	0				
Dibromochloromethane	15.5	1.0	20	0	77.5	60-135	0				
Dichlorodifluoromethane	19.39	1.0	20	0	97	30-155	0				
Ethylbenzene	21	1.0	20	0	105	75-125	0				
Isopropylbenzene	20.99	1.0	20	0	105	75-125	0				
Methyl tert-butyl ether	18.49	5.0	20	0	92.4	65-125	0				
Methylene chloride	21.94	5.0	20	0	110	55-140	0				
Styrene	19.86	1.0	20	0	99.3	65-135	0				
Tetrachloroethene	24.9	2.0	20	0	124	45-150	0				
Toluene	23.59	1.0	20	0	118	75-120	0				
trans-1,2-Dichloroethene	23.74	1.0	20	0	119	60-140	0				
trans-1,3-Dichloropropene	17.96	1.0	20	0	89.8	55-140	0				
Trichloroethene	22.94	1.0	20	0	115	70-125	0				
Trichlorofluoromethane	20.17	1.0	20	0	101	60-145	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139353A** Instrument ID **VMS9** Method: **SW8260**

MSD					Sample ID: 1404783-01D MSD		Units: µg/L		Analysis Date: 4/22/2014 11:41 AM		
Client ID:			Run ID: VMS9_140421B			SeqNo: 2725352		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	21.53	1.0	20	0	108	65-130	21.68	0.694	30		
1,1,2,2-Tetrachloroethane	19.33	1.0	20	0	96.6	65-130	17.74	8.58	30		
1,1,2-Trichloroethane	19.5	1.0	20	0	97.5	75-125	18.59	4.78	30		
1,1-Dichloroethane	22.11	1.0	20	0	111	70-135	21.93	0.817	30		
1,1-Dichloroethene	26.18	1.0	20	0	131	70-130	25.44	2.87	30	S	
1,2,4-Trichlorobenzene	17.4	1.0	20	0	87	65-135	16.65	4.41	30		
1,2-Dibromo-3-chloropropane	17.14	1.0	20	0	85.7	50-130	15.4	10.7	30		
1,2-Dibromoethane	21.05	1.0	20	0	105	81-158	19.44	7.95	30		
1,2-Dichlorobenzene	20.29	1.0	20	0	101	70-120	19.8	2.44	30		
1,2-Dichloroethane	19.87	1.0	20	0	99.4	70-130	20	0.652	30		
1,2-Dichloropropane	20.63	2.0	20	0	103	75-125	21.37	3.52	30		
1,3-Dichlorobenzene	21.62	2.0	20	0	108	75-125	21.16	2.15	30		
1,4-Dichlorobenzene	20.28	2.0	20	0	101	75-125	19.78	2.5	30		
2-Butanone	20.07	5.0	20	0	100	30-150	18.29	9.28	30		
2-Hexanone	18.27	5.0	20	0	91.4	55-130	15.74	14.9	30		
4-Methyl-2-pentanone	25.76	5.0	20	0	129	73-162	22.49	13.6	30		
Acetone	25.28	20	20	0	126	40-140	23.7	6.45	30		
Benzene	23.45	1.0	20	0	117	80-120	23.9	1.9	30		
Bromodichloromethane	18.87	1.0	20	0	94.4	75-120	19.17	1.58	30		
Bromoform	16.86	1.0	20	0	84.3	70-130	15.51	8.34	30		
Bromomethane	21.7	1.0	20	0	108	30-145	21.81	0.506	30		
Carbon disulfide	27.04	2.5	20	0	135	35-165	26.1	3.54	30		
Carbon tetrachloride	19.3	1.0	20	0	96.5	65-140	19.09	1.09	30		
Chlorobenzene	21.77	1.0	20	0	109	80-120	20.74	4.85	30		
Chloroethane	22.87	1.0	20	0	114	60-135	23.46	2.55	30		
Chloroform	21.2	1.0	20	0	106	65-135	20.72	2.29	30		
Chloromethane	20.76	1.0	20	0	104	70-125	21.17	1.96	30		
cis-1,2-Dichloroethene	21.69	1.0	20	0	108	70-125	21.4	1.35	30		
cis-1,3-Dichloropropene	18.6	1.0	20	0	93	70-130	18.36	1.3	30		
Dibromochloromethane	16.18	1.0	20	0	80.9	60-135	15.5	4.29	30		
Dichlorodifluoromethane	20.41	1.0	20	0	102	30-155	19.39	5.13	30		
Ethylbenzene	21.48	1.0	20	0	107	75-125	21	2.26	30		
Isopropylbenzene	22	1.0	20	0	110	75-125	20.99	4.7	30		
Methyl tert-butyl ether	19.55	5.0	20	0	97.8	65-125	18.49	5.57	30		
Methylene chloride	22.25	5.0	20	0	111	55-140	21.94	1.4	30		
Styrene	20.4	1.0	20	0	102	65-135	19.86	2.68	30		
Tetrachloroethene	24.68	2.0	20	0	123	45-150	24.9	0.887	30		
Toluene	24.24	1.0	20	0	121	75-120	23.59	2.72	30	S	
trans-1,2-Dichloroethene	23.69	1.0	20	0	118	60-140	23.74	0.211	30		
trans-1,3-Dichloropropene	18.64	1.0	20	0	93.2	55-140	17.96	3.72	30		
Trichloroethene	22.33	1.0	20	0	112	70-125	22.94	2.69	30		
Trichlorofluoromethane	20.34	1.0	20	0	102	60-145	20.17	0.839	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R139353A	Instrument ID VMS9			Method: SW8260					
Vinyl chloride	22.63	1.0	20	0	113	50-145	23.52	3.86	30
Xylenes, Total	65.08	3.0	60	0	108	75-130	64.04	1.61	30
<i>Surr: 1,2-Dichloroethane-d4</i>	18.73	0	20	0	93.6	70-120	19.15	2.22	30
<i>Surr: 4-Bromofluorobenzene</i>	20.98	0	20	0	105	75-120	20	4.78	30
<i>Surr: Dibromofluoromethane</i>	19.02	0	20	0	95.1	85-115	19.72	3.61	30
<i>Surr: Toluene-d8</i>	20.84	0	20	0	104	85-120	20.8	0.192	30

The following samples were analyzed in this batch: | 1404693-04A |

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57651** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57651-57651				Units: mg/L		Analysis Date: 4/16/2014 04:03 PM		
Client ID:		Run ID: LACHAT_140416D		SeqNo: 2716946		Prep Date: 4/16/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	0.001519	0.0050								J

LCS		Sample ID: LCS-57651-57651				Units: mg/L		Analysis Date: 4/16/2014 04:03 PM		
Client ID:		Run ID: LACHAT_140416D		SeqNo: 2716947		Prep Date: 4/16/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Amenable	0.2302	0.0050	0.25	0	92.1	83-120	0			

The following samples were analyzed in this batch:

1404693-02C	1404693-04C

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **57752** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-57752-57752				Units: mg/Kg		Analysis Date: 4/18/2014 02:27 PM		
Client ID:		Run ID: LACHAT_140418B		SeqNo: 2720771		Prep Date: 4/18/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total U 0.50

LCS		Sample ID: LCS-57752-57752				Units: mg/Kg		Analysis Date: 4/18/2014 02:27 PM		
Client ID:		Run ID: LACHAT_140418B		SeqNo: 2720772		Prep Date: 4/18/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.311 0.50 2.5 0 92.4 85-119 0

MS		Sample ID: 1404693-01B MS				Units: mg/Kg		Analysis Date: 4/18/2014 02:27 PM		
Client ID: S-R2330012-041114-ACN-019		Run ID: LACHAT_140418B		SeqNo: 2720774		Prep Date: 4/18/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.598 0.50 2.5 0.05642 102 70-130 0

MS		Sample ID: 1404693-03B MS				Units: mg/Kg		Analysis Date: 4/18/2014 02:27 PM		
Client ID: S-R2330012-041114-ACN-020		Run ID: LACHAT_140418B		SeqNo: 2720777		Prep Date: 4/18/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.669 0.50 2.51 0.03808 105 70-130 0

MSD		Sample ID: 1404693-01B MSD				Units: mg/Kg		Analysis Date: 4/18/2014 02:27 PM		
Client ID: S-R2330012-041114-ACN-019		Run ID: LACHAT_140418B		SeqNo: 2720775		Prep Date: 4/18/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.579 0.50 2.49 0.05642 101 70-130 2.598 0.746 30

MSD		Sample ID: 1404693-03B MSD				Units: mg/Kg		Analysis Date: 4/18/2014 02:27 PM		
Client ID: S-R2330012-041114-ACN-020		Run ID: LACHAT_140418B		SeqNo: 2720778		Prep Date: 4/18/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Total 2.717 0.50 2.49 0.03808 108 70-130 2.669 1.8 30

The following samples were analyzed in this batch:

1404693-01B 1404693-03B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 1404693
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R139021** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R139021				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID:		Run ID: MOIST_140415B				SeqNo: 2715743		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS		Sample ID: LCS-R139021				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID:		Run ID: MOIST_140415B				SeqNo: 2715742		Prep Date:		DF: 1
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

DUP		Sample ID: 1404640-01B DUP				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID:		Run ID: MOIST_140415B				SeqNo: 2715731		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 11.03 0.050 0 0 0 0-0 11.84 7.08 20

DUP		Sample ID: 1404693-01B DUP				Units: % of sample		Analysis Date: 4/15/2014 03:11 PM		
Client ID: S-R2330012-041114-ACN-019		Run ID: MOIST_140415B				SeqNo: 2715735		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 14.66 0.050 0 0 0 0-0 13.87 5.54 20

The following samples were analyzed in this batch:

1404693-01B 1404693-03B

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



Environmental

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

Chain of Custody Form

Page 1 of 1

COC ID: 104993

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: *TB3*

ALS Work Order #: 1404693

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number	R2330012	B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs											
Send Report To	Mike Fridoff	Invoice Attn	Accounts Payable	D	Cyanide - total											
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	F	Metals (including Hg) - total											
Phone	(734) 397-3100	Phone		G	Moisture											
Fax	(734) 397-3131	Fax		H	Metals (including Hg) - dissolved <i>Frid Filtered</i>											
e-Mail Address		e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S-R2330012-041114-ACN-019	4-11-14	1220	S	7	3	X	X		X		X	X				
2	W-R2330012-041114-ACN-015	4-11-14	1300	AA	1,2,4	8	X	X			X	X		X			
3	S-R2330012-041114-ACN-020	4-11-14	1350	S	7	3	X	X		X		X	X				
4	W-R2330012-041114-ACN-016	4-11-14	1410	Ag	1,2,4	8	X	X			X	X		X			
5	TRIP Blank	—	—	AL	1	1	X										
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>Adam New</i>		Shipment Method <i>Carrier</i>		Required Turnaround Time: (Check Box) ☐ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour				Results Due Date: <i>4/15/14</i>	
Relinquished by: <i>MSH</i>	Date: 4-11-14	Time: 1600	Received by: <i>MSH Fridoff</i>	Notes: <i>REC 4/15/14 0830 D-7</i>					
Relinquished by: <i>MSH</i>	Date: 4/14/14	Time: 1520	Received by (Laboratory): <i>MSH</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)			
Logged by (Laboratory): <i>DES</i>	Date: 4/15/14	Time: 0930	Checked by (Laboratory): <i>TB3</i>		2.8°C	☒ Level II Std QC ☐ TRRP Checklist ☐ Level III Std QC/Raw Data ☐ TRRP Level IV ☐ Level IV BWW4B/CLP ☐ Other			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035									

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.

Copyright 2011 by ALS Environmental.

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **15-Apr-14 08:30**

Work Order: **1404693**

Received by: **DS**

Checklist completed by Diane Shaw 15-Apr-14
eSignature Date

Reviewed by: Tom Bramish 15-Apr-14
eSignature Date

Matrices: Soil, Water

Carrier name: City Transfer

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>2.8 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/15/2014 9:29:41 AM</u>		
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:



ALS Environmental

3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL

Name: _____

Company: _____

Date: 4-14-14 Time: _____

[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: _____

Name: _____

Company: _____

Date: 4-14-14 Time: _____

[Signature]

Seal Broken By: _____

Date: _____

Work Order: 14041218

Project Name:

RACER - Van Buren Landfill

The Mannik & Smith Group, Inc.

Mike Friedhoff

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

05-May-2014



Certificate No: MN 532786



05-May-2014

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

Re: **RACER - Van Buren Landfill**

Work Order: **14041218**

Dear Mike,

ALS Environmental received 4 samples on 24-Apr-2014 08:00 AM 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 54.

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: MN 532786

Report of Laboratory Analysis

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

RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Work Order: 14041218

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>
14041218-01	W-R2330012-041514-ACN-017	Water		4/15/2014 10:00	4/24/2014 08:00	☐
14041218-02	W-R2330012-041514-ACN-018	Water		4/15/2014 11:05	4/24/2014 08:00	☐
14041218-03	W-R2330012-041514-ACN-019	Water		4/15/2014 12:30	4/24/2014 08:00	☐
14041218-04	Trip Blank	Water		4/15/2014	4/24/2014 08:00	☐

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
WorkOrder: 14041218

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.

Project: RACER - Van Buren Landfill

Work Order: 14041218

Case Narrative

Samples for SVOCs were received past the recommended holdtime. Results should be considered estimated.

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-017
Collection Date: 4/15/2014 10:00 AM

Work Order: 14041218
Lab ID: 14041218-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/30/14	Analyst: LR
<u>BatchID: 58094</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/30/2014 15:58
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/30/14	Analyst: LR
<u>BatchID: 58094</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/30/2014 16:00
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/29/14	Analyst: RH
<u>BatchID: 58069</u>							
Aluminum	2.4		0.0039	0.25	mg/L	5	4/30/2014 04:47
Antimony	0.0042	J	0.00018	0.010	mg/L	5	4/30/2014 04:47
Arsenic	U		0.0029	0.025	mg/L	5	4/30/2014 04:47
Barium	0.11	J	0.00032	0.50	mg/L	5	4/30/2014 04:47
Beryllium	U		0.00041	0.0050	mg/L	5	4/30/2014 04:47
Cadmium	0.00083	J	0.00022	0.0050	mg/L	5	4/30/2014 04:47
Chromium	0.022	J	0.0014	0.050	mg/L	5	4/30/2014 04:47
Cobalt	0.0030	J	0.00020	0.10	mg/L	5	4/30/2014 04:47
Copper	0.060		0.0026	0.020	mg/L	5	4/30/2014 04:47
Iron	6.3		0.027	1.0	mg/L	5	4/30/2014 04:47
Lead	0.043		0.00026	0.015	mg/L	5	4/30/2014 04:47
Manganese	0.16	J	0.00027	0.25	mg/L	5	4/30/2014 04:47
Nickel	0.011	J	0.0013	0.10	mg/L	5	4/30/2014 04:47
Selenium	0.0067	J	0.0032	0.025	mg/L	5	4/30/2014 04:47
Silver	U		0.00021	0.0010	mg/L	5	4/30/2014 04:47
Thallium	U		0.00031	0.010	mg/L	5	4/30/2014 04:47
Vanadium	0.011	J	0.00082	0.020	mg/L	5	4/30/2014 04:47
Zinc	0.33		0.0024	0.25	mg/L	5	4/30/2014 04:47
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/29/14	Analyst: RH
<u>BatchID: 58069</u>							
Aluminum	0.016	J	0.0039	0.25	mg/L	5	4/29/2014 16:13
Antimony	0.0013	J	0.00018	0.010	mg/L	5	4/29/2014 16:13
Arsenic	U		0.0029	0.025	mg/L	5	4/29/2014 16:13
Barium	0.034	J	0.00032	0.50	mg/L	5	4/29/2014 16:13
Beryllium	U		0.00041	0.0050	mg/L	5	4/29/2014 16:13
Cadmium	0.00040	J	0.00022	0.0050	mg/L	5	4/29/2014 16:13
Chromium	0.0043	J	0.0014	0.050	mg/L	5	4/29/2014 16:13
Cobalt	0.0017	J	0.00020	0.10	mg/L	5	4/29/2014 16:13
Copper	0.036		0.0026	0.020	mg/L	5	4/29/2014 16:13
Iron	0.033	J	0.027	1.0	mg/L	5	4/29/2014 16:13

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-017
Collection Date: 4/15/2014 10:00 AM

Work Order: 14041218
Lab ID: 14041218-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.0023	J	0.00026	0.015	mg/L	5	4/29/2014 16:13
Manganese	0.051	J	0.00027	0.25	mg/L	5	4/29/2014 16:13
Nickel	0.0040	J	0.0013	0.10	mg/L	5	4/29/2014 16:13
Selenium	U		0.0032	0.025	mg/L	5	4/29/2014 16:13
Silver	U		0.00021	0.0010	mg/L	5	4/29/2014 16:13
Thallium	U		0.00031	0.010	mg/L	5	4/29/2014 16:13
Vanadium	0.0012	J	0.00082	0.020	mg/L	5	4/29/2014 16:13
Zinc	0.038	J	0.0024	0.25	mg/L	5	4/29/2014 16:13

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/25/14

Analyst: RM

BatchID: 57971

1,1'-Biphenyl	U	H	0.095	10	µg/L	1	4/28/2014 20:33
2,4,5-Trichlorophenol	U	H	0.25	5.0	µg/L	1	4/28/2014 20:33
2,4,6-Trichlorophenol	U	H	0.27	4.0	µg/L	1	4/28/2014 20:33
2,4-Dichlorophenol	U	H	0.22	10	µg/L	1	4/28/2014 20:33
2,4-Dimethylphenol	U	H	1.8	5.0	µg/L	1	4/28/2014 20:33
2,4-Dinitrophenol	U	H	0.67	25	µg/L	1	4/28/2014 20:33
2,4-Dinitrotoluene	U	H	0.27	5.0	µg/L	1	4/28/2014 20:33
2,6-Dinitrotoluene	U	H	0.23	5.0	µg/L	1	4/28/2014 20:33
2-Chloronaphthalene	U	H	0.13	5.0	µg/L	1	4/28/2014 20:33
2-Chlorophenol	U	H	0.32	10	µg/L	1	4/28/2014 20:33
2-Methylnaphthalene	U	H	0.13	5.0	µg/L	1	4/28/2014 20:33
2-Methylphenol	U	H	0.20	10	µg/L	1	4/28/2014 20:33
2-Nitroaniline	U	H	0.34	25	µg/L	1	4/28/2014 20:33
2-Nitrophenol	U	H	0.28	5.0	µg/L	1	4/28/2014 20:33
3,3'-Dichlorobenzidine	U	H	3.9	1.0	µg/L	1	4/28/2014 20:33
3-Nitroaniline	U	H	0.34	25	µg/L	1	4/28/2014 20:33
4,6-Dinitro-2-methylphenol	U	H	1.2	20	µg/L	1	4/28/2014 20:33
4-Bromophenyl phenyl ether	U	H	0.23	5.0	µg/L	1	4/28/2014 20:33
4-Chloro-3-methylphenol	U	H	0.31	5.0	µg/L	1	4/28/2014 20:33
4-Chloroaniline	U	H	0.32	10	µg/L	1	4/28/2014 20:33
4-Chlorophenyl phenyl ether	U	H	0.23	5.0	µg/L	1	4/28/2014 20:33
4-Methylphenol	U	H	0.20	10	µg/L	1	4/28/2014 20:33
4-Nitroaniline	U	H	0.30	25	µg/L	1	4/28/2014 20:33
4-Nitrophenol	U	H	0.51	25	µg/L	1	4/28/2014 20:33
Acenaphthene	U	H	0.11	5.0	µg/L	1	4/28/2014 20:33
Acenaphthylene	U	H	0.12	5.0	µg/L	1	4/28/2014 20:33
Acetophenone	U	H	0.090	5.0	µg/L	1	4/28/2014 20:33
Anthracene	U	H	0.72	5.0	µg/L	1	4/28/2014 20:33
Atrazine	U	H	0.13	5.0	µg/L	1	4/28/2014 20:33

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-017
Collection Date: 4/15/2014 10:00 AM

Work Order: 14041218
Lab ID: 14041218-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U	H	0.46	10	µg/L	1	4/28/2014 20:33
Benzo(a)anthracene	U	H	0.57	1.0	µg/L	1	4/28/2014 20:33
Benzo(a)pyrene	U	H	0.10	1.0	µg/L	1	4/28/2014 20:33
Benzo(b)fluoranthene	U	H	0.74	1.0	µg/L	1	4/28/2014 20:33
Benzo(g,h,i)perylene	U	H	0.70	1.0	µg/L	1	4/28/2014 20:33
Benzo(k)fluoranthene	U	H	0.17	1.0	µg/L	1	4/28/2014 20:33
Bis(2-chloroethoxy)methane	U	H	0.33	5.0	µg/L	1	4/28/2014 20:33
Bis(2-chloroethyl)ether	U	H	0.34	1.0	µg/L	1	4/28/2014 20:33
Bis(2-chloroisopropyl)ether	U	H	0.32	5.0	µg/L	1	4/28/2014 20:33
Bis(2-ethylhexyl)phthalate	U	H	0.15	5.0	µg/L	1	4/28/2014 20:33
Butyl benzyl phthalate	U	H	0.10	5.0	µg/L	1	4/28/2014 20:33
Caprolactam	U	H	4.7	10	µg/L	1	4/28/2014 20:33
Carbazole	U	H	0.16	10	µg/L	1	4/28/2014 20:33
Chrysene	U	H	0.71	1.0	µg/L	1	4/28/2014 20:33
Dibenzo(a,h)anthracene	U	H	0.67	2.0	µg/L	1	4/28/2014 20:33
Dibenzofuran	U	H	0.28	4.0	µg/L	1	4/28/2014 20:33
Diethyl phthalate	U	H	0.24	5.0	µg/L	1	4/28/2014 20:33
Dimethyl phthalate	U	H	0.27	5.0	µg/L	1	4/28/2014 20:33
Di-n-butyl phthalate	U	H	0.14	5.0	µg/L	1	4/28/2014 20:33
Di-n-octyl phthalate	U	H	0.12	5.0	µg/L	1	4/28/2014 20:33
Fluoranthene	1.6	H	0.77	1.0	µg/L	1	4/28/2014 20:33
Fluorene	U	H	0.10	5.0	µg/L	1	4/28/2014 20:33
Hexachlorobenzene	U	H	0.22	0.50	µg/L	1	4/28/2014 20:33
Hexachlorobutadiene	U	H	0.24	0.50	µg/L	1	4/28/2014 20:33
Hexachlorocyclopentadiene	U	H	0.18	5.0	µg/L	1	4/28/2014 20:33
Hexachloroethane	U	H	0.47	5.0	µg/L	1	4/28/2014 20:33
Indeno(1,2,3-cd)pyrene	U	H	0.69	2.0	µg/L	1	4/28/2014 20:33
Isophorone	U	H	0.30	5.0	µg/L	1	4/28/2014 20:33
Naphthalene	U	H	0.12	5.0	µg/L	1	4/28/2014 20:33
Nitrobenzene	U	H	0.33	3.0	µg/L	1	4/28/2014 20:33
N-Nitrosodi-n-propylamine	U	H	0.32	5.0	µg/L	1	4/28/2014 20:33
N-Nitrosodiphenylamine	U	H	0.81	5.0	µg/L	1	4/28/2014 20:33
Pentachlorophenol	U	H	0.22	1.0	µg/L	1	4/28/2014 20:33
Phenanthrene	U	H	0.86	2.0	µg/L	1	4/28/2014 20:33
Phenol	U	H	0.32	5.0	µg/L	1	4/28/2014 20:33
Pyrene	0.69	JH	0.65	5.0	µg/L	1	4/28/2014 20:33
Surr: 2,4,6-Tribromophenol	79.2			32-115	%REC	1	4/28/2014 20:33
Surr: 2-Fluorobiphenyl	61.5			32-100	%REC	1	4/28/2014 20:33
Surr: 2-Fluorophenol	34.9			22-59	%REC	1	4/28/2014 20:33
Surr: 4-Terphenyl-d14	94.0			23-112	%REC	1	4/28/2014 20:33

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-017
Collection Date: 4/15/2014 10:00 AM

Work Order: 14041218
Lab ID: 14041218-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	58.5			31-93	%REC	1	4/28/2014 20:33
Surr: Phenol-d6	22.7			13-36	%REC	1	4/28/2014 20:33
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R139593							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 22:24
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/25/2014 22:24
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 22:24
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/25/2014 22:24
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/25/2014 22:24
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/25/2014 22:24
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/25/2014 22:24
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/25/2014 22:24
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/25/2014 22:24
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/25/2014 22:24
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 22:24
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/25/2014 22:24
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/25/2014 22:24
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/25/2014 22:24
2-Butanone	U		0.64	25	µg/L	1	4/25/2014 22:24
2-Hexanone	U		0.19	50	µg/L	1	4/25/2014 22:24
4-Methyl-2-pentanone	1.4	J	0.20	50	µg/L	1	4/25/2014 22:24
Acetone	7.5	J	3.0	50	µg/L	1	4/25/2014 22:24
Benzene	U		0.14	1.0	µg/L	1	4/25/2014 22:24
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/25/2014 22:24
Bromoform	U		0.18	1.0	µg/L	1	4/25/2014 22:24
Bromomethane	U		0.38	5.0	µg/L	1	4/25/2014 22:24
Carbon disulfide	U		0.26	5.0	µg/L	1	4/25/2014 22:24
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/25/2014 22:24
Chlorobenzene	U		0.12	1.0	µg/L	1	4/25/2014 22:24
Chloroethane	U		0.25	5.0	µg/L	1	4/25/2014 22:24
Chloroform	U		0.15	1.0	µg/L	1	4/25/2014 22:24
Chloromethane	U		0.29	5.0	µg/L	1	4/25/2014 22:24
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/25/2014 22:24
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/25/2014 22:24
Cyclohexane	U		0.20	1.0	µg/L	1	4/25/2014 22:24
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/25/2014 22:24
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/25/2014 22:24
Ethylbenzene	U		0.12	1.0	µg/L	1	4/25/2014 22:24
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/25/2014 22:24

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-017
Collection Date: 4/15/2014 10:00 AM

Work Order: 14041218
Lab ID: 14041218-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/25/2014 22:24
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/25/2014 22:24
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/25/2014 22:24
Methylene chloride	U		0.75	5.0	µg/L	1	4/25/2014 22:24
Styrene	U		0.12	1.0	µg/L	1	4/25/2014 22:24
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/25/2014 22:24
Toluene	U		0.13	1.0	µg/L	1	4/25/2014 22:24
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/25/2014 22:24
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/25/2014 22:24
Trichloroethene	U		0.16	1.0	µg/L	1	4/25/2014 22:24
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/25/2014 22:24
Vinyl chloride	U		0.15	1.0	µg/L	1	4/25/2014 22:24
Xylenes, Total	U		0.30	3.0	µg/L	1	4/25/2014 22:24
Surr: 1,2-Dichloroethane-d4	99.3			70-120	%REC	1	4/25/2014 22:24
Surr: 4-Bromofluorobenzene	100			85-110	%REC	1	4/25/2014 22:24
Surr: Dibromofluoromethane	93.6			90-110	%REC	1	4/25/2014 22:24
Surr: Toluene-d8	96.5			85-115	%REC	1	4/25/2014 22:24
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 4/29/14	Analyst: JB
BatchID: 58082							
Cyanide, Amenable	0.11		0.0010	0.0050	mg/L	1	4/30/2014 14:40

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-018
Collection Date: 4/15/2014 11:05 AM

Work Order: 14041218
Lab ID: 14041218-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/30/14	Analyst: LR
<u>BatchID: 58094</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/30/2014 16:03
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/30/14	Analyst: LR
<u>BatchID: 58094</u>							
Mercury	U		0.00010	0.00020	mg/L	1	4/30/2014 16:05
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/29/14	Analyst: RH
<u>BatchID: 58069</u>							
Aluminum	0.74		0.0039	0.25	mg/L	5	4/30/2014 04:53
Antimony	0.00099	J	0.00018	0.010	mg/L	5	4/30/2014 04:53
Arsenic	U		0.0029	0.025	mg/L	5	4/30/2014 04:53
Barium	0.18	J	0.00032	0.50	mg/L	5	4/30/2014 04:53
Beryllium	U		0.00041	0.0050	mg/L	5	4/30/2014 04:53
Cadmium	0.0029	J	0.00022	0.0050	mg/L	5	4/30/2014 04:53
Chromium	0.0064	J	0.0014	0.050	mg/L	5	4/30/2014 04:53
Cobalt	0.0011	J	0.00020	0.10	mg/L	5	4/30/2014 04:53
Copper	0.012	J	0.0026	0.020	mg/L	5	4/30/2014 04:53
Iron	1.8		0.027	1.0	mg/L	5	4/30/2014 04:53
Lead	0.069		0.00026	0.015	mg/L	5	4/30/2014 04:53
Manganese	0.053	J	0.00027	0.25	mg/L	5	4/30/2014 04:53
Nickel	0.0050	J	0.0013	0.10	mg/L	5	4/30/2014 04:53
Selenium	U		0.0032	0.025	mg/L	5	4/30/2014 04:53
Silver	U		0.00021	0.0010	mg/L	5	4/30/2014 04:53
Thallium	U		0.00031	0.010	mg/L	5	4/30/2014 04:53
Vanadium	0.0024	J	0.00082	0.020	mg/L	5	4/30/2014 04:53
Zinc	0.063	J	0.0024	0.25	mg/L	5	4/30/2014 04:53
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/29/14	Analyst: RH
<u>BatchID: 58069</u>							
Aluminum	0.011	J	0.0039	0.25	mg/L	5	4/30/2014 04:59
Antimony	0.00052	J	0.00018	0.010	mg/L	5	4/30/2014 04:59
Arsenic	U		0.0029	0.025	mg/L	5	4/30/2014 04:59
Barium	0.15	J	0.00032	0.50	mg/L	5	4/30/2014 04:59
Beryllium	U		0.00041	0.0050	mg/L	5	4/30/2014 04:59
Cadmium	U		0.00022	0.0050	mg/L	5	4/30/2014 04:59
Chromium	U		0.0014	0.050	mg/L	5	4/30/2014 04:59
Cobalt	0.00093	J	0.00020	0.10	mg/L	5	4/30/2014 04:59
Copper	0.0057	J	0.0026	0.020	mg/L	5	4/30/2014 04:59
Iron	U		0.027	1.0	mg/L	5	4/30/2014 04:59

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-018
Collection Date: 4/15/2014 11:05 AM

Work Order: 14041218
Lab ID: 14041218-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.0026	J	0.00026	0.015	mg/L	5	4/30/2014 04:59
Manganese	0.0062	J	0.00027	0.25	mg/L	5	4/30/2014 04:59
Nickel	0.0042	J	0.0013	0.10	mg/L	5	4/30/2014 04:59
Selenium	U		0.0032	0.025	mg/L	5	4/30/2014 04:59
Silver	U		0.00021	0.0010	mg/L	5	4/30/2014 04:59
Thallium	U		0.00031	0.010	mg/L	5	4/30/2014 04:59
Vanadium	U		0.00082	0.020	mg/L	5	4/30/2014 04:59
Zinc	0.0088	J	0.0024	0.25	mg/L	5	4/30/2014 04:59
SEMI-VOLATILE ORGANIC COMPOUNDS			SW8270	Prep: SW3510 / 4/25/14		Analyst: RM	
<u>BatchID: 57971</u>							
1,1'-Biphenyl	U	H	0.095	10	µg/L	1	4/28/2014 20:54
2,4,5-Trichlorophenol	U	H	0.25	5.0	µg/L	1	4/28/2014 20:54
2,4,6-Trichlorophenol	U	H	0.27	4.0	µg/L	1	4/28/2014 20:54
2,4-Dichlorophenol	U	H	0.22	10	µg/L	1	4/28/2014 20:54
2,4-Dimethylphenol	U	H	1.8	5.0	µg/L	1	4/28/2014 20:54
2,4-Dinitrophenol	U	H	0.67	25	µg/L	1	4/28/2014 20:54
2,4-Dinitrotoluene	U	H	0.27	5.0	µg/L	1	4/28/2014 20:54
2,6-Dinitrotoluene	U	H	0.23	5.0	µg/L	1	4/28/2014 20:54
2-Chloronaphthalene	U	H	0.13	5.0	µg/L	1	4/28/2014 20:54
2-Chlorophenol	U	H	0.32	10	µg/L	1	4/28/2014 20:54
2-Methylnaphthalene	U	H	0.13	5.0	µg/L	1	4/28/2014 20:54
2-Methylphenol	U	H	0.20	10	µg/L	1	4/28/2014 20:54
2-Nitroaniline	U	H	0.34	25	µg/L	1	4/28/2014 20:54
2-Nitrophenol	U	H	0.28	5.0	µg/L	1	4/28/2014 20:54
3,3'-Dichlorobenzidine	U	H	3.9	1.0	µg/L	1	4/28/2014 20:54
3-Nitroaniline	U	H	0.34	25	µg/L	1	4/28/2014 20:54
4,6-Dinitro-2-methylphenol	U	H	1.2	20	µg/L	1	4/28/2014 20:54
4-Bromophenyl phenyl ether	U	H	0.23	5.0	µg/L	1	4/28/2014 20:54
4-Chloro-3-methylphenol	U	H	0.31	5.0	µg/L	1	4/28/2014 20:54
4-Chloroaniline	U	H	0.32	10	µg/L	1	4/28/2014 20:54
4-Chlorophenyl phenyl ether	U	H	0.23	5.0	µg/L	1	4/28/2014 20:54
4-Methylphenol	U	H	0.20	10	µg/L	1	4/28/2014 20:54
4-Nitroaniline	U	H	0.30	25	µg/L	1	4/28/2014 20:54
4-Nitrophenol	U	H	0.51	25	µg/L	1	4/28/2014 20:54
Acenaphthene	U	H	0.11	5.0	µg/L	1	4/28/2014 20:54
Acenaphthylene	U	H	0.12	5.0	µg/L	1	4/28/2014 20:54
Acetophenone	U	H	0.090	5.0	µg/L	1	4/28/2014 20:54
Anthracene	U	H	0.72	5.0	µg/L	1	4/28/2014 20:54
Atrazine	U	H	0.13	5.0	µg/L	1	4/28/2014 20:54

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-018
Collection Date: 4/15/2014 11:05 AM

Work Order: 14041218
Lab ID: 14041218-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U	H	0.46	10	µg/L	1	4/28/2014 20:54
Benzo(a)anthracene	U	H	0.57	1.0	µg/L	1	4/28/2014 20:54
Benzo(a)pyrene	U	H	0.10	1.0	µg/L	1	4/28/2014 20:54
Benzo(b)fluoranthene	U	H	0.74	1.0	µg/L	1	4/28/2014 20:54
Benzo(g,h,i)perylene	U	H	0.70	1.0	µg/L	1	4/28/2014 20:54
Benzo(k)fluoranthene	U	H	0.17	1.0	µg/L	1	4/28/2014 20:54
Bis(2-chloroethoxy)methane	U	H	0.33	5.0	µg/L	1	4/28/2014 20:54
Bis(2-chloroethyl)ether	U	H	0.34	1.0	µg/L	1	4/28/2014 20:54
Bis(2-chloroisopropyl)ether	U	H	0.32	5.0	µg/L	1	4/28/2014 20:54
Bis(2-ethylhexyl)phthalate	U	H	0.15	5.0	µg/L	1	4/28/2014 20:54
Butyl benzyl phthalate	U	H	0.10	5.0	µg/L	1	4/28/2014 20:54
Caprolactam	U	H	4.7	10	µg/L	1	4/28/2014 20:54
Carbazole	U	H	0.16	10	µg/L	1	4/28/2014 20:54
Chrysene	U	H	0.71	1.0	µg/L	1	4/28/2014 20:54
Dibenzo(a,h)anthracene	U	H	0.67	2.0	µg/L	1	4/28/2014 20:54
Dibenzofuran	U	H	0.28	4.0	µg/L	1	4/28/2014 20:54
Diethyl phthalate	U	H	0.24	5.0	µg/L	1	4/28/2014 20:54
Dimethyl phthalate	U	H	0.27	5.0	µg/L	1	4/28/2014 20:54
Di-n-butyl phthalate	U	H	0.14	5.0	µg/L	1	4/28/2014 20:54
Di-n-octyl phthalate	U	H	0.12	5.0	µg/L	1	4/28/2014 20:54
Fluoranthene	1.3	H	0.77	1.0	µg/L	1	4/28/2014 20:54
Fluorene	U	H	0.10	5.0	µg/L	1	4/28/2014 20:54
Hexachlorobenzene	U	H	0.22	0.50	µg/L	1	4/28/2014 20:54
Hexachlorobutadiene	U	H	0.24	0.50	µg/L	1	4/28/2014 20:54
Hexachlorocyclopentadiene	U	H	0.18	5.0	µg/L	1	4/28/2014 20:54
Hexachloroethane	U	H	0.47	5.0	µg/L	1	4/28/2014 20:54
Indeno(1,2,3-cd)pyrene	U	H	0.69	2.0	µg/L	1	4/28/2014 20:54
Isophorone	U	H	0.30	5.0	µg/L	1	4/28/2014 20:54
Naphthalene	U	H	0.12	5.0	µg/L	1	4/28/2014 20:54
Nitrobenzene	U	H	0.33	3.0	µg/L	1	4/28/2014 20:54
N-Nitrosodi-n-propylamine	U	H	0.32	5.0	µg/L	1	4/28/2014 20:54
N-Nitrosodiphenylamine	U	H	0.81	5.0	µg/L	1	4/28/2014 20:54
Pentachlorophenol	U	H	0.22	1.0	µg/L	1	4/28/2014 20:54
Phenanthrene	U	H	0.86	2.0	µg/L	1	4/28/2014 20:54
Phenol	U	H	0.32	5.0	µg/L	1	4/28/2014 20:54
Pyrene	U	H	0.65	5.0	µg/L	1	4/28/2014 20:54
Surr: 2,4,6-Tribromophenol	72.8			32-115	%REC	1	4/28/2014 20:54
Surr: 2-Fluorobiphenyl	53.5			32-100	%REC	1	4/28/2014 20:54
Surr: 2-Fluorophenol	33.9			22-59	%REC	1	4/28/2014 20:54
Surr: 4-Terphenyl-d14	94.7			23-112	%REC	1	4/28/2014 20:54

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-018
Collection Date: 4/15/2014 11:05 AM

Work Order: 14041218
Lab ID: 14041218-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	54.2			31-93	%REC	1	4/28/2014 20:54
Surr: Phenol-d6	21.0			13-36	%REC	1	4/28/2014 20:54
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R139593							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 22:50
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/25/2014 22:50
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 22:50
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/25/2014 22:50
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/25/2014 22:50
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/25/2014 22:50
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/25/2014 22:50
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/25/2014 22:50
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/25/2014 22:50
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/25/2014 22:50
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 22:50
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/25/2014 22:50
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/25/2014 22:50
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/25/2014 22:50
2-Butanone	U		0.64	25	µg/L	1	4/25/2014 22:50
2-Hexanone	U		0.19	50	µg/L	1	4/25/2014 22:50
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/25/2014 22:50
Acetone	3.4	J	3.0	50	µg/L	1	4/25/2014 22:50
Benzene	U		0.14	1.0	µg/L	1	4/25/2014 22:50
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/25/2014 22:50
Bromoform	U		0.18	1.0	µg/L	1	4/25/2014 22:50
Bromomethane	U		0.38	5.0	µg/L	1	4/25/2014 22:50
Carbon disulfide	U		0.26	5.0	µg/L	1	4/25/2014 22:50
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/25/2014 22:50
Chlorobenzene	U		0.12	1.0	µg/L	1	4/25/2014 22:50
Chloroethane	U		0.25	5.0	µg/L	1	4/25/2014 22:50
Chloroform	U		0.15	1.0	µg/L	1	4/25/2014 22:50
Chloromethane	U		0.29	5.0	µg/L	1	4/25/2014 22:50
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/25/2014 22:50
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/25/2014 22:50
Cyclohexane	U		0.20	1.0	µg/L	1	4/25/2014 22:50
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/25/2014 22:50
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/25/2014 22:50
Ethylbenzene	U		0.12	1.0	µg/L	1	4/25/2014 22:50
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/25/2014 22:50

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-018
Collection Date: 4/15/2014 11:05 AM

Work Order: 14041218
Lab ID: 14041218-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/25/2014 22:50
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/25/2014 22:50
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/25/2014 22:50
Methylene chloride	U		0.75	5.0	µg/L	1	4/25/2014 22:50
Styrene	U		0.12	1.0	µg/L	1	4/25/2014 22:50
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/25/2014 22:50
Toluene	U		0.13	1.0	µg/L	1	4/25/2014 22:50
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/25/2014 22:50
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/25/2014 22:50
Trichloroethene	U		0.16	1.0	µg/L	1	4/25/2014 22:50
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/25/2014 22:50
Vinyl chloride	U		0.15	1.0	µg/L	1	4/25/2014 22:50
Xylenes, Total	U		0.30	3.0	µg/L	1	4/25/2014 22:50
Surr: 1,2-Dichloroethane-d4	99.2			70-120	%REC	1	4/25/2014 22:50
Surr: 4-Bromofluorobenzene	98.8			85-110	%REC	1	4/25/2014 22:50
Surr: Dibromofluoromethane	95.0			90-110	%REC	1	4/25/2014 22:50
Surr: Toluene-d8	97.2			85-115	%REC	1	4/25/2014 22:50
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/29/14		Analyst: JB
BatchID: 58082							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	4/30/2014 14:40

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-019
Collection Date: 4/15/2014 12:30 PM

Work Order: 14041218
Lab ID: 14041218-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 4/30/14	Analyst: LR
<u>BatchID:</u> 58094							
Mercury	U		0.00010	0.00020	mg/L	1	4/30/2014 16:12
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 4/30/14	Analyst: LR
<u>BatchID:</u> 58094							
Mercury	U		0.00010	0.00020	mg/L	1	4/30/2014 16:14
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 4/29/14	Analyst: RH
<u>BatchID:</u> 58069							
Aluminum	0.035	J	0.0039	0.25	mg/L	5	4/30/2014 05:05
Antimony	0.0013	J	0.00018	0.010	mg/L	5	4/30/2014 05:05
Arsenic	U		0.0029	0.025	mg/L	5	4/30/2014 05:05
Barium	0.079	J	0.00032	0.50	mg/L	5	4/30/2014 05:05
Beryllium	U		0.00041	0.0050	mg/L	5	4/30/2014 05:05
Cadmium	0.00030	J	0.00022	0.0050	mg/L	5	4/30/2014 05:05
Chromium	U		0.0014	0.050	mg/L	5	4/30/2014 05:05
Cobalt	0.0012	J	0.00020	0.10	mg/L	5	4/30/2014 05:05
Copper	0.0072	J	0.0026	0.020	mg/L	5	4/30/2014 05:05
Iron	0.33	J	0.027	1.0	mg/L	5	4/30/2014 05:05
Lead	0.0013	J	0.00026	0.015	mg/L	5	4/30/2014 05:05
Manganese	0.45		0.00027	0.25	mg/L	5	4/30/2014 05:05
Nickel	0.0053	J	0.0013	0.10	mg/L	5	4/30/2014 05:05
Selenium	U		0.0032	0.025	mg/L	5	4/30/2014 05:05
Silver	U		0.00021	0.0010	mg/L	5	4/30/2014 05:05
Thallium	U		0.00031	0.010	mg/L	5	4/30/2014 05:05
Vanadium	U		0.00082	0.020	mg/L	5	4/30/2014 05:05
Zinc	0.085	J	0.0024	0.25	mg/L	5	4/30/2014 05:05
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 4/29/14	Analyst: RH
<u>BatchID:</u> 58069							
Aluminum	U		0.0039	0.25	mg/L	5	4/30/2014 05:11
Antimony	0.0014	J	0.00018	0.010	mg/L	5	4/30/2014 05:11
Arsenic	U		0.0029	0.025	mg/L	5	4/30/2014 05:11
Barium	0.078	J	0.00032	0.50	mg/L	5	4/30/2014 05:11
Beryllium	U		0.00041	0.0050	mg/L	5	4/30/2014 05:11
Cadmium	0.00023	J	0.00022	0.0050	mg/L	5	4/30/2014 05:11
Chromium	U		0.0014	0.050	mg/L	5	4/30/2014 05:11
Cobalt	0.0013	J	0.00020	0.10	mg/L	5	4/30/2014 05:11
Copper	0.0059	J	0.0026	0.020	mg/L	5	4/30/2014 05:11
Iron	0.25	J	0.027	1.0	mg/L	5	4/30/2014 05:11

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-019
Collection Date: 4/15/2014 12:30 PM

Work Order: 14041218
Lab ID: 14041218-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.00077	J	0.00026	0.015	mg/L	5	4/30/2014 05:11
Manganese	0.46		0.00027	0.25	mg/L	5	4/30/2014 05:11
Nickel	0.0052	J	0.0013	0.10	mg/L	5	4/30/2014 05:11
Selenium	U		0.0032	0.025	mg/L	5	4/30/2014 05:11
Silver	U		0.00021	0.0010	mg/L	5	4/30/2014 05:11
Thallium	U		0.00031	0.010	mg/L	5	4/30/2014 05:11
Vanadium	U		0.00082	0.020	mg/L	5	4/30/2014 05:11
Zinc	0.080	J	0.0024	0.25	mg/L	5	4/30/2014 05:11

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 4/25/14

Analyst: RM

BatchID: 57971

1,1'-Biphenyl	U	H	0.095	10	µg/L	1	4/28/2014 21:14
2,4,5-Trichlorophenol	U	H	0.25	5.0	µg/L	1	4/28/2014 21:14
2,4,6-Trichlorophenol	U	H	0.27	4.0	µg/L	1	4/28/2014 21:14
2,4-Dichlorophenol	U	H	0.22	10	µg/L	1	4/28/2014 21:14
2,4-Dimethylphenol	U	H	1.8	5.0	µg/L	1	4/28/2014 21:14
2,4-Dinitrophenol	U	H	0.67	25	µg/L	1	4/28/2014 21:14
2,4-Dinitrotoluene	U	H	0.27	5.0	µg/L	1	4/28/2014 21:14
2,6-Dinitrotoluene	U	H	0.23	5.0	µg/L	1	4/28/2014 21:14
2-Chloronaphthalene	U	H	0.13	5.0	µg/L	1	4/28/2014 21:14
2-Chlorophenol	U	H	0.32	10	µg/L	1	4/28/2014 21:14
2-Methylnaphthalene	U	H	0.13	5.0	µg/L	1	4/28/2014 21:14
2-Methylphenol	U	H	0.20	10	µg/L	1	4/28/2014 21:14
2-Nitroaniline	U	H	0.34	25	µg/L	1	4/28/2014 21:14
2-Nitrophenol	U	H	0.28	5.0	µg/L	1	4/28/2014 21:14
3,3'-Dichlorobenzidine	U	H	3.9	1.0	µg/L	1	4/28/2014 21:14
3-Nitroaniline	U	H	0.34	25	µg/L	1	4/28/2014 21:14
4,6-Dinitro-2-methylphenol	U	H	1.2	20	µg/L	1	4/28/2014 21:14
4-Bromophenyl phenyl ether	U	H	0.23	5.0	µg/L	1	4/28/2014 21:14
4-Chloro-3-methylphenol	U	H	0.31	5.0	µg/L	1	4/28/2014 21:14
4-Chloroaniline	U	H	0.32	10	µg/L	1	4/28/2014 21:14
4-Chlorophenyl phenyl ether	U	H	0.23	5.0	µg/L	1	4/28/2014 21:14
4-Methylphenol	U	H	0.20	10	µg/L	1	4/28/2014 21:14
4-Nitroaniline	U	H	0.30	25	µg/L	1	4/28/2014 21:14
4-Nitrophenol	U	H	0.51	25	µg/L	1	4/28/2014 21:14
Acenaphthene	U	H	0.11	5.0	µg/L	1	4/28/2014 21:14
Acenaphthylene	U	H	0.12	5.0	µg/L	1	4/28/2014 21:14
Acetophenone	U	H	0.090	5.0	µg/L	1	4/28/2014 21:14
Anthracene	U	H	0.72	5.0	µg/L	1	4/28/2014 21:14
Atrazine	U	H	0.13	5.0	µg/L	1	4/28/2014 21:14

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-019
Collection Date: 4/15/2014 12:30 PM

Work Order: 14041218
Lab ID: 14041218-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U	H	0.46	10	µg/L	1	4/28/2014 21:14
Benzo(a)anthracene	U	H	0.57	1.0	µg/L	1	4/28/2014 21:14
Benzo(a)pyrene	U	H	0.10	1.0	µg/L	1	4/28/2014 21:14
Benzo(b)fluoranthene	U	H	0.74	1.0	µg/L	1	4/28/2014 21:14
Benzo(g,h,i)perylene	U	H	0.70	1.0	µg/L	1	4/28/2014 21:14
Benzo(k)fluoranthene	U	H	0.17	1.0	µg/L	1	4/28/2014 21:14
Bis(2-chloroethoxy)methane	U	H	0.33	5.0	µg/L	1	4/28/2014 21:14
Bis(2-chloroethyl)ether	U	H	0.34	1.0	µg/L	1	4/28/2014 21:14
Bis(2-chloroisopropyl)ether	U	H	0.32	5.0	µg/L	1	4/28/2014 21:14
Bis(2-ethylhexyl)phthalate	U	H	0.15	5.0	µg/L	1	4/28/2014 21:14
Butyl benzyl phthalate	U	H	0.10	5.0	µg/L	1	4/28/2014 21:14
Caprolactam	U	H	4.7	10	µg/L	1	4/28/2014 21:14
Carbazole	U	H	0.16	10	µg/L	1	4/28/2014 21:14
Chrysene	U	H	0.71	1.0	µg/L	1	4/28/2014 21:14
Dibenzo(a,h)anthracene	U	H	0.67	2.0	µg/L	1	4/28/2014 21:14
Dibenzofuran	U	H	0.28	4.0	µg/L	1	4/28/2014 21:14
Diethyl phthalate	U	H	0.24	5.0	µg/L	1	4/28/2014 21:14
Dimethyl phthalate	U	H	0.27	5.0	µg/L	1	4/28/2014 21:14
Di-n-butyl phthalate	U	H	0.14	5.0	µg/L	1	4/28/2014 21:14
Di-n-octyl phthalate	U	H	0.12	5.0	µg/L	1	4/28/2014 21:14
Fluoranthene	1.3	H	0.77	1.0	µg/L	1	4/28/2014 21:14
Fluorene	U	H	0.10	5.0	µg/L	1	4/28/2014 21:14
Hexachlorobenzene	U	H	0.22	0.50	µg/L	1	4/28/2014 21:14
Hexachlorobutadiene	U	H	0.24	0.50	µg/L	1	4/28/2014 21:14
Hexachlorocyclopentadiene	U	H	0.18	5.0	µg/L	1	4/28/2014 21:14
Hexachloroethane	U	H	0.47	5.0	µg/L	1	4/28/2014 21:14
Indeno(1,2,3-cd)pyrene	U	H	0.69	2.0	µg/L	1	4/28/2014 21:14
Isophorone	U	H	0.30	5.0	µg/L	1	4/28/2014 21:14
Naphthalene	U	H	0.12	5.0	µg/L	1	4/28/2014 21:14
Nitrobenzene	U	H	0.33	3.0	µg/L	1	4/28/2014 21:14
N-Nitrosodi-n-propylamine	U	H	0.32	5.0	µg/L	1	4/28/2014 21:14
N-Nitrosodiphenylamine	U	H	0.81	5.0	µg/L	1	4/28/2014 21:14
Pentachlorophenol	U	H	0.22	1.0	µg/L	1	4/28/2014 21:14
Phenanthrene	U	H	0.86	2.0	µg/L	1	4/28/2014 21:14
Phenol	U	H	0.32	5.0	µg/L	1	4/28/2014 21:14
Pyrene	U	H	0.65	5.0	µg/L	1	4/28/2014 21:14
Surr: 2,4,6-Tribromophenol	70.8			32-115	%REC	1	4/28/2014 21:14
Surr: 2-Fluorobiphenyl	51.7			32-100	%REC	1	4/28/2014 21:14
Surr: 2-Fluorophenol	32.5			22-59	%REC	1	4/28/2014 21:14
Surr: 4-Terphenyl-d14	76.2			23-112	%REC	1	4/28/2014 21:14

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-019
Collection Date: 4/15/2014 12:30 PM

Work Order: 14041218
Lab ID: 14041218-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	54.3			31-93	%REC	1	4/28/2014 21:14
Surr: Phenol-d6	19.4			13-36	%REC	1	4/28/2014 21:14
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R139649							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/26/2014 13:41
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/26/2014 13:41
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/26/2014 13:41
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/26/2014 13:41
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/26/2014 13:41
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/26/2014 13:41
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/26/2014 13:41
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/26/2014 13:41
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/26/2014 13:41
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/26/2014 13:41
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/26/2014 13:41
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/26/2014 13:41
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/26/2014 13:41
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/26/2014 13:41
2-Butanone	U		0.64	25	µg/L	1	4/26/2014 13:41
2-Hexanone	U		0.19	50	µg/L	1	4/26/2014 13:41
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/26/2014 13:41
Acetone	3.6	J	3.0	50	µg/L	1	4/26/2014 13:41
Benzene	U		0.14	1.0	µg/L	1	4/26/2014 13:41
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/26/2014 13:41
Bromoform	U		0.18	1.0	µg/L	1	4/26/2014 13:41
Bromomethane	U		0.38	5.0	µg/L	1	4/26/2014 13:41
Carbon disulfide	U		0.26	5.0	µg/L	1	4/26/2014 13:41
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/26/2014 13:41
Chlorobenzene	U		0.12	1.0	µg/L	1	4/26/2014 13:41
Chloroethane	U		0.25	5.0	µg/L	1	4/26/2014 13:41
Chloroform	U		0.15	1.0	µg/L	1	4/26/2014 13:41
Chloromethane	U		0.29	5.0	µg/L	1	4/26/2014 13:41
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/26/2014 13:41
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/26/2014 13:41
Cyclohexane	U		0.20	1.0	µg/L	1	4/26/2014 13:41
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/26/2014 13:41
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/26/2014 13:41
Ethylbenzene	U		0.12	1.0	µg/L	1	4/26/2014 13:41
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/26/2014 13:41

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: W-R2330012-041514-ACN-019
Collection Date: 4/15/2014 12:30 PM

Work Order: 14041218
Lab ID: 14041218-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	4/26/2014 13:41
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/26/2014 13:41
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/26/2014 13:41
Methylene chloride	U		0.75	5.0	µg/L	1	4/26/2014 13:41
Styrene	U		0.12	1.0	µg/L	1	4/26/2014 13:41
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/26/2014 13:41
Toluene	U		0.13	1.0	µg/L	1	4/26/2014 13:41
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/26/2014 13:41
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/26/2014 13:41
Trichloroethene	U		0.16	1.0	µg/L	1	4/26/2014 13:41
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/26/2014 13:41
Vinyl chloride	U		0.15	1.0	µg/L	1	4/26/2014 13:41
Xylenes, Total	U		0.30	3.0	µg/L	1	4/26/2014 13:41
Surr: 1,2-Dichloroethane-d4	101			70-120	%REC	1	4/26/2014 13:41
Surr: 4-Bromofluorobenzene	87.3			85-110	%REC	1	4/26/2014 13:41
Surr: Dibromofluoromethane	103			90-110	%REC	1	4/26/2014 13:41
Surr: Toluene-d8	96.0			85-115	%REC	1	4/26/2014 13:41
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 4/29/14		Analyst: JB
BatchID: 58082							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	4/30/2014 14:40

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill
Sample ID: Trip Blank
Collection Date: 4/15/2014

Work Order: 14041218
Lab ID: 14041218-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: AK
<u>BatchID: R139593</u>							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 18:05
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	4/25/2014 18:05
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 18:05
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	4/25/2014 18:05
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	4/25/2014 18:05
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	4/25/2014 18:05
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	4/25/2014 18:05
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	4/25/2014 18:05
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	4/25/2014 18:05
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	4/25/2014 18:05
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	4/25/2014 18:05
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	4/25/2014 18:05
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/25/2014 18:05
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	4/25/2014 18:05
2-Butanone	U		0.64	25	µg/L	1	4/25/2014 18:05
2-Hexanone	U		0.19	50	µg/L	1	4/25/2014 18:05
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	4/25/2014 18:05
Acetone	U		3.0	50	µg/L	1	4/25/2014 18:05
Benzene	U		0.14	1.0	µg/L	1	4/25/2014 18:05
Bromodichloromethane	U		0.22	1.0	µg/L	1	4/25/2014 18:05
Bromoform	U		0.18	1.0	µg/L	1	4/25/2014 18:05
Bromomethane	U		0.38	5.0	µg/L	1	4/25/2014 18:05
Carbon disulfide	U		0.26	5.0	µg/L	1	4/25/2014 18:05
Carbon tetrachloride	U		0.16	1.0	µg/L	1	4/25/2014 18:05
Chlorobenzene	U		0.12	1.0	µg/L	1	4/25/2014 18:05
Chloroethane	U		0.25	5.0	µg/L	1	4/25/2014 18:05
Chloroform	U		0.15	1.0	µg/L	1	4/25/2014 18:05
Chloromethane	U		0.29	5.0	µg/L	1	4/25/2014 18:05
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	4/25/2014 18:05
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	4/25/2014 18:05
Cyclohexane	U		0.20	1.0	µg/L	1	4/25/2014 18:05
Dibromochloromethane	U		0.12	5.0	µg/L	1	4/25/2014 18:05
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	4/25/2014 18:05
Ethylbenzene	U		0.12	1.0	µg/L	1	4/25/2014 18:05
Isopropylbenzene	U		0.11	5.0	µg/L	1	4/25/2014 18:05
Methyl acetate	U		0.76	10	µg/L	1	4/25/2014 18:05
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	4/25/2014 18:05

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

ALS Group USA, Corp

Date: 05-May-14

Client: The Mannik & Smith Group, Inc.**Project:** RACER - Van Buren Landfill**Sample ID:** Trip Blank**Collection Date:** 4/15/2014**Work Order:** 14041218**Lab ID:** 14041218-04**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.19	1.0	µg/L	1	4/25/2014 18:05
Methylene chloride	U		0.75	5.0	µg/L	1	4/25/2014 18:05
Styrene	U		0.12	1.0	µg/L	1	4/25/2014 18:05
Tetrachloroethene	U		0.098	1.0	µg/L	1	4/25/2014 18:05
Toluene	U		0.13	1.0	µg/L	1	4/25/2014 18:05
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	4/25/2014 18:05
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	4/25/2014 18:05
Trichloroethene	U		0.16	1.0	µg/L	1	4/25/2014 18:05
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	4/25/2014 18:05
Vinyl chloride	U		0.15	1.0	µg/L	1	4/25/2014 18:05
Xylenes, Total	U		0.30	3.0	µg/L	1	4/25/2014 18:05
Surr: 1,2-Dichloroethane-d4	101			70-120	%REC	1	4/25/2014 18:05
Surr: 4-Bromofluorobenzene	99.1			85-110	%REC	1	4/25/2014 18:05
Surr: Dibromofluoromethane	92.9			90-110	%REC	1	4/25/2014 18:05
Surr: Toluene-d8	97.4			85-115	%REC	1	4/25/2014 18:05

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **58094** Instrument ID **HG1** Method: **SW7470**

MBLK		Sample ID: MBLK-58094-58094				Units: mg/L		Analysis Date: 4/30/2014 03:54 PM		
Client ID:		Run ID: HG1_140430A				SeqNo: 2738601		Prep Date: 4/30/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS				Sample ID: LCS-58094-58094				Units: mg/L			Analysis Date: 4/30/2014 03:56 PM		
Client ID:				Run ID: HG1_140430A				SeqNo: 2738602		Prep Date: 4/30/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

Mercury 0.001985 0.00020 0.002 0 99.2 80-120 0

MS				Sample ID: 14041218-02EMS				Units: mg/L			Analysis Date: 4/30/2014 04:07 PM			
Client ID: W-R2330012-041514-ACN-018				Run ID: HG1_140430A				SeqNo: 2738607			Prep Date: 4/30/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Mercury 0.002108 0.00020 0.002 -0.000008 106 75-125 0

MSD				Sample ID: 14041218-02EMSD				Units: mg/L			Analysis Date: 4/30/2014 04:09 PM			
Client ID: W-R2330012-041514-ACN-018				Run ID: HG1_140430A				SeqNo: 2738608			Prep Date: 4/30/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Mercury 0.00211 0.00020 0.002 -0.000008 106 75-125 0.002108 0.0948 20

The following samples were analyzed in this batch:

14041218-01D	14041218-01E	14041218-02D
14041218-02E	14041218-03D	14041218-03E

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **58069** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK		Sample ID: MBLK-58069-58069				Units: mg/L		Analysis Date: 4/29/2014 03:49 PM		
Client ID:		Run ID: ICPMS2_140429A				SeqNo: 2736948		Prep Date: 4/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.0009427	0.010								J
Antimony	U	0.0050								
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Copper	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	U	0.0050								
Nickel	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

LCS		Sample ID: LCS-58069-58069				Units: mg/L		Analysis Date: 4/29/2014 04:00 PM		
Client ID:		Run ID: ICPMS2_140429A				SeqNo: 2736949		Prep Date: 4/29/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1014	0.010	0.1	0	101	80-120	0			
Antimony	0.1006	0.0050	0.1	0	101	80-120	0			
Arsenic	0.1011	0.0050	0.1	0	101	80-120	0			
Barium	0.09855	0.0050	0.1	0	98.6	80-120	0			
Beryllium	0.1042	0.0020	0.1	0	104	80-120	0			
Cadmium	0.09952	0.0020	0.1	0	99.5	80-120	0			
Chromium	0.1021	0.0050	0.1	0	102	80-120	0			
Cobalt	0.1025	0.0050	0.1	0	102	80-120	0			
Copper	0.1038	0.0050	0.1	0	104	80-120	0			
Iron	10.26	0.080	10	0	103	80-120	0			
Lead	0.099	0.0050	0.1	0	99	80-120	0			
Manganese	0.1032	0.0050	0.1	0	103	80-120	0			
Nickel	0.1014	0.0050	0.1	0	101	80-120	0			
Selenium	0.09943	0.0050	0.1	0	99.4	80-120	0			
Silver	0.09627	0.0050	0.1	0	96.3	80-120	0			
Thallium	0.0942	0.0050	0.1	0	94.2	80-120	0			
Vanadium	0.1049	0.0050	0.1	0	105	80-120	0			
Zinc	0.1043	0.010	0.1	0	104	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **58069** Instrument ID **ICPMS2** Method: **SW6020A**

MS				Sample ID: 14041218-01EMS			Units: mg/L		Analysis Date: 4/29/2014 04:19 PM	
Client ID: W-R2330012-041514-ACN-017				Run ID: ICPMS2_140429A			SeqNo: 2736952		Prep Date: 4/29/2014	
							DF: 5			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1118	0.050	0.1	0.01637	95.4	75-125	0			
Antimony	0.09385	0.025	0.1	0.001258	92.6	75-125	0			
Arsenic	0.0934	0.025	0.1	0.000947	92.5	75-125	0			
Barium	0.129	0.025	0.1	0.03388	95.1	75-125	0			
Beryllium	0.1022	0.010	0.1	-7.465E-05	102	75-125	0			
Cadmium	0.09655	0.010	0.1	0.000397	96.2	75-125	0			
Chromium	0.09815	0.025	0.1	0.004279	93.9	75-125	0			
Cobalt	0.09935	0.025	0.1	0.001668	97.7	75-125	0			
Copper	0.1372	0.025	0.1	0.03646	101	75-125	0			
Iron	9.405	0.40	10	0.03303	93.7	75-125	0			
Lead	0.09475	0.025	0.1	0.002278	92.5	75-125	0			
Manganese	0.1518	0.025	0.1	0.05135	100	75-125	0			
Nickel	0.1016	0.025	0.1	0.00404	97.5	75-125	0			
Selenium	0.08865	0.025	0.1	0.00062	88	75-125	0			
Silver	0.0876	0.025	0.1	3.868E-06	87.6	75-125	0			
Thallium	0.0894	0.025	0.1	-0.001088	90.5	75-125	0			
Vanadium	0.104	0.025	0.1	0.00116	103	75-125	0			
Zinc	0.1408	0.050	0.1	0.0382	103	75-125	0			

MSD				Sample ID: 14041218-01EMSD			Units: mg/L		Analysis Date: 4/29/2014 04:25 PM	
Client ID: W-R2330012-041514-ACN-017				Run ID: ICPMS2_140429A			SeqNo: 2736953		Prep Date: 4/29/2014	
							DF: 5			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1098	0.050	0.1	0.01637	93.4	75-125	0.1118	1.85	20	
Antimony	0.0958	0.025	0.1	0.001258	94.5	75-125	0.09385	2.06	20	
Arsenic	0.09455	0.025	0.1	0.000947	93.6	75-125	0.0934	1.22	20	
Barium	0.1262	0.025	0.1	0.03388	92.3	75-125	0.129	2.23	20	
Beryllium	0.0987	0.010	0.1	-7.465E-05	98.8	75-125	0.1022	3.48	20	
Cadmium	0.0943	0.010	0.1	0.000397	93.9	75-125	0.09655	2.36	20	
Chromium	0.0998	0.025	0.1	0.004279	95.5	75-125	0.09815	1.67	20	
Cobalt	0.09635	0.025	0.1	0.001668	94.7	75-125	0.09935	3.07	20	
Copper	0.133	0.025	0.1	0.03646	96.6	75-125	0.1372	3.11	20	
Iron	9.52	0.40	10	0.03303	94.9	75-125	9.405	1.22	20	
Lead	0.0917	0.025	0.1	0.002278	89.4	75-125	0.09475	3.27	20	
Manganese	0.147	0.025	0.1	0.05135	95.7	75-125	0.1518	3.21	20	
Nickel	0.09815	0.025	0.1	0.00404	94.1	75-125	0.1016	3.41	20	
Selenium	0.09215	0.025	0.1	0.00062	91.5	75-125	0.08865	3.87	20	
Silver	0.0893	0.025	0.1	3.868E-06	89.3	75-125	0.0876	1.92	20	
Thallium	0.0862	0.025	0.1	-0.001088	87.3	75-125	0.0894	3.64	20	
Vanadium	0.1	0.025	0.1	0.00116	98.9	75-125	0.104	3.82	20	
Zinc	0.1359	0.050	0.1	0.0382	97.7	75-125	0.1408	3.54	20	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **58069** Instrument ID **ICPMS2** Method: **SW6020A**

The following samples were analyzed in this batch:

14041218-01D	14041218-01E	14041218-02D
14041218-02E	14041218-03D	14041218-03E

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **57971** Instrument ID **SVMS8** Method: **SW8270**

MBLK				Sample ID: SBLKW1-57971-57971			Units: µg/L		Analysis Date: 4/28/2014 11:51 AM		
Client ID:			Run ID: SVMS8_140428A			SeqNo: 2735490		Prep Date: 4/25/2014		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	1.0									
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: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: 57971	Instrument ID SVMS8	Method: SW8270						
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>	<i>36.71</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>73.4</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>35.86</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>71.7</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>23.23</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>46.5</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>52.05</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>32.98</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>66</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>11.74</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>23.5</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: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **57971** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-57971-57971				Units: µg/L		Analysis Date: 4/28/2014 12:11 PM		
Client ID:		Run ID: SVMS8_140428A				SeqNo: 2735491		Prep Date: 4/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	14.77	5.0	20	0	73.8	50-110	0			
2,4,6-Trichlorophenol	14.37	5.0	20	0	71.8	50-115	0			
2,4-Dichlorophenol	14.13	10	20	0	70.6	50-105	0			
2,4-Dimethylphenol	10.83	5.0	20	0	54.2	30-110	0			
2,4-Dinitrophenol	15.63	5.0	20	0	78.2	15-140	0			
2,4-Dinitrotoluene	16.72	5.0	20	0	83.6	50-120	0			
2,6-Dinitrotoluene	15.65	5.0	20	0	78.2	50-115	0			
2-Chloronaphthalene	14.81	5.0	20	0	74	50-105	0			
2-Chlorophenol	13.56	5.0	20	0	67.8	35-105	0			
2-Methylnaphthalene	14.83	5.0	20	0	74.2	45-105	0			
2-Methylphenol	11.44	5.0	20	0	57.2	40-110	0			
2-Nitroaniline	14.44	20	20	0	72.2	50-115	0			J
2-Nitrophenol	15.48	5.0	20	0	77.4	40-115	0			
3-Nitroaniline	14.55	20	20	0	72.8	20-125	0			J
4,6-Dinitro-2-methylphenol	17.11	20	20	0	85.6	40-130	0			J
4-Bromophenyl phenyl ether	16.02	5.0	20	0	80.1	50-115	0			
4-Chloro-3-methylphenol	13.52	5.0	20	0	67.6	45-110	0			
4-Chloroaniline	14.89	20	20	0	74.4	15-110	0			J
4-Chlorophenyl phenyl ether	15.56	5.0	20	0	77.8	50-110	0			
4-Methylphenol	9.78	5.0	20	0	48.9	30-110	0			
4-Nitroaniline	14.6	20	20	0	73	35-150	0			J
4-Nitrophenol	7.73	20	20	0	38.6	1-58	0			J
Acenaphthene	13.8	5.0	20	0	69	45-110	0			
Acenaphthylene	14.01	5.0	20	0	70	50-105	0			
Anthracene	15.12	5.0	20	0	75.6	55-110	0			
Benzo(a)anthracene	15.12	5.0	20	0	75.6	55-110	0			
Benzo(a)pyrene	14.93	5.0	20	0	74.6	55-110	0			
Benzo(b)fluoranthene	15.43	5.0	20	0	77.2	45-120	0			
Benzo(g,h,i)perylene	15.36	5.0	20	0	76.8	40-125	0			
Benzo(k)fluoranthene	15.8	5.0	20	0	79	45-125	0			
Bis(2-chloroethoxy)methane	14.86	5.0	20	0	74.3	45-105	0			
Bis(2-chloroethyl)ether	15.93	5.0	20	0	79.6	35-110	0			
Bis(2-chloroisopropyl)ether	13.66	5.0	20	0	68.3	25-130	0			
Bis(2-ethylhexyl)phthalate	14.87	5.0	20	0	74.4	40-125	0			
Butyl benzyl phthalate	15.62	5.0	20	0	78.1	45-115	0			
Carbazole	15.71	10	20	0	78.6	50-150	0			
Chrysene	17.1	5.0	20	0	85.5	55-110	0			
Dibenzo(a,h)anthracene	14.69	5.0	20	0	73.4	40-125	0			
Dibenzofuran	14.99	5.0	20	0	75	55-105	0			
Diethyl phthalate	16.41	20	20	0	82	40-120	0			J
Dimethyl phthalate	16.07	20	20	0	80.4	25-125	0			J
Di-n-butyl phthalate	16.92	5.0	20	0	84.6	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: 57971		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	15.31	5.0	20	0	76.6	35-135	0	
Fluoranthene	15.74	5.0	20	0	78.7	55-115	0	
Fluorene	15.74	5.0	20	0	78.7	50-110	0	
Hexachlorobenzene	15.27	5.0	20	0	76.4	50-110	0	
Hexachlorobutadiene	13.49	5.0	20	0	67.4	25-105	0	
Hexachlorocyclopentadiene	10.71	20	20	0	53.6	25-105	0	J
Hexachloroethane	14.34	5.0	20	0	71.7	30-95	0	
Indeno(1,2,3-cd)pyrene	14.18	5.0	20	0	70.9	45-125	0	
Isophorone	13.94	5.0	20	0	69.7	50-110	0	
Naphthalene	13.71	5.0	20	0	68.6	40-100	0	
Nitrobenzene	14.77	5.0	20	0	73.8	45-110	0	
N-Nitrosodi-n-propylamine	15.22	5.0	20	0	76.1	35-130	0	
N-Nitrosodiphenylamine	14.24	5.0	20	0	71.2	50-110	0	
Pentachlorophenol	14.8	20	20	0	74	40-115	0	J
Phenanthrene	15.23	5.0	20	0	76.2	50-115	0	
Phenol	5.67	5.0	20	0	28.4	12-43	0	
Pyrene	16.4	5.0	20	0	82	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>38.95</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>35.71</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>71.4</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>19.23</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>38.5</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>47.06</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>94.1</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>35.44</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>70.9</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>12.41</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>24.8</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: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **57971** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 14041162-01B MS			Units: µg/L		Analysis Date: 4/28/2014 02:02 PM		
Client ID:		Run ID: SVMS8_140428A			SeqNo: 2735492		Prep Date: 4/25/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	122.9	50	200		0	61.4	50-110	0			
2,4,6-Trichlorophenol	121.6	50	200		0	60.8	50-115	0			
2,4-Dichlorophenol	117.1	100	200		0	58.6	50-105	0			
2,4-Dimethylphenol	99.1	50	200		0	49.6	30-110	0			
2,4-Dinitrophenol	146.1	50	200		0	73	15-140	0			
2,4-Dinitrotoluene	154.8	50	200		0	77.4	50-120	0			
2,6-Dinitrotoluene	144.4	50	200		0	72.2	50-115	0			
2-Chloronaphthalene	120.5	50	200		0	60.2	50-105	0			
2-Chlorophenol	117.5	50	200		0	58.8	35-105	0			
2-Methylnaphthalene	117.3	50	200		0	58.6	45-105	0			
2-Methylphenol	103.7	50	200		0	51.8	40-110	0			
2-Nitroaniline	135.2	200	200		0	67.6	50-115	0		J	
2-Nitrophenol	129.6	50	200		0	64.8	40-115	0			
3-Nitroaniline	140.6	200	200		0	70.3	20-125	0		J	
4,6-Dinitro-2-methylphenol	155	200	200		0	77.5	40-130	0		J	
4-Bromophenyl phenyl ether	143.4	50	200		0	71.7	50-115	0			
4-Chloro-3-methylphenol	118.9	50	200		0	59.4	45-110	0			
4-Chloroaniline	126.9	200	200		0	63.4	15-110	0		J	
4-Chlorophenyl phenyl ether	132.6	50	200		0	66.3	50-110	0			
4-Methylphenol	87.2	50	200		0	43.6	30-110	0			
4-Nitroaniline	152.6	200	200		0	76.3	35-150	0		J	
4-Nitrophenol	77.5	200	200		0	38.8	1-58	0		J	
Acenaphthene	117.1	50	200		0	58.6	45-110	0			
Acenaphthylene	116.3	50	200		0	58.2	50-105	0			
Anthracene	140.2	50	200		0	70.1	55-110	0			
Benzo(a)anthracene	146	50	200		0	73	55-110	0			
Benzo(a)pyrene	144.8	50	200		0	72.4	55-110	0			
Benzo(b)fluoranthene	145.2	50	200		0	72.6	45-120	0			
Benzo(g,h,i)perylene	149.8	50	200		0	74.9	40-125	0			
Benzo(k)fluoranthene	145.9	50	200		0	73	45-125	0			
Bis(2-chloroethoxy)methane	122	50	200		0	61	45-105	0			
Bis(2-chloroethyl)ether	131.1	50	200		0	65.6	35-110	0			
Bis(2-chloroisopropyl)ether	114.9	50	200		0	57.4	25-130	0			
Bis(2-ethylhexyl)phthalate	155.9	50	200		0	78	40-125	0			
Butyl benzyl phthalate	166.6	50	200		0	83.3	45-115	0			
Carbazole	149.3	100	200		0	74.6	50-150	0			
Chrysene	163.6	50	200		0	81.8	55-110	0			
Dibenzo(a,h)anthracene	140.4	50	200		0	70.2	40-125	0			
Dibenzofuran	123	50	200		0	61.5	55-105	0			
Diethyl phthalate	153.3	200	200		0	76.6	40-120	0		J	
Dimethyl phthalate	143.3	200	200		0	71.6	25-125	0		J	
Di-n-butyl phthalate	168.9	50	200		0	84.4	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: 57971		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	155.8	50	200	0	77.9	35-135	0	
Fluoranthene	147.1	50	200	0	73.6	55-115	0	
Fluorene	136.9	50	200	0	68.4	50-110	0	
Hexachlorobenzene	140	50	200	0	70	50-110	0	
Hexachlorobutadiene	109.7	50	200	0	54.8	25-105	0	
Hexachlorocyclopentadiene	102.2	200	200	0	51.1	25-105	0	J
Hexachloroethane	117.2	50	200	0	58.6	30-95	0	
Indeno(1,2,3-cd)pyrene	133	50	200	0	66.5	45-125	0	
Isophorone	117.7	50	200	0	58.8	50-110	0	
Naphthalene	112.1	50	200	0	56	40-100	0	
Nitrobenzene	126.7	50	200	0	63.4	45-110	0	
N-Nitrosodi-n-propylamine	125.8	50	200	0	62.9	35-130	0	
N-Nitrosodiphenylamine	129.3	50	200	0	64.6	50-110	0	
Pentachlorophenol	159.2	200	200	0	79.6	40-115	0	J
Phenanthrene	140.4	50	200	0	70.2	50-115	0	
Phenol	46.7	50	200	0	23.4	12-43	0	J
Pyrene	161.5	50	200	0	80.8	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	358	0	500	0	71.6	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	293.5	0	500	0	58.7	32-100	0	
<i>Surr: 2-Fluorophenol</i>	167.4	0	500	0	33.5	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	484.3	0	500	0	96.9	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	315.5	0	500	0	63.1	31-93	0	
<i>Surr: Phenol-d6</i>	102.4	0	500	0	20.5	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **57971** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 14041162-01B MSD				Units: µg/L		Analysis Date: 4/28/2014 02:22 PM	
Client ID:		Run ID: SVMS8_140428A			SeqNo: 2735493		Prep Date: 4/25/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	131.5	50	200	0	65.8	50-110	122.9	6.76	30		
2,4,6-Trichlorophenol	131	50	200	0	65.5	50-115	121.6	7.44	30		
2,4-Dichlorophenol	124.4	100	200	0	62.2	50-105	117.1	6.05	30		
2,4-Dimethylphenol	104.4	50	200	0	52.2	30-110	99.1	5.21	30		
2,4-Dinitrophenol	148.9	50	200	0	74.4	15-140	146.1	1.9	30		
2,4-Dinitrotoluene	161.4	50	200	0	80.7	50-120	154.8	4.17	30		
2,6-Dinitrotoluene	149	50	200	0	74.5	50-115	144.4	3.14	30		
2-Chloronaphthalene	129.2	50	200	0	64.6	50-105	120.5	6.97	30		
2-Chlorophenol	125.1	50	200	0	62.6	35-105	117.5	6.27	30		
2-Methylnaphthalene	126.9	50	200	0	63.4	45-105	117.3	7.86	30		
2-Methylphenol	110	50	200	0	55	40-110	103.7	5.9	30		
2-Nitroaniline	148.9	200	200	0	74.4	50-115	135.2	0	30	J	
2-Nitrophenol	138.2	50	200	0	69.1	40-115	129.6	6.42	30		
3-Nitroaniline	150.3	200	200	0	75.2	20-125	140.6	0	30	J	
4,6-Dinitro-2-methylphenol	158	200	200	0	79	40-130	155	0	30	J	
4-Bromophenyl phenyl ether	151.9	50	200	0	76	50-115	143.4	5.76	30		
4-Chloro-3-methylphenol	126.1	50	200	0	63	45-110	118.9	5.88	30		
4-Chloroaniline	141.5	200	200	0	70.8	15-110	126.9	0	30	J	
4-Chlorophenyl phenyl ether	141.8	50	200	0	70.9	50-110	132.6	6.71	30		
4-Methylphenol	96.7	50	200	0	48.4	30-110	87.2	10.3	30		
4-Nitroaniline	154.9	200	200	0	77.4	35-150	152.6	0	30	J	
4-Nitrophenol	80	200	200	0	40	1-58	77.5	0	0	J	
Acenaphthene	126.5	50	200	0	63.2	45-110	117.1	7.72	30		
Acenaphthylene	123	50	200	0	61.5	50-105	116.3	5.6	30		
Anthracene	145.8	50	200	0	72.9	55-110	140.2	3.92	30		
Benzo(a)anthracene	145.2	50	200	0	72.6	55-110	146	0.549	30		
Benzo(a)pyrene	145.6	50	200	0	72.8	55-110	144.8	0.551	30		
Benzo(b)fluoranthene	148.2	50	200	0	74.1	45-120	145.2	2.04	30		
Benzo(g,h,i)perylene	147.7	50	200	0	73.8	40-125	149.8	1.41	30		
Benzo(k)fluoranthene	147.4	50	200	0	73.7	45-125	145.9	1.02	30		
Bis(2-chloroethoxy)methane	132.7	50	200	0	66.4	45-105	122	8.4	30		
Bis(2-chloroethyl)ether	138.6	50	200	0	69.3	35-110	131.1	5.56	30		
Bis(2-chloroisopropyl)ether	122.9	50	200	0	61.4	25-130	114.9	6.73	30		
Bis(2-ethylhexyl)phthalate	153	50	200	0	76.5	40-125	155.9	1.88	30		
Butyl benzyl phthalate	163.1	50	200	0	81.6	45-115	166.6	2.12	30		
Carbazole	150.9	100	200	0	75.4	50-150	149.3	1.07	30		
Chrysene	165.7	50	200	0	82.8	55-110	163.6	1.28	30		
Dibenzo(a,h)anthracene	137.7	50	200	0	68.8	40-125	140.4	1.94	30		
Dibenzofuran	135.2	50	200	0	67.6	55-105	123	9.45	30		
Diethyl phthalate	158.6	200	200	0	79.3	40-120	153.3	0	30	J	
Dimethyl phthalate	152.4	200	200	0	76.2	25-125	143.3	0	30	J	
Di-n-butyl phthalate	185.2	50	200	0	92.6	55-115	168.9	9.21	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: 57971		Instrument ID SVMS8		Method: SW8270					
Di-n-octyl phthalate	155.6	50	200	0	77.8	35-135	155.8	0.128	30
Fluoranthene	149.1	50	200	0	74.6	55-115	147.1	1.35	30
Fluorene	146.4	50	200	0	73.2	50-110	136.9	6.71	30
Hexachlorobenzene	146.6	50	200	0	73.3	50-110	140	4.61	30
Hexachlorobutadiene	118.1	50	200	0	59	25-105	109.7	7.37	30
Hexachlorocyclopentadiene	103.6	200	200	0	51.8	25-105	102.2	0	30 J
Hexachloroethane	119.6	50	200	0	59.8	30-95	117.2	2.03	30
Indeno(1,2,3-cd)pyrene	128.9	50	200	0	64.4	45-125	133	3.13	30
Isophorone	127.7	50	200	0	63.8	50-110	117.7	8.15	30
Naphthalene	119.8	50	200	0	59.9	40-100	112.1	6.64	30
Nitrobenzene	127.6	50	200	0	63.8	45-110	126.7	0.708	30
N-Nitrosodi-n-propylamine	137.2	50	200	0	68.6	35-130	125.8	8.67	30
N-Nitrosodiphenylamine	135.7	50	200	0	67.8	50-110	129.3	4.83	30
Pentachlorophenol	168	200	200	0	84	40-115	159.2	0	30 J
Phenanthrene	145.1	50	200	0	72.6	50-115	140.4	3.29	30
Phenol	53.1	50	200	0	26.6	12-43	46.7	12.8	30
Pyrene	159.5	50	200	0	79.8	50-130	161.5	1.25	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>364.8</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>73</i>	<i>38-115</i>	<i>358</i>	<i>1.88</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>314.1</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>62.8</i>	<i>32-100</i>	<i>293.5</i>	<i>6.78</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>179.7</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>35.9</i>	<i>22-59</i>	<i>167.4</i>	<i>7.09</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>461</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>92.2</i>	<i>23-112</i>	<i>484.3</i>	<i>4.93</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>329.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>65.9</i>	<i>31-93</i>	<i>315.5</i>	<i>4.37</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>111.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>22.3</i>	<i>13-36</i>	<i>102.4</i>	<i>8.51</i>	<i>40</i>

The following samples were analyzed in this batch:

14041218-01B	14041218-02B	14041218-03B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139593** Instrument ID **VMS6** Method: **SW8260**

MBLK		Sample ID: VBK1-140425-R139593				Units: µg/L		Analysis Date: 4/25/2014 02:38 PM		
Client ID:		Run ID: VMS6_140425A				SeqNo: 2732052		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: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139593	Instrument ID VMS6	Method: SW8260						
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>20.37</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.69</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>85-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19.11</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95.6</i>	<i>90-110</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.45</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.2</i>	<i>85-115</i>	<i>0</i>	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139593** Instrument ID **VMS6** Method: **SW8260**

LCS		Sample ID: VLCSW2-140425-R139593				Units: µg/L		Analysis Date: 4/25/2014 01:47 PM		
Client ID:		Run ID: VMS6_140425A				SeqNo: 2732047		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	18	1.0	20	0	90	75-130	0			
1,1,2,2-Tetrachloroethane	18.55	1.0	20	0	92.8	75-130	0			
1,1,2-Trichloroethane	18.26	1.0	20	0	91.3	75-125	0			
1,1-Dichloroethane	17.79	1.0	20	0	89	75-133	0			
1,1-Dichloroethene	17.16	1.0	20	0	85.8	70-145	0			
1,2,4-Trichlorobenzene	18.01	1.0	20	0	90	70-135	0			
1,2-Dibromo-3-chloropropane	14.87	1.0	20	0	74.4	60-130	0			
1,2-Dibromoethane	18.73	1.0	20	0	93.6	80-150	0			
1,2-Dichlorobenzene	17.69	1.0	20	0	88.4	70-130	0			
1,2-Dichloroethane	18.53	1.0	20	0	92.6	78-125	0			
1,2-Dichloropropane	18.64	2.0	20	0	93.2	75-125	0			
1,3-Dichlorobenzene	18.28	2.0	20	0	91.4	75-130	0			
1,4-Dichlorobenzene	18.3	2.0	20	0	91.5	75-130	0			
2-Butanone	20.75	5.0	20	0	104	55-150	0			
2-Hexanone	17.61	5.0	20	0	88	60-135	0			
4-Methyl-2-pentanone	22.62	5.0	20	0	113	77-178	0			
Acetone	16.56	20	20	0	82.8	60-160	0			J
Benzene	17.82	1.0	20	0	89.1	85-125	0			
Bromodichloromethane	17.7	1.0	20	0	88.5	75-125	0			
Bromoform	14.72	1.0	20	0	73.6	60-125	0			
Bromomethane	19.98	1.0	20	0	99.9	30-185	0			
Carbon disulfide	18.09	2.5	20	0	90.4	60-165	0			
Carbon tetrachloride	17.06	1.0	20	0	85.3	65-140	0			
Chlorobenzene	18.07	1.0	20	0	90.4	80-120	0			
Chloroethane	13.86	1.0	20	0	69.3	50-140	0			
Chloroform	17.79	1.0	20	0	89	80-130	0			
Chloromethane	12.27	1.0	20	0	61.4	50-130	0			
cis-1,2-Dichloroethene	18.27	1.0	20	0	91.4	75-134	0			
cis-1,3-Dichloropropene	19.24	1.0	20	0	96.2	70-130	0			
Dibromochloromethane	13.79	1.0	20	0	69	60-115	0			
Dichlorodifluoromethane	8.08	1.0	20	0	40.4	20-120	0			
Ethylbenzene	17.67	1.0	20	0	88.4	85-125	0			
Isopropylbenzene	17	1.0	20	0	85	80-127	0			
Methyl tert-butyl ether	19.57	5.0	20	0	97.8	80-130	0			
Methylene chloride	19.87	5.0	20	0	99.4	75-140	0			
Styrene	18	1.0	20	0	90	85-125	0			
Tetrachloroethene	17.36	2.0	20	0	86.8	77-138	0			
Toluene	17.43	1.0	20	0	87.2	85-125	0			
trans-1,2-Dichloroethene	19.09	1.0	20	0	95.4	80-140	0			
trans-1,3-Dichloropropene	16.31	1.0	20	0	81.6	81-123	0			
Trichloroethene	17.23	1.0	20	0	86.2	84-130	0			
Trichlorofluoromethane	13.55	1.0	20	0	67.8	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139593	Instrument ID VMS6		Method: SW8260				
Vinyl chloride	12.29	1.0	20	0	61.4	50-136	0
Xylenes, Total	52.92	3.0	60	0	88.2	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.78</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.9</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.01</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>90-110</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.33</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.6</i>	<i>85-115</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139593** Instrument ID **VMS6** Method: **SW8260**

MS				Sample ID: 14041038-04A MS			Units: µg/L		Analysis Date: 4/25/2014 11:41 PM	
Client ID:				Run ID: VMS6_140425A			SeqNo: 2732079		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	20.41	1.0	20	0	102	75-130	0			
1,1,2,2-Tetrachloroethane	18.82	1.0	20	0	94.1	75-130	0			
1,1,2-Trichloroethane	19.23	1.0	20	0	96.2	75-125	0			
1,1-Dichloroethane	19.15	1.0	20	0	95.8	75-133	0			
1,1-Dichloroethene	20.34	1.0	20	0	102	70-145	0			
1,2,4-Trichlorobenzene	17.86	1.0	20	0	89.3	70-135	0			
1,2-Dibromo-3-chloropropane	14.02	1.0	20	0	70.1	60-130	0			
1,2-Dibromoethane	19.04	1.0	20	0	95.2	80-150	0			
1,2-Dichlorobenzene	18.79	1.0	20	0	94	70-130	0			
1,2-Dichloroethane	19.95	1.0	20	0	99.8	78-125	0			
1,2-Dichloropropane	19.83	2.0	20	0	99.2	75-125	0			
1,3-Dichlorobenzene	19.52	2.0	20	0	97.6	75-130	0			
1,4-Dichlorobenzene	19.46	2.0	20	0	97.3	75-130	0			
2-Butanone	19.52	5.0	20	0	97.6	55-150	0			
2-Hexanone	17.48	5.0	20	0	87.4	60-135	0			
4-Methyl-2-pentanone	21.92	5.0	20	0	110	77-178	0			
Acetone	16.66	20	20	0	83.3	60-160	0			J
Benzene	19.79	1.0	20	0	99	85-125	0			
Bromodichloromethane	19.28	1.0	20	0	96.4	75-125	0			
Bromoform	13.57	1.0	20	0	67.8	60-125	0			
Bromomethane	21.97	1.0	20	0	110	30-185	0			
Carbon disulfide	20.05	2.5	20	0	100	60-165	0			
Carbon tetrachloride	20.66	1.0	20	0	103	65-140	0			
Chlorobenzene	19.98	1.0	20	0	99.9	80-120	0			
Chloroethane	17.23	1.0	20	0	86.2	50-140	0			
Chloroform	19.62	1.0	20	0	98.1	80-130	0			
Chloromethane	15.29	1.0	20	0	76.4	50-130	0			
cis-1,2-Dichloroethene	19.52	1.0	20	0	97.6	75-134	0			
cis-1,3-Dichloropropene	19.46	1.0	20	0	97.3	70-130	0			
Dibromochloromethane	13.74	1.0	20	0	68.7	60-115	0			
Dichlorodifluoromethane	11.78	1.0	20	0	58.9	20-120	0			
Ethylbenzene	19.97	1.0	20	0	99.8	85-125	0			
Isopropylbenzene	19.84	1.0	20	0	99.2	80-127	0			
Methyl tert-butyl ether	19.68	5.0	20	0	98.4	80-130	0			
Methylene chloride	20.35	5.0	20	0	102	75-140	0			
Styrene	19.69	1.0	20	0	98.4	85-125	0			
Tetrachloroethene	19.88	2.0	20	0	99.4	77-138	0			
Toluene	18.91	1.0	20	0	94.6	85-125	0			
trans-1,2-Dichloroethene	21.06	1.0	20	0	105	80-140	0			
trans-1,3-Dichloropropene	15.63	1.0	20	0	78.2	81-123	0			S
Trichloroethene	20.07	1.0	20	0	100	84-130	0			
Trichlorofluoromethane	17.91	1.0	20	0	89.6	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139593	Instrument ID VMS6	Method: SW8260					
Vinyl chloride	15.92	1.0	20	0	79.6	50-136	0
Xylenes, Total	59	3.0	60	0	98.3	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.63</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.2</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.98</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.9</i>	<i>85-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.39</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>90-110</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.35</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.8</i>	<i>85-115</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139593** Instrument ID **VMS6** Method: **SW8260**

MSD					Sample ID: 14041038-04A MSD			Units: µg/L		Analysis Date: 4/26/2014 12:06 PM		
Client ID:			Run ID: VMS6_140425A			SeqNo: 2732080		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	19.12	1.0	20	0	95.6	75-130	20.41	6.53	30			
1,1,2,2-Tetrachloroethane	18.53	1.0	20	0	92.6	75-130	18.82	1.55	30			
1,1,2-Trichloroethane	18.59	1.0	20	0	93	75-125	19.23	3.38	30			
1,1-Dichloroethane	18.26	1.0	20	0	91.3	75-133	19.15	4.76	30			
1,1-Dichloroethene	19.01	1.0	20	0	95	70-145	20.34	6.76	30			
1,2,4-Trichlorobenzene	19.05	1.0	20	0	95.2	70-135	17.86	6.45	30			
1,2-Dibromo-3-chloropropane	14.55	1.0	20	0	72.8	60-130	14.02	3.71	30			
1,2-Dibromoethane	19.05	1.0	20	0	95.2	80-150	19.04	0.0525	30			
1,2-Dichlorobenzene	18.89	1.0	20	0	94.4	70-130	18.79	0.531	30			
1,2-Dichloroethane	19.25	1.0	20	0	96.2	78-125	19.95	3.57	30			
1,2-Dichloropropane	19.35	2.0	20	0	96.8	75-125	19.83	2.45	30			
1,3-Dichlorobenzene	19.78	2.0	20	0	98.9	75-130	19.52	1.32	30			
1,4-Dichlorobenzene	19.56	2.0	20	0	97.8	75-130	19.46	0.513	30			
2-Butanone	20	5.0	20	0	100	55-150	19.52	2.43	30			
2-Hexanone	17.7	5.0	20	0	88.5	60-135	17.48	1.25	30			
4-Methyl-2-pentanone	22.32	5.0	20	0	112	77-178	21.92	1.81	30			
Acetone	16.46	20	20	0	82.3	60-160	16.66	0	30	J		
Benzene	18.65	1.0	20	0	93.2	85-125	19.79	5.93	30			
Bromodichloromethane	18.5	1.0	20	0	92.5	75-125	19.28	4.13	30			
Bromoform	13.25	1.0	20	0	66.2	60-125	13.57	2.39	30			
Bromomethane	18.07	1.0	20	0	90.4	30-185	21.97	19.5	30			
Carbon disulfide	18.5	2.5	20	0	92.5	60-165	20.05	8.04	30			
Carbon tetrachloride	18.81	1.0	20	0	94	65-140	20.66	9.37	30			
Chlorobenzene	18.51	1.0	20	0	92.6	80-120	19.98	7.64	30			
Chloroethane	15.63	1.0	20	0	78.2	50-140	17.23	9.74	30			
Chloroform	18.29	1.0	20	0	91.4	80-130	19.62	7.02	30			
Chloromethane	13.42	1.0	20	0	67.1	50-130	15.29	13	30			
cis-1,2-Dichloroethene	18.77	1.0	20	0	93.8	75-134	19.52	3.92	30			
cis-1,3-Dichloropropene	18.71	1.0	20	0	93.6	70-130	19.46	3.93	30			
Dibromochloromethane	13.79	1.0	20	0	69	60-115	13.74	0.363	30			
Dichlorodifluoromethane	10.73	1.0	20	0	53.6	20-120	11.78	9.33	30			
Ethylbenzene	18.68	1.0	20	0	93.4	85-125	19.97	6.68	30			
Isopropylbenzene	19.07	1.0	20	0	95.4	80-127	19.84	3.96	30			
Methyl tert-butyl ether	20.12	5.0	20	0	101	80-130	19.68	2.21	30			
Methylene chloride	20.06	5.0	20	0	100	75-140	20.35	1.44	30			
Styrene	18.76	1.0	20	0	93.8	85-125	19.69	4.84	30			
Tetrachloroethene	18.39	2.0	20	0	92	77-138	19.88	7.79	30			
Toluene	17.59	1.0	20	0	88	85-125	18.91	7.23	30			
trans-1,2-Dichloroethene	19.11	1.0	20	0	95.6	80-140	21.06	9.71	30			
trans-1,3-Dichloropropene	15.47	1.0	20	0	77.4	81-123	15.63	1.03	30	S		
Trichloroethene	18.39	1.0	20	0	92	84-130	20.07	8.74	30			
Trichlorofluoromethane	15.5	1.0	20	0	77.5	60-140	17.91	14.4	30			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139593	Instrument ID VMS6			Method: SW8260					
Vinyl chloride	14.71	1.0	20	0	73.6	50-136	15.92	7.9	30
Xylenes, Total	56.16	3.0	60	0	93.6	80-126	59	4.93	30
Surr: 1,2-Dichloroethane-d4	19.57	0	20	0	97.8	70-120	19.63	0.306	30
Surr: 4-Bromofluorobenzene	20.24	0	20	0	101	85-110	19.98	1.29	30
Surr: Dibromofluoromethane	20.31	0	20	0	102	90-110	20.39	0.393	30
Surr: Toluene-d8	19.28	0	20	0	96.4	85-115	19.35	0.362	30

The following samples were analyzed in this batch:	14041218-	14041218-	14041218-
	01A	02A	04A

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139649** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VLKW3-140425-R139649				Units: µg/L		Analysis Date: 4/26/2014 08:49 AM		
Client ID:		Run ID: VMS9_140425B				SeqNo: 2732334		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	0.56	1.0								J
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	0.27	2.5								J
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: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139649	Instrument ID VMS9	Method: SW8260						
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						
Surr: 1,2-Dichloroethane-d4	20.61	0	20	0	103	70-120	0	
Surr: 4-Bromofluorobenzene	18.4	0	20	0	92	85-110	0	
Surr: Dibromofluoromethane	20.13	0	20	0	101	90-110	0	
Surr: Toluene-d8	19.21	0	20	0	96	85-115	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139649** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW4-140425-R139649				Units: µg/L		Analysis Date: 4/26/2014 07:36 AM		
Client ID:		Run ID: VMS9_140425B				SeqNo: 2732333		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	21.52	1.0	20	0	108	75-130	0			
1,1,2,2-Tetrachloroethane	20.23	1.0	20	0	101	75-130	0			
1,1,2-Trichloroethane	19.36	1.0	20	0	96.8	75-125	0			
1,1-Dichloroethane	20.37	1.0	20	0	102	75-133	0			
1,1-Dichloroethene	20.05	1.0	20	0	100	70-145	0			
1,2,4-Trichlorobenzene	21.77	1.0	20	0	109	70-135	0			
1,2-Dibromo-3-chloropropane	23.11	1.0	20	0	116	60-130	0			
1,2-Dibromoethane	44.04	1.0	20	0	220	80-150	0			S
1,2-Dichlorobenzene	20.11	1.0	20	0	101	70-130	0			
1,2-Dichloroethane	19.8	1.0	20	0	99	78-125	0			
1,2-Dichloropropane	20.01	2.0	20	0	100	75-125	0			
1,3-Dichlorobenzene	21.32	2.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	20.69	2.0	20	0	103	75-130	0			
2-Butanone	20.81	5.0	20	0	104	55-150	0			
2-Hexanone	20.55	5.0	20	0	103	60-135	0			
4-Methyl-2-pentanone	28.42	5.0	20	0	142	77-178	0			
Acetone	22.2	20	20	0	111	60-160	0			
Benzene	20.55	1.0	20	0	103	85-125	0			
Bromodichloromethane	20.31	1.0	20	0	102	75-125	0			
Bromoform	19.36	1.0	20	0	96.8	60-125	0			
Bromomethane	18.03	1.0	20	0	90.2	30-185	0			
Carbon disulfide	19.91	2.5	20	0	99.6	60-165	0			
Carbon tetrachloride	19.04	1.0	20	0	95.2	65-140	0			
Chlorobenzene	20.7	1.0	20	0	104	80-120	0			
Chloroethane	18.1	1.0	20	0	90.5	50-140	0			
Chloroform	20.37	1.0	20	0	102	80-130	0			
Chloromethane	14.35	1.0	20	0	71.8	50-130	0			
cis-1,2-Dichloroethene	20.45	1.0	20	0	102	75-134	0			
cis-1,3-Dichloropropene	21.19	1.0	20	0	106	70-130	0			
Dibromochloromethane	18.74	1.0	20	0	93.7	60-115	0			
Dichlorodifluoromethane	11.19	1.0	20	0	56	20-120	0			
Ethylbenzene	21.28	1.0	20	0	106	85-125	0			
Isopropylbenzene	19.6	1.0	20	0	98	80-127	0			
Methyl tert-butyl ether	18.61	5.0	20	0	93	80-130	0			
Methylene chloride	20.99	5.0	20	0	105	75-140	0			
Styrene	19.54	1.0	20	0	97.7	85-125	0			
Tetrachloroethene	20	2.0	20	0	100	77-138	0			
Toluene	21.04	1.0	20	0	105	85-125	0			
trans-1,2-Dichloroethene	21.17	1.0	20	0	106	80-140	0			
trans-1,3-Dichloropropene	19.59	1.0	20	0	98	81-123	0			
Trichloroethene	20.63	1.0	20	0	103	84-130	0			
Trichlorofluoromethane	18.27	1.0	20	0	91.4	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139649	Instrument ID VMS9	Method: SW8260					
Vinyl chloride	16.57	1.0	20	0	82.8	50-136	0
Xylenes, Total	60.13	3.0	60	0	100	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.47</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.4</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.88</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>85-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.69</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>90-110</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.96</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.8</i>	<i>85-115</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139649** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 14041046-10B MS			Units: µg/L		Analysis Date: 4/26/2014 05:20 PM	
Client ID:				Run ID: VMS9_140425B			SeqNo: 2732355		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	22.71	1.0	20	0	114	75-130	0			
1,1,2,2-Tetrachloroethane	20.01	1.0	20	0	100	75-130	0			
1,1,2-Trichloroethane	19.08	1.0	20	0	95.4	75-125	0			
1,1-Dichloroethane	20.58	1.0	20	0	103	75-133	0			
1,1-Dichloroethene	21.72	1.0	20	0	109	70-145	0			
1,2,4-Trichlorobenzene	17.69	1.0	20	0	88.4	70-135	0			
1,2-Dibromo-3-chloropropane	20.93	1.0	20	0	105	60-130	0			
1,2-Dibromoethane	42.84	1.0	20	0	214	80-150	0			S
1,2-Dichlorobenzene	18.65	1.0	20	0	93.2	70-130	0			
1,2-Dichloroethane	19.32	1.0	20	0	96.6	78-125	0			
1,2-Dichloropropane	19.67	2.0	20	0	98.4	75-125	0			
1,3-Dichlorobenzene	20.05	2.0	20	0	100	75-130	0			
1,4-Dichlorobenzene	19.51	2.0	20	0	97.6	75-130	0			
2-Butanone	19.1	5.0	20	0	95.5	55-150	0			
2-Hexanone	18.97	5.0	20	0	94.8	60-135	0			
4-Methyl-2-pentanone	27.24	5.0	20	0	136	77-178	0			
Acetone	21.73	20	20	0	109	60-160	0			
Benzene	20.82	1.0	20	0	104	85-125	0			
Bromodichloromethane	19.66	1.0	20	0	98.3	75-125	0			
Bromoform	18.51	1.0	20	0	92.6	60-125	0			
Bromomethane	15.15	1.0	20	0	75.8	30-185	0			
Carbon disulfide	20.07	2.5	20	0.17	99.5	60-165	0			
Carbon tetrachloride	19.76	1.0	20	0	98.8	65-140	0			
Chlorobenzene	20.23	1.0	20	0	101	80-120	0			
Chloroethane	18.08	1.0	20	0	90.4	50-140	0			
Chloroform	40.17	1.0	20	21.65	92.6	80-130	0			
Chloromethane	14.56	1.0	20	0	72.8	50-130	0			
cis-1,2-Dichloroethene	20.03	1.0	20	0	100	75-134	0			
cis-1,3-Dichloropropene	19.68	1.0	20	0	98.4	70-130	0			
Dibromochloromethane	17.97	1.0	20	0	89.8	60-115	0			
Dichlorodifluoromethane	12.56	1.0	20	0	62.8	20-120	0			
Ethylbenzene	21.23	1.0	20	0	106	85-125	0			
Isopropylbenzene	19.85	1.0	20	0	99.2	80-127	0			
Methyl tert-butyl ether	18.18	5.0	20	0	90.9	80-130	0			
Methylene chloride	20.45	5.0	20	0	102	75-140	0			
Styrene	19.25	1.0	20	0	96.2	85-125	0			
Tetrachloroethene	20.77	2.0	20	0	104	77-138	0			
Toluene	20.57	1.0	20	0	103	85-125	0			
trans-1,2-Dichloroethene	21.32	1.0	20	0	107	80-140	0			
trans-1,3-Dichloropropene	17.91	1.0	20	0	89.6	81-123	0			
Trichloroethene	21.09	1.0	20	0	105	84-130	0			
Trichlorofluoromethane	20.37	1.0	20	0	102	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139649	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	16.65	1.0	20	0	83.2	50-136	0
Xylenes, Total	59	3.0	60	0	98.3	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.29</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>21.13</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>106</i>	<i>85-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.3</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>90-110</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.99</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **R139649** Instrument ID **VMS9** Method: **SW8260**

MSD						Sample ID: 14041046-10B MSD		Units: µg/L		Analysis Date: 4/26/2014 05:44 PM	
Client ID:			Run ID: VMS9_140425B			SeqNo: 2732356		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	22.51	1.0	20	0	113	75-130	22.71	0.885	30		
1,1,2,2-Tetrachloroethane	20.12	1.0	20	0	101	75-130	20.01	0.548	30		
1,1,2-Trichloroethane	18.94	1.0	20	0	94.7	75-125	19.08	0.736	30		
1,1-Dichloroethane	20.21	1.0	20	0	101	75-133	20.58	1.81	30		
1,1-Dichloroethene	21.48	1.0	20	0	107	70-145	21.72	1.11	30		
1,2,4-Trichlorobenzene	18.42	1.0	20	0	92.1	70-135	17.69	4.04	30		
1,2-Dibromo-3-chloropropane	21.25	1.0	20	0	106	60-130	20.93	1.52	30		
1,2-Dibromoethane	42.38	1.0	20	0	212	80-150	42.84	1.08	30	S	
1,2-Dichlorobenzene	18.47	1.0	20	0	92.4	70-130	18.65	0.97	30		
1,2-Dichloroethane	19.71	1.0	20	0	98.6	78-125	19.32	2	30		
1,2-Dichloropropane	20.21	2.0	20	0	101	75-125	19.67	2.71	30		
1,3-Dichlorobenzene	19.88	2.0	20	0	99.4	75-130	20.05	0.851	30		
1,4-Dichlorobenzene	19.43	2.0	20	0	97.2	75-130	19.51	0.411	30		
2-Butanone	20.64	5.0	20	0	103	55-150	19.1	7.75	30		
2-Hexanone	19.21	5.0	20	0	96	60-135	18.97	1.26	30		
4-Methyl-2-pentanone	28.58	5.0	20	0	143	77-178	27.24	4.8	30		
Acetone	23.41	20	20	0	117	60-160	21.73	7.44	30		
Benzene	20.74	1.0	20	0	104	85-125	20.82	0.385	30		
Bromodichloromethane	19.72	1.0	20	0	98.6	75-125	19.66	0.305	30		
Bromoform	18.44	1.0	20	0	92.2	60-125	18.51	0.379	30		
Bromomethane	14.46	1.0	20	0	72.3	30-185	15.15	4.66	30		
Carbon disulfide	19.73	2.5	20	0.17	97.8	60-165	20.07	1.71	30		
Carbon tetrachloride	23.25	1.0	20	0	116	65-140	19.76	16.2	30		
Chlorobenzene	20.12	1.0	20	0	101	80-120	20.23	0.545	30		
Chloroethane	17.8	1.0	20	0	89	50-140	18.08	1.56	30		
Chloroform	39.26	1.0	20	21.65	88	80-130	40.17	2.29	30		
Chloromethane	14.52	1.0	20	0	72.6	50-130	14.56	0.275	30		
cis-1,2-Dichloroethene	19.73	1.0	20	0	98.6	75-134	20.03	1.51	30		
cis-1,3-Dichloropropene	19.46	1.0	20	0	97.3	70-130	19.68	1.12	30		
Dibromochloromethane	17.15	1.0	20	0	85.8	60-115	17.97	4.67	30		
Dichlorodifluoromethane	12.17	1.0	20	0	60.8	20-120	12.56	3.15	30		
Ethylbenzene	20.9	1.0	20	0	104	85-125	21.23	1.57	30		
Isopropylbenzene	19.4	1.0	20	0	97	80-127	19.85	2.29	30		
Methyl tert-butyl ether	17.99	5.0	20	0	90	80-130	18.18	1.05	30		
Methylene chloride	20.17	5.0	20	0	101	75-140	20.45	1.38	30		
Styrene	18.94	1.0	20	0	94.7	85-125	19.25	1.62	30		
Tetrachloroethene	20.14	2.0	20	0	101	77-138	20.77	3.08	30		
Toluene	20.36	1.0	20	0	102	85-125	20.57	1.03	30		
trans-1,2-Dichloroethene	20.97	1.0	20	0	105	80-140	21.32	1.66	30		
trans-1,3-Dichloropropene	17.99	1.0	20	0	90	81-123	17.91	0.446	30		
Trichloroethene	20.84	1.0	20	0	104	84-130	21.09	1.19	30		
Trichlorofluoromethane	20.17	1.0	20	0	101	60-140	20.37	0.987	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: R139649	Instrument ID VMS9			Method: SW8260					
Vinyl chloride	17.01	1.0	20	0	85	50-136	16.65	2.14	30
Xylenes, Total	58.68	3.0	60	0	97.8	80-126	59	0.544	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.14</i>	0	<i>20</i>	0	<i>101</i>	<i>70-120</i>	<i>20.29</i>	<i>0.742</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.84</i>	0	<i>20</i>	0	<i>104</i>	<i>85-110</i>	<i>21.13</i>	<i>1.38</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.47</i>	0	<i>20</i>	0	<i>102</i>	<i>90-110</i>	<i>20.3</i>	<i>0.834</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>19.71</i>	0	<i>20</i>	0	<i>98.6</i>	<i>85-115</i>	<i>19.99</i>	<i>1.41</i>	<i>30</i>

The following samples were analyzed in this batch:

14041218-03A

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14041218
Project: RACER - Van Buren Landfill

QC BATCH REPORT

Batch ID: **58082** Instrument ID **LACHAT** Method: **A4500-CN G**

MBLK	Sample ID: MBLK-58082-58082					Units: mg/L		Analysis Date: 4/30/2014 02:40 PM		
Client ID:	Run ID: LACHAT_140430A				SeqNo: 2738334		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.004827 0.0050 J

MBLK	Sample ID: MBLK-58082-58082					Units: mg/L		Analysis Date: 4/30/2014 02:40 PM		
Client ID:	Run ID: LACHAT_140430A				SeqNo: 2738342		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.004827 0.0050 J

LCS	Sample ID: LCS-58082-58082					Units: mg/L		Analysis Date: 4/30/2014 02:40 PM		
Client ID:	Run ID: LACHAT_140430A				SeqNo: 2738335		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2608 0.0050 0.25 0 104 83-120 0

LCS	Sample ID: LCS-58082-58082					Units: mg/L		Analysis Date: 4/30/2014 02:40 PM		
Client ID:	Run ID: LACHAT_140430A				SeqNo: 2738343		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2608 0.0050 0.25 0 104 83-120 0

MS	Sample ID: 14041343-01B MS					Units: mg/L		Analysis Date: 4/30/2014 02:40 PM		
Client ID:	Run ID: LACHAT_140430A				SeqNo: 2738337		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2833 0.0050 0.25 0.00257 112 70-130 0

MSD	Sample ID: 14041343-01B MSD					Units: mg/L		Analysis Date: 4/30/2014 02:40 PM		
Client ID:	Run ID: LACHAT_140430A				SeqNo: 2738338		Prep Date: 4/29/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.298 0.0050 0.25 0.00257 118 70-130 0.2833 5.06 30

The following samples were analyzed in this batch:

14041218-01C	14041218-02C	14041218-03C

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



Environmental

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

Chain of Custody Form

Page ____ of ____

COC ID: 106697

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager:

ALS Work Order #: 14041203

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order	20405.016.001.2252.00	Project Name	Buffum MKE Site	A	VOCs											
Work Order		Project Number	20405.016.001.2252.00	B	SVOCS											
Company Name	Weston Solutions, Inc	Bill To Company	Weston Solutions, Inc	C	PCBS											
Send Report To	Lisa Graczyk	Invoice Attn	Lisa Graczyk	D	METALS											
Address	20 North Wacker Drive Suite 1210	Address	20 North Wacker Drive Suite 1210	E												
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL 60606	F												
Phone	(312) 424-3300	Phone	(312) 424-3300	G												
Fax	(312) 424-3330	Fax	(312) 424-3330	H												
e-Mail Address	lgraczyk@oss-dynamac.com	e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	BUF-MW-1-042214	4/22/14	1715	GW	8,1,2	7	X	X	X	X							
2	Trip Blank - 03			W	1	1	X										
3	* last item																
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign DAVE SENA		Shipment Method FEDEx		Required Turnaround Time: (Check Box) ☒ Std 10 Wk Days ☐ 5 Wk Days ☐ Other ☐ 2 Wk Days ☐ 24 Hour				Results Due Date:			
Relinquished by: David Sena	Date: 4-22-14	Time: 18:30	Received by: FEDEx	Notes:							
Relinquished by: FEDEX	Date: 4/23/14	Time: 7:00	Received by (Laboratory):	Cooler ID:	Cooler Temp:	QC Package: (Check One Box Below)					
Logged by (Laboratory): KG	Date: 4/24/14	Time: 0800	Checked by (Laboratory):		3.4°C	☒ Level III Std QC	☐ TRRP Checklist				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				☐ Level III Std QC/Raw Data	☐ TRRP Level IV						
				☐ Level IV BWA6/CLP							
				☐ 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.

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Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **24-Apr-14 08:00**

Work Order: **14041218**

Received by: **DS**

Checklist completed by Diane Shaw
eSignature

24-Apr-14
Date

Reviewed by: Bill Carey
eSignature

24-Apr-14
Date

Matrices: **Water**

Carrier name: **City Transfer**

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>2.6 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>4/24/2014 10:44:52 AM</u>		
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:

FedEx NEW Package
Express US Airbill

FedEx
Tracking
Number

8034 6989 7640

1 From

Date 4/2/14

Sender's
Name

D. LIEBOW

Phone

906 370-0524

Company

WESTON SOLUTIONS

Address

404 EMERALD ST.

City

Houghton

State

MI

ZIP

49931

2. Your Internal Billing Reference

20405.016.001.2252.00

3. To

Recipient's
Name

SAMPLE RECEIVING

Phone

616 399 8185

Company

ALSENVIR

Address

3352 128 F

Address

Use this line for the HOLD location address or for comments

City

HOLLAND



8034 6989 7640



ALS Environ
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 8070
Fax. +1 616 399 8185

Express Package Service

NOTE: Service order has changed. Please select carefully.

Next Business Day

☐

FedEx First Overnight

Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☒

FedEx Priority Overnight

Next business morning. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐

FedEx Standard Overnight

Next business afternoon. Friday Delivery NOT available.

☐

FedEx Envelope*

☐

FedEx Pak*

☐

FedEx

2 or 3 Business Days

☒

FedEx 2Day AM

Second business morning. Saturday Delivery NOT available.

☐

FedEx 2Day

Second business morning. Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐

FedEx Express Saver

Third business day. Saturday Delivery NOT available.

5

Packaging

* Included value limit \$500

☐

FedEx Envelope*

☐

FedEx Pak*

☐

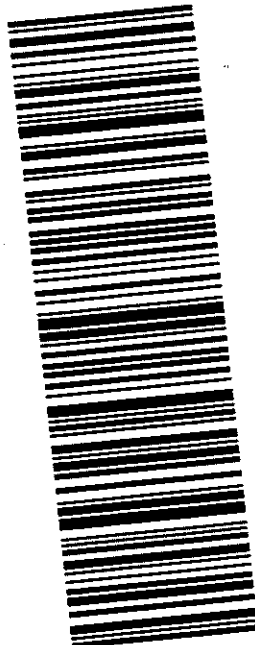
FedEx

NA GRRA

3 of 3
MPS# 7949 4550 6222
0681
Mstr# 8034 6989 7640

0200

WED - 23 APR 10:30A
PRIORITY OVERNIGHT
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MI-US
GRRA



HOLLAND MI 49424

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10 SAMPLE RECEIVING
ALS ENVIRONMENTAL
3352 128TH AVE
HOUGHTON, MI 49931-413
UNITED STATES US
ORIGIN 101/KEA (808) 482-7207
WESTON SOLUTIONS INC/DUI501
404 EMERALD ST

SHIP DATE: 22APR14
SHIP WT: 54.8 LB
SHIP DIMS: 23X13X12 IN
BILL SENDER

156297-435 RIT2 10/13
04/22 04/22 04/22

fedex.com 1800.GoFedEx 1800.463.3339

RT 828 5 B
ST 14 7640 04/23

Work Order: 14051118

Project Name:

RACER - Van Buren Landfill (R2330012)

The Mannik & Smith Group, Inc.

Frank Biehl

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

30-May-2014



Certificate No: MN 532786



30-May-2014

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

Re: **RACER - Van Buren Landfill (R2330012)**

Work Order: **14051118**

Dear Frank,

ALS Environmental received 13 samples on 22-May-2014 08:00 AM 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.

Sample results are compliant with NELAP standard requirements and QC results achieved 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 140.

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: MN 532786

Report of Laboratory Analysis

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

RIGHT SOLUTIONS RIGHT PARTNER

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 14051118

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>
14051118-01	W-R2330012-051914-ACN-020	Water		5/19/2014 09:45	5/22/2014 08:00	☐
14051118-02	W-R2330012-051914-ACN-021	Water		5/19/2014 10:55	5/22/2014 08:00	☐
14051118-03	W-R2330012-051914-ACN-022	Water		5/19/2014 11:55	5/22/2014 08:00	☐
14051118-04	W-R2330012-051914-ACN-023	Water		5/19/2014 12:55	5/22/2014 08:00	☐
14051118-05	W-R2330012-051914-ACN-024	Water		5/19/2014 13:00	5/22/2014 08:00	☐
14051118-06	W-R2330012-051914-ACN-025	Water		5/19/2014 14:10	5/22/2014 08:00	☐
14051118-07	W-R2330012-052014-ACN-026	Water		5/20/2014 09:10	5/22/2014 08:00	☐
14051118-08	W-R2330012-052014-ACN-027	Water		5/20/2014 10:05	5/22/2014 08:00	☐
14051118-09	W-R2330012-052014-ACN-028	Water		5/20/2014 10:45	5/22/2014 08:00	☐
14051118-10	W-R2330012-052014-ACN-029	Water		5/20/2014 11:55	5/22/2014 08:00	☐
14051118-11	W-R2330012-052014-ACN-030	Water		5/20/2014 13:15	5/22/2014 08:00	☐
14051118-12	W-R2330012-052014-ACN-031	Water		5/20/2014 14:30	5/22/2014 08:00	☐
14051118-13	Trip Blank	Water		5/19/2014	5/22/2014 08:00	☐

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
WorkOrder: 14051118

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 is present at an estimated concentration between the MDL and Report 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
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<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 (R2330012)
Work Order: 14051118

Case Narrative

Batch 58997, Method ICP_6020_W, Sample 14051118-06EMS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Al

Batch 58997, Method ICP_6020_W, Sample 14051118-06EMSD: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample may be biased high for this analyte: Al

Batch 59035, Method ICP_6020_W, Sample 1405998-08AMS and MSD: The MS and/or MSD recovery was outside the control limit. The parent sample is unrelated to this project.

Batch R141420, Method VOC_8260_W, Sample 14051118-06A MSD: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: Methyl Iodide

Batch R141420, Method VOC_8260_W, Sample VLCSW1-140527: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: 1,2,4-TCB and Mel

Batch R141659, Method VOC_8260_W, Sample 14051118-11A MS: The MS and/or MSD recovery was below the control limit. The corresponding result in the parent sample may be biased low: Chloroethane

Batch R141659, Method VOC_8260_W, Sample 14051118-11A MS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: Methyl Iodide

Batch R141659, Method VOC_8260_W, Sample 14051118-11A MSD: The RPD between the MS and MSD was out of control. The corresponding result should be considered estimated for this compound: Chloroethane

Batch R141659, Method VOC_8260_W, Sample 14051118-11A MSD: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: Methyl Iodide

Batch R141659, Method VOC_8260_W, Sample VLCSW2-140529: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: Methyl Iodide

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Work Order: 14051118

Case Narrative

Batch R141660, Method VOC_8260_W, Sample 14051254-03A MS and MSD: The MS and/or MSD recovery was outside the control limit. The parent sample is unrelated to this project.

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-020
Collection Date: 5/19/2014 09:45 AM

Work Order: 14051118
Lab ID: 14051118-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:09
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:11
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.90		0.00078	0.050	mg/L	1	5/27/2014 18:22
Antimony	0.00037	J	0.000036	0.0020	mg/L	1	5/27/2014 18:22
Arsenic	0.0027	J	0.00058	0.0050	mg/L	1	5/27/2014 18:22
Barium	0.037	J	0.000063	0.10	mg/L	1	5/27/2014 18:22
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 18:22
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 18:22
Chromium	0.0018	J	0.00027	0.010	mg/L	1	5/27/2014 18:22
Cobalt	0.0012	J	0.000041	0.020	mg/L	1	5/27/2014 18:22
Copper	0.0046		0.00053	0.0040	mg/L	1	5/27/2014 18:22
Iron	1.9		0.0053	0.20	mg/L	1	5/27/2014 18:22
Lead	0.0011	J	0.000051	0.0030	mg/L	1	5/27/2014 18:22
Manganese	0.11		0.000054	0.050	mg/L	1	5/27/2014 18:22
Nickel	0.0043	J	0.00025	0.020	mg/L	1	5/27/2014 18:22
Selenium	0.00090	J	0.00064	0.0050	mg/L	1	5/27/2014 18:22
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 18:22
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 18:22
Vanadium	0.0031	J	0.00016	0.0040	mg/L	1	5/27/2014 18:22
Zinc	0.0073	J	0.00048	0.050	mg/L	1	5/27/2014 18:22
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.036	J	0.00078	0.050	mg/L	1	5/27/2014 21:05
Antimony	0.00039	J	0.000036	0.0020	mg/L	1	5/27/2014 21:05
Arsenic	0.0015	J	0.00058	0.0050	mg/L	1	5/27/2014 21:05
Barium	0.034	J	0.000063	0.10	mg/L	1	5/27/2014 21:05
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 21:05
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 21:05
Chromium	U		0.00027	0.010	mg/L	1	5/27/2014 21:05
Cobalt	0.0011	J	0.000041	0.020	mg/L	1	5/27/2014 21:05
Copper	0.0010	J	0.00053	0.0040	mg/L	1	5/27/2014 21:05
Iron	0.055	J	0.0053	0.20	mg/L	1	5/27/2014 21:05

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-020
Collection Date: 5/19/2014 09:45 AM

Work Order: 14051118
Lab ID: 14051118-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	U		0.000051	0.0030	mg/L	1	5/27/2014 21:05
Manganese	0.086		0.000054	0.050	mg/L	1	5/27/2014 21:05
Nickel	0.0023	J	0.00025	0.020	mg/L	1	5/27/2014 21:05
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 21:05
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 21:05
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 21:05
Vanadium	0.00041	J	0.00016	0.0040	mg/L	1	5/27/2014 21:05
Zinc	0.0016	J	0.00048	0.050	mg/L	1	5/27/2014 21:05

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/22/14

Analyst: HL

BatchID: 58901

1,1'-Biphenyl	U		0.095	10	µg/L	1	5/23/2014 17:15
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	5/23/2014 17:15
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	5/23/2014 17:15
2,4-Dichlorophenol	U		0.22	10	µg/L	1	5/23/2014 17:15
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	5/23/2014 17:15
2,4-Dinitrophenol	U		0.67	25	µg/L	1	5/23/2014 17:15
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	5/23/2014 17:15
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	5/23/2014 17:15
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 17:15
2-Chlorophenol	U		0.32	10	µg/L	1	5/23/2014 17:15
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 17:15
2-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 17:15
2-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 17:15
2-Nitrophenol	U		0.28	5.0	µg/L	1	5/23/2014 17:15
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	5/23/2014 17:15
3-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 17:15
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	5/23/2014 17:15
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 17:15
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	5/23/2014 17:15
4-Chloroaniline	U		0.32	10	µg/L	1	5/23/2014 17:15
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 17:15
4-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 17:15
4-Nitroaniline	U		0.30	25	µg/L	1	5/23/2014 17:15
4-Nitrophenol	U		0.51	25	µg/L	1	5/23/2014 17:15
Acenaphthene	U		0.11	5.0	µg/L	1	5/23/2014 17:15
Acenaphthylene	U		0.12	5.0	µg/L	1	5/23/2014 17:15
Acetophenone	U		0.090	5.0	µg/L	1	5/23/2014 17:15
Anthracene	U		0.72	5.0	µg/L	1	5/23/2014 17:15
Atrazine	U		0.13	5.0	µg/L	1	5/23/2014 17:15

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-020
Collection Date: 5/19/2014 09:45 AM

Work Order: 14051118
Lab ID: 14051118-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 17:15
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 17:15
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 17:15
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 17:15
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 17:15
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 17:15
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 17:15
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 17:15
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 17:15
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 17:15
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 17:15
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 17:15
Carbazole	U		0.16	10	µg/L	1	5/23/2014 17:15
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 17:15
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 17:15
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 17:15
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 17:15
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 17:15
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	5/23/2014 17:15
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 17:15
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 17:15
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 17:15
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 17:15
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 17:15
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 17:15
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 17:15
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 17:15
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 17:15
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 17:15
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 17:15
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 17:15
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 17:15
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 17:15
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 17:15
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 17:15
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 17:15
Surr: 2,4,6-Tribromophenol	78.8			32-115	%REC	1	5/23/2014 17:15
Surr: 2-Fluorobiphenyl	55.7			32-100	%REC	1	5/23/2014 17:15
Surr: 2-Fluorophenol	30.2			22-59	%REC	1	5/23/2014 17:15
Surr: 4-Terphenyl-d14	96.8			23-112	%REC	1	5/23/2014 17:15

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-020
Collection Date: 5/19/2014 09:45 AM

Work Order: 14051118
Lab ID: 14051118-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	51.5			31-93	%REC	1	5/23/2014 17:15
Surr: Phenol-d6	16.5			13-36	%REC	1	5/23/2014 17:15
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R141375							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 06:23
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	5/25/2014 06:23
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 06:23
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	5/25/2014 06:23
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	5/25/2014 06:23
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 06:23
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	5/25/2014 06:23
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	5/25/2014 06:23
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	5/25/2014 06:23
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	5/25/2014 06:23
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 06:23
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	5/25/2014 06:23
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 06:23
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 06:23
2-Butanone	U		0.64	25	µg/L	1	5/25/2014 06:23
2-Hexanone	U		0.19	50	µg/L	1	5/25/2014 06:23
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	5/25/2014 06:23
Acetone	U		3.0	50	µg/L	1	5/25/2014 06:23
Benzene	U		0.14	1.0	µg/L	1	5/25/2014 06:23
Bromodichloromethane	U		0.22	1.0	µg/L	1	5/25/2014 06:23
Bromoform	U		0.18	1.0	µg/L	1	5/25/2014 06:23
Bromomethane	U		0.38	5.0	µg/L	1	5/25/2014 06:23
Carbon disulfide	U		0.26	5.0	µg/L	1	5/25/2014 06:23
Carbon tetrachloride	U		0.16	1.0	µg/L	1	5/25/2014 06:23
Chlorobenzene	U		0.12	1.0	µg/L	1	5/25/2014 06:23
Chloroethane	U		0.25	5.0	µg/L	1	5/25/2014 06:23
Chloroform	U		0.15	1.0	µg/L	1	5/25/2014 06:23
Chloromethane	U		0.29	5.0	µg/L	1	5/25/2014 06:23
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	5/25/2014 06:23
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	5/25/2014 06:23
Cyclohexane	U		0.20	1.0	µg/L	1	5/25/2014 06:23
Dibromochloromethane	U		0.12	5.0	µg/L	1	5/25/2014 06:23
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	5/25/2014 06:23
Ethylbenzene	U		0.12	1.0	µg/L	1	5/25/2014 06:23
Isopropylbenzene	U		0.11	5.0	µg/L	1	5/25/2014 06:23

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-020
Collection Date: 5/19/2014 09:45 AM

Work Order: 14051118
Lab ID: 14051118-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	5/25/2014 06:23
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	5/25/2014 06:23
Methylcyclohexane	U		0.19	1.0	µg/L	1	5/25/2014 06:23
Methylene chloride	U		0.75	5.0	µg/L	1	5/25/2014 06:23
Styrene	U		0.12	1.0	µg/L	1	5/25/2014 06:23
Tetrachloroethene	U		0.098	1.0	µg/L	1	5/25/2014 06:23
Toluene	U		0.13	1.0	µg/L	1	5/25/2014 06:23
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 06:23
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	5/25/2014 06:23
Trichloroethene	U		0.16	1.0	µg/L	1	5/25/2014 06:23
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	5/25/2014 06:23
Vinyl chloride	U		0.15	1.0	µg/L	1	5/25/2014 06:23
Xylenes, Total	U		0.30	3.0	µg/L	1	5/25/2014 06:23
Surr: 1,2-Dichloroethane-d4	109			75-120	%REC	1	5/25/2014 06:23
Surr: 4-Bromofluorobenzene	85.6			80-110	%REC	1	5/25/2014 06:23
Surr: Dibromofluoromethane	111			85-115	%REC	1	5/25/2014 06:23
Surr: Toluene-d8	95.5			85-110	%REC	1	5/25/2014 06:23
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/29/14		Analyst: JB
BatchID: 59141							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/29/2014 14:00

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-021
Collection Date: 5/19/2014 10:55 AM

Work Order: 14051118
Lab ID: 14051118-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:13
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:16
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	1.4		0.00078	0.050	mg/L	1	5/27/2014 18:28
Antimony	0.00016	J	0.000036	0.0020	mg/L	1	5/27/2014 18:28
Arsenic	0.0019	J	0.00058	0.0050	mg/L	1	5/27/2014 18:28
Barium	0.038	J	0.000063	0.10	mg/L	1	5/27/2014 18:28
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 18:28
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 18:28
Chromium	0.0024	J	0.00027	0.010	mg/L	1	5/27/2014 18:28
Cobalt	0.0017	J	0.000041	0.020	mg/L	1	5/27/2014 18:28
Copper	0.0041		0.00053	0.0040	mg/L	1	5/27/2014 18:28
Iron	2.4		0.0053	0.20	mg/L	1	5/27/2014 18:28
Lead	0.0014	J	0.000051	0.0030	mg/L	1	5/27/2014 18:28
Manganese	0.060		0.000054	0.050	mg/L	1	5/27/2014 18:28
Nickel	0.0055	J	0.00025	0.020	mg/L	1	5/27/2014 18:28
Selenium	0.00068	J	0.00064	0.0050	mg/L	1	5/27/2014 18:28
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 18:28
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 18:28
Vanadium	0.0038	J	0.00016	0.0040	mg/L	1	5/27/2014 18:28
Zinc	0.0099	J	0.00048	0.050	mg/L	1	5/27/2014 18:28
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.048	J	0.00078	0.050	mg/L	1	5/27/2014 21:11
Antimony	0.00016	J	0.000036	0.0020	mg/L	1	5/27/2014 21:11
Arsenic	U		0.00058	0.0050	mg/L	1	5/27/2014 21:11
Barium	0.031	J	0.000063	0.10	mg/L	1	5/27/2014 21:11
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 21:11
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 21:11
Chromium	U		0.00027	0.010	mg/L	1	5/27/2014 21:11
Cobalt	0.00091	J	0.000041	0.020	mg/L	1	5/27/2014 21:11
Copper	0.0012	J	0.00053	0.0040	mg/L	1	5/27/2014 21:11
Iron	0.056	J	0.0053	0.20	mg/L	1	5/27/2014 21:11

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-021
Collection Date: 5/19/2014 10:55 AM

Work Order: 14051118
Lab ID: 14051118-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	U		0.000051	0.0030	mg/L	1	5/27/2014 21:11
Manganese	0.0091	J	0.000054	0.050	mg/L	1	5/27/2014 21:11
Nickel	0.0019	J	0.00025	0.020	mg/L	1	5/27/2014 21:11
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 21:11
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 21:11
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 21:11
Vanadium	0.00032	J	0.00016	0.0040	mg/L	1	5/27/2014 21:11
Zinc	0.0019	J	0.00048	0.050	mg/L	1	5/27/2014 21:11

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/22/14

Analyst: HL

BatchID: 58901

1,1'-Biphenyl	U		0.095	10	µg/L	1	5/23/2014 17:37
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	5/23/2014 17:37
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	5/23/2014 17:37
2,4-Dichlorophenol	U		0.22	10	µg/L	1	5/23/2014 17:37
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	5/23/2014 17:37
2,4-Dinitrophenol	U		0.67	25	µg/L	1	5/23/2014 17:37
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	5/23/2014 17:37
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	5/23/2014 17:37
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 17:37
2-Chlorophenol	U		0.32	10	µg/L	1	5/23/2014 17:37
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 17:37
2-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 17:37
2-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 17:37
2-Nitrophenol	U		0.28	5.0	µg/L	1	5/23/2014 17:37
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	5/23/2014 17:37
3-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 17:37
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	5/23/2014 17:37
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 17:37
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	5/23/2014 17:37
4-Chloroaniline	U		0.32	10	µg/L	1	5/23/2014 17:37
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 17:37
4-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 17:37
4-Nitroaniline	U		0.30	25	µg/L	1	5/23/2014 17:37
4-Nitrophenol	U		0.51	25	µg/L	1	5/23/2014 17:37
Acenaphthene	U		0.11	5.0	µg/L	1	5/23/2014 17:37
Acenaphthylene	U		0.12	5.0	µg/L	1	5/23/2014 17:37
Acetophenone	U		0.090	5.0	µg/L	1	5/23/2014 17:37
Anthracene	U		0.72	5.0	µg/L	1	5/23/2014 17:37
Atrazine	U		0.13	5.0	µg/L	1	5/23/2014 17:37

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-021
Collection Date: 5/19/2014 10:55 AM

Work Order: 14051118
Lab ID: 14051118-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 17:37
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 17:37
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 17:37
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 17:37
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 17:37
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 17:37
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 17:37
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 17:37
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 17:37
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 17:37
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 17:37
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 17:37
Carbazole	U		0.16	10	µg/L	1	5/23/2014 17:37
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 17:37
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 17:37
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 17:37
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 17:37
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 17:37
Di-n-butyl phthalate	0.87	J	0.14	5.0	µg/L	1	5/23/2014 17:37
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 17:37
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 17:37
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 17:37
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 17:37
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 17:37
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 17:37
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 17:37
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 17:37
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 17:37
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 17:37
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 17:37
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 17:37
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 17:37
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 17:37
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 17:37
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 17:37
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 17:37
Surr: 2,4,6-Tribromophenol	74.7			32-115	%REC	1	5/23/2014 17:37
Surr: 2-Fluorobiphenyl	68.9			32-100	%REC	1	5/23/2014 17:37
Surr: 2-Fluorophenol	41.6			22-59	%REC	1	5/23/2014 17:37
Surr: 4-Terphenyl-d14	95.9			23-112	%REC	1	5/23/2014 17:37

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-021
Collection Date: 5/19/2014 10:55 AM

Work Order: 14051118
Lab ID: 14051118-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	71.4			31-93	%REC	1	5/23/2014 17:37
Surr: Phenol-d6	23.3			13-36	%REC	1	5/23/2014 17:37
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R141375							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 06:48
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	5/25/2014 06:48
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 06:48
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	5/25/2014 06:48
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	5/25/2014 06:48
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 06:48
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	5/25/2014 06:48
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	5/25/2014 06:48
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	5/25/2014 06:48
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	5/25/2014 06:48
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 06:48
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	5/25/2014 06:48
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 06:48
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 06:48
2-Butanone	U		0.64	25	µg/L	1	5/25/2014 06:48
2-Hexanone	U		0.19	50	µg/L	1	5/25/2014 06:48
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	5/25/2014 06:48
Acetone	U		3.0	50	µg/L	1	5/25/2014 06:48
Benzene	U		0.14	1.0	µg/L	1	5/25/2014 06:48
Bromodichloromethane	U		0.22	1.0	µg/L	1	5/25/2014 06:48
Bromoform	U		0.18	1.0	µg/L	1	5/25/2014 06:48
Bromomethane	U		0.38	5.0	µg/L	1	5/25/2014 06:48
Carbon disulfide	U		0.26	5.0	µg/L	1	5/25/2014 06:48
Carbon tetrachloride	U		0.16	1.0	µg/L	1	5/25/2014 06:48
Chlorobenzene	U		0.12	1.0	µg/L	1	5/25/2014 06:48
Chloroethane	U		0.25	5.0	µg/L	1	5/25/2014 06:48
Chloroform	U		0.15	1.0	µg/L	1	5/25/2014 06:48
Chloromethane	U		0.29	5.0	µg/L	1	5/25/2014 06:48
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	5/25/2014 06:48
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	5/25/2014 06:48
Cyclohexane	U		0.20	1.0	µg/L	1	5/25/2014 06:48
Dibromochloromethane	U		0.12	5.0	µg/L	1	5/25/2014 06:48
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	5/25/2014 06:48
Ethylbenzene	U		0.12	1.0	µg/L	1	5/25/2014 06:48
Isopropylbenzene	U		0.11	5.0	µg/L	1	5/25/2014 06:48

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-021
Collection Date: 5/19/2014 10:55 AM

Work Order: 14051118
Lab ID: 14051118-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	5/25/2014 06:48
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	5/25/2014 06:48
Methylcyclohexane	U		0.19	1.0	µg/L	1	5/25/2014 06:48
Methylene chloride	U		0.75	5.0	µg/L	1	5/25/2014 06:48
Styrene	U		0.12	1.0	µg/L	1	5/25/2014 06:48
Tetrachloroethene	U		0.098	1.0	µg/L	1	5/25/2014 06:48
Toluene	U		0.13	1.0	µg/L	1	5/25/2014 06:48
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 06:48
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	5/25/2014 06:48
Trichloroethene	U		0.16	1.0	µg/L	1	5/25/2014 06:48
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	5/25/2014 06:48
Vinyl chloride	U		0.15	1.0	µg/L	1	5/25/2014 06:48
Xylenes, Total	U		0.30	3.0	µg/L	1	5/25/2014 06:48
Surr: 1,2-Dichloroethane-d4	110			75-120	%REC	1	5/25/2014 06:48
Surr: 4-Bromofluorobenzene	86.0			80-110	%REC	1	5/25/2014 06:48
Surr: Dibromofluoromethane	110			85-115	%REC	1	5/25/2014 06:48
Surr: Toluene-d8	96.2			85-110	%REC	1	5/25/2014 06:48
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/29/14		Analyst: JB
BatchID: 59141							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/29/2014 14:00

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-022
Collection Date: 5/19/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:25
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:27
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	8.1		0.00078	0.050	mg/L	1	5/27/2014 18:34
Antimony	0.00078	J	0.000036	0.0020	mg/L	1	5/27/2014 18:34
Arsenic	0.014		0.00058	0.0050	mg/L	1	5/27/2014 18:34
Barium	0.54		0.000063	0.10	mg/L	1	5/27/2014 18:34
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 18:34
Cadmium	0.00056	J	0.000045	0.0010	mg/L	1	5/27/2014 18:34
Chromium	0.014		0.00027	0.010	mg/L	1	5/27/2014 18:34
Cobalt	0.0095	J	0.000041	0.020	mg/L	1	5/27/2014 18:34
Copper	0.031		0.00053	0.0040	mg/L	1	5/27/2014 18:34
Iron	21		0.0053	0.20	mg/L	1	5/27/2014 18:34
Lead	0.019		0.000051	0.0030	mg/L	1	5/27/2014 18:34
Manganese	0.73		0.000054	0.050	mg/L	1	5/27/2014 18:34
Nickel	0.023		0.00025	0.020	mg/L	1	5/27/2014 18:34
Selenium	0.0027	J	0.00064	0.0050	mg/L	1	5/27/2014 18:34
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 18:34
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 18:34
Vanadium	0.024		0.00016	0.0040	mg/L	1	5/27/2014 18:34
Zinc	0.081		0.00048	0.050	mg/L	1	5/28/2014 18:08
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.023	J	0.00078	0.050	mg/L	1	5/27/2014 21:17
Antimony	0.00024	J	0.000036	0.0020	mg/L	1	5/27/2014 21:17
Arsenic	0.0043	J	0.00058	0.0050	mg/L	1	5/27/2014 21:17
Barium	0.44		0.000063	0.10	mg/L	1	5/27/2014 21:17
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 21:17
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 21:17
Chromium	U		0.00027	0.010	mg/L	1	5/27/2014 21:17
Cobalt	0.0022	J	0.000041	0.020	mg/L	1	5/27/2014 21:17
Copper	0.00064	J	0.00053	0.0040	mg/L	1	5/27/2014 21:17
Iron	3.1		0.0053	0.20	mg/L	1	5/27/2014 21:17

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-022
Collection Date: 5/19/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.000079	J	0.000051	0.0030	mg/L	1	5/27/2014 21:17
Manganese	0.36		0.000054	0.050	mg/L	1	5/27/2014 21:17
Nickel	0.0032	J	0.00025	0.020	mg/L	1	5/27/2014 21:17
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 21:17
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 21:17
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 21:17
Vanadium	0.00064	J	0.00016	0.0040	mg/L	1	5/27/2014 21:17
Zinc	0.0022	J	0.00048	0.050	mg/L	1	5/27/2014 21:17

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/22/14

Analyst: HL

BatchID: 58901

1,1'-Biphenyl	U	0.095	10	µg/L	1	5/23/2014 17:59
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	5/23/2014 17:59
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	5/23/2014 17:59
2,4-Dichlorophenol	U	0.22	10	µg/L	1	5/23/2014 17:59
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	5/23/2014 17:59
2,4-Dinitrophenol	U	0.67	25	µg/L	1	5/23/2014 17:59
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	5/23/2014 17:59
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	5/23/2014 17:59
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 17:59
2-Chlorophenol	U	0.32	10	µg/L	1	5/23/2014 17:59
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 17:59
2-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 17:59
2-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 17:59
2-Nitrophenol	U	0.28	5.0	µg/L	1	5/23/2014 17:59
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	5/23/2014 17:59
3-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 17:59
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	5/23/2014 17:59
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 17:59
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	5/23/2014 17:59
4-Chloroaniline	U	0.32	10	µg/L	1	5/23/2014 17:59
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 17:59
4-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 17:59
4-Nitroaniline	U	0.30	25	µg/L	1	5/23/2014 17:59
4-Nitrophenol	U	0.51	25	µg/L	1	5/23/2014 17:59
Acenaphthene	U	0.11	5.0	µg/L	1	5/23/2014 17:59
Acenaphthylene	U	0.12	5.0	µg/L	1	5/23/2014 17:59
Acetophenone	U	0.090	5.0	µg/L	1	5/23/2014 17:59
Anthracene	U	0.72	5.0	µg/L	1	5/23/2014 17:59
Atrazine	U	0.13	5.0	µg/L	1	5/23/2014 17:59

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-022
Collection Date: 5/19/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 17:59
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 17:59
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 17:59
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 17:59
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 17:59
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 17:59
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 17:59
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 17:59
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 17:59
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 17:59
Butyl benzyl phthalate	1.5	J	0.10	5.0	µg/L	1	5/23/2014 17:59
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 17:59
Carbazole	U		0.16	10	µg/L	1	5/23/2014 17:59
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 17:59
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 17:59
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 17:59
Diethyl phthalate	1.2	J	0.24	5.0	µg/L	1	5/23/2014 17:59
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 17:59
Di-n-butyl phthalate	0.88	J	0.14	5.0	µg/L	1	5/23/2014 17:59
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 17:59
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 17:59
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 17:59
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 17:59
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 17:59
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 17:59
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 17:59
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 17:59
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 17:59
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 17:59
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 17:59
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 17:59
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 17:59
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 17:59
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 17:59
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 17:59
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 17:59
Surr: 2,4,6-Tribromophenol	94.6			32-115	%REC	1	5/23/2014 17:59
Surr: 2-Fluorobiphenyl	72.1			32-100	%REC	1	5/23/2014 17:59
Surr: 2-Fluorophenol	46.5			22-59	%REC	1	5/23/2014 17:59
Surr: 4-Terphenyl-d14	93.3			23-112	%REC	1	5/23/2014 17:59

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-022
Collection Date: 5/19/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	68.6			31-93	%REC	1	5/23/2014 17:59
Surr: Phenol-d6	23.5			13-36	%REC	1	5/23/2014 17:59
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R141421							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 17:51
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	5/25/2014 17:51
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 17:51
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	5/25/2014 17:51
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	5/25/2014 17:51
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 17:51
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	5/25/2014 17:51
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	5/25/2014 17:51
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	5/25/2014 17:51
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	5/25/2014 17:51
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 17:51
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	5/25/2014 17:51
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 17:51
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 17:51
2-Butanone	U		0.64	25	µg/L	1	5/25/2014 17:51
2-Hexanone	U		0.19	50	µg/L	1	5/25/2014 17:51
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	5/25/2014 17:51
Acetone	U		3.0	50	µg/L	1	5/25/2014 17:51
Benzene	U		0.14	1.0	µg/L	1	5/25/2014 17:51
Bromodichloromethane	U		0.22	1.0	µg/L	1	5/25/2014 17:51
Bromoform	U		0.18	1.0	µg/L	1	5/25/2014 17:51
Bromomethane	U		0.38	5.0	µg/L	1	5/25/2014 17:51
Carbon disulfide	U		0.26	5.0	µg/L	1	5/25/2014 17:51
Carbon tetrachloride	U		0.16	1.0	µg/L	1	5/25/2014 17:51
Chlorobenzene	U		0.12	1.0	µg/L	1	5/25/2014 17:51
Chloroethane	U		0.25	5.0	µg/L	1	5/25/2014 17:51
Chloroform	U		0.15	1.0	µg/L	1	5/25/2014 17:51
Chloromethane	U		0.29	5.0	µg/L	1	5/25/2014 17:51
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	5/25/2014 17:51
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	5/25/2014 17:51
Cyclohexane	U		0.20	1.0	µg/L	1	5/25/2014 17:51
Dibromochloromethane	U		0.12	5.0	µg/L	1	5/25/2014 17:51
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	5/25/2014 17:51
Ethylbenzene	U		0.12	1.0	µg/L	1	5/25/2014 17:51
Isopropylbenzene	U		0.11	5.0	µg/L	1	5/25/2014 17:51

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-022
Collection Date: 5/19/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	5/25/2014 17:51
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	5/25/2014 17:51
Methylcyclohexane	U		0.19	1.0	µg/L	1	5/25/2014 17:51
Methylene chloride	U		0.75	5.0	µg/L	1	5/25/2014 17:51
Styrene	U		0.12	1.0	µg/L	1	5/25/2014 17:51
Tetrachloroethene	U		0.098	1.0	µg/L	1	5/25/2014 17:51
Toluene	U		0.13	1.0	µg/L	1	5/25/2014 17:51
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 17:51
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	5/25/2014 17:51
Trichloroethene	U		0.16	1.0	µg/L	1	5/25/2014 17:51
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	5/25/2014 17:51
Vinyl chloride	U		0.15	1.0	µg/L	1	5/25/2014 17:51
Xylenes, Total	U		0.30	3.0	µg/L	1	5/25/2014 17:51
Surr: 1,2-Dichloroethane-d4	106			75-120	%REC	1	5/25/2014 17:51
Surr: 4-Bromofluorobenzene	88.2			80-110	%REC	1	5/25/2014 17:51
Surr: Dibromofluoromethane	104			85-115	%REC	1	5/25/2014 17:51
Surr: Toluene-d8	96.7			85-110	%REC	1	5/25/2014 17:51
CYANIDE, AMENABLE			SW9012A			Prep: SW9012A / 5/29/14	Analyst: JB
BatchID: 59141							
Cyanide, Amenable	0.0013	J	0.0010	0.0050	mg/L	1	5/29/2014 14:00

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-023
Collection Date: 5/19/2014 12:55 PM

Work Order: 14051118
Lab ID: 14051118-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:30
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:32
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.56		0.00078	0.050	mg/L	1	5/27/2014 18:40
Antimony	0.00015	J	0.000036	0.0020	mg/L	1	5/27/2014 18:40
Arsenic	0.013		0.00058	0.0050	mg/L	1	5/27/2014 18:40
Barium	0.61		0.000063	0.10	mg/L	1	5/27/2014 18:40
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 18:40
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 18:40
Chromium	0.0017	J	0.00027	0.010	mg/L	1	5/27/2014 18:40
Cobalt	0.0022	J	0.000041	0.020	mg/L	1	5/27/2014 18:40
Copper	0.0021	J	0.00053	0.0040	mg/L	1	5/27/2014 18:40
Iron	13		0.0053	0.20	mg/L	1	5/27/2014 18:40
Lead	0.0012	J	0.000051	0.0030	mg/L	1	5/27/2014 18:40
Manganese	0.18		0.000054	0.050	mg/L	1	5/27/2014 18:40
Nickel	0.0044	J	0.00025	0.020	mg/L	1	5/27/2014 18:40
Selenium	0.00092	J	0.00064	0.0050	mg/L	1	5/27/2014 18:40
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 18:40
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 18:40
Vanadium	0.0025	J	0.00016	0.0040	mg/L	1	5/27/2014 18:40
Zinc	0.0072	J	0.00048	0.050	mg/L	1	5/27/2014 18:40
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.0077	J	0.00078	0.050	mg/L	1	5/27/2014 21:24
Antimony	0.000089	J	0.000036	0.0020	mg/L	1	5/27/2014 21:24
Arsenic	0.012		0.00058	0.0050	mg/L	1	5/27/2014 21:24
Barium	0.56		0.000063	0.10	mg/L	1	5/27/2014 21:24
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 21:24
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 21:24
Chromium	0.00076	J	0.00027	0.010	mg/L	1	5/27/2014 21:24
Cobalt	0.0019	J	0.000041	0.020	mg/L	1	5/27/2014 21:24
Copper	U		0.00053	0.0040	mg/L	1	5/27/2014 21:24
Iron	12		0.0053	0.20	mg/L	1	5/27/2014 21:24

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-023
Collection Date: 5/19/2014 12:55 PM

Work Order: 14051118
Lab ID: 14051118-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.000067	J	0.000051	0.0030	mg/L	1	5/27/2014 21:24
Manganese	0.16		0.000054	0.050	mg/L	1	5/27/2014 21:24
Nickel	0.0033	J	0.00025	0.020	mg/L	1	5/27/2014 21:24
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 21:24
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 21:24
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 21:24
Vanadium	0.0011	J	0.00016	0.0040	mg/L	1	5/27/2014 21:24
Zinc	0.0022	J	0.00048	0.050	mg/L	1	5/27/2014 21:24

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/22/14

Analyst: HL

BatchID: 58901

1,1'-Biphenyl	U	0.095	10	µg/L	1	5/23/2014 18:21
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	5/23/2014 18:21
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	5/23/2014 18:21
2,4-Dichlorophenol	U	0.22	10	µg/L	1	5/23/2014 18:21
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	5/23/2014 18:21
2,4-Dinitrophenol	U	0.67	25	µg/L	1	5/23/2014 18:21
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	5/23/2014 18:21
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	5/23/2014 18:21
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 18:21
2-Chlorophenol	U	0.32	10	µg/L	1	5/23/2014 18:21
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 18:21
2-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 18:21
2-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 18:21
2-Nitrophenol	U	0.28	5.0	µg/L	1	5/23/2014 18:21
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	5/23/2014 18:21
3-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 18:21
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	5/23/2014 18:21
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 18:21
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	5/23/2014 18:21
4-Chloroaniline	U	0.32	10	µg/L	1	5/23/2014 18:21
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 18:21
4-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 18:21
4-Nitroaniline	U	0.30	25	µg/L	1	5/23/2014 18:21
4-Nitrophenol	U	0.51	25	µg/L	1	5/23/2014 18:21
Acenaphthene	U	0.11	5.0	µg/L	1	5/23/2014 18:21
Acenaphthylene	U	0.12	5.0	µg/L	1	5/23/2014 18:21
Acetophenone	U	0.090	5.0	µg/L	1	5/23/2014 18:21
Anthracene	U	0.72	5.0	µg/L	1	5/23/2014 18:21
Atrazine	U	0.13	5.0	µg/L	1	5/23/2014 18:21

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-023
Collection Date: 5/19/2014 12:55 PM

Work Order: 14051118
Lab ID: 14051118-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 18:21
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 18:21
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 18:21
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 18:21
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 18:21
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 18:21
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 18:21
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 18:21
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 18:21
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 18:21
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 18:21
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 18:21
Carbazole	U		0.16	10	µg/L	1	5/23/2014 18:21
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 18:21
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 18:21
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 18:21
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 18:21
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 18:21
Di-n-butyl phthalate	0.85	J	0.14	5.0	µg/L	1	5/23/2014 18:21
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 18:21
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 18:21
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 18:21
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 18:21
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 18:21
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 18:21
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 18:21
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 18:21
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 18:21
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 18:21
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 18:21
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 18:21
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 18:21
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 18:21
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 18:21
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 18:21
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 18:21
Surr: 2,4,6-Tribromophenol	91.6			32-115	%REC	1	5/23/2014 18:21
Surr: 2-Fluorobiphenyl	66.2			32-100	%REC	1	5/23/2014 18:21
Surr: 2-Fluorophenol	51.2			22-59	%REC	1	5/23/2014 18:21
Surr: 4-Terphenyl-d14	94.0			23-112	%REC	1	5/23/2014 18:21

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-023
Collection Date: 5/19/2014 12:55 PM

Work Order: 14051118
Lab ID: 14051118-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	65.5			31-93	%REC	1	5/23/2014 18:21
Surr: Phenol-d6	23.8			13-36	%REC	1	5/23/2014 18:21
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: RS	
BatchID: R141421							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 18:15
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	5/25/2014 18:15
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 18:15
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	5/25/2014 18:15
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	5/25/2014 18:15
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 18:15
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	5/25/2014 18:15
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	5/25/2014 18:15
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	5/25/2014 18:15
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	5/25/2014 18:15
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	5/25/2014 18:15
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	5/25/2014 18:15
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 18:15
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/25/2014 18:15
2-Butanone	U		0.64	25	µg/L	1	5/25/2014 18:15
2-Hexanone	U		0.19	50	µg/L	1	5/25/2014 18:15
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	5/25/2014 18:15
Acetone	U		3.0	50	µg/L	1	5/25/2014 18:15
Benzene	3.7		0.14	1.0	µg/L	1	5/25/2014 18:15
Bromodichloromethane	U		0.22	1.0	µg/L	1	5/25/2014 18:15
Bromoform	U		0.18	1.0	µg/L	1	5/25/2014 18:15
Bromomethane	U		0.38	5.0	µg/L	1	5/25/2014 18:15
Carbon disulfide	U		0.26	5.0	µg/L	1	5/25/2014 18:15
Carbon tetrachloride	U		0.16	1.0	µg/L	1	5/25/2014 18:15
Chlorobenzene	40		0.12	1.0	µg/L	1	5/25/2014 18:15
Chloroethane	U		0.25	5.0	µg/L	1	5/25/2014 18:15
Chloroform	U		0.15	1.0	µg/L	1	5/25/2014 18:15
Chloromethane	U		0.29	5.0	µg/L	1	5/25/2014 18:15
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	5/25/2014 18:15
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	5/25/2014 18:15
Cyclohexane	U		0.20	1.0	µg/L	1	5/25/2014 18:15
Dibromochloromethane	U		0.12	5.0	µg/L	1	5/25/2014 18:15
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	5/25/2014 18:15
Ethylbenzene	U		0.12	1.0	µg/L	1	5/25/2014 18:15
Isopropylbenzene	U		0.11	5.0	µg/L	1	5/25/2014 18:15

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-023
Collection Date: 5/19/2014 12:55 PM

Work Order: 14051118
Lab ID: 14051118-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	5/25/2014 18:15
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	5/25/2014 18:15
Methylcyclohexane	U		0.19	1.0	µg/L	1	5/25/2014 18:15
Methylene chloride	U		0.75	5.0	µg/L	1	5/25/2014 18:15
Styrene	U		0.12	1.0	µg/L	1	5/25/2014 18:15
Tetrachloroethene	U		0.098	1.0	µg/L	1	5/25/2014 18:15
Toluene	U		0.13	1.0	µg/L	1	5/25/2014 18:15
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	5/25/2014 18:15
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	5/25/2014 18:15
Trichloroethene	U		0.16	1.0	µg/L	1	5/25/2014 18:15
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	5/25/2014 18:15
Vinyl chloride	U		0.15	1.0	µg/L	1	5/25/2014 18:15
Xylenes, Total	U		0.30	3.0	µg/L	1	5/25/2014 18:15
Surr: 1,2-Dichloroethane-d4	103			75-120	%REC	1	5/25/2014 18:15
Surr: 4-Bromofluorobenzene	89.2			80-110	%REC	1	5/25/2014 18:15
Surr: Dibromofluoromethane	103			85-115	%REC	1	5/25/2014 18:15
Surr: Toluene-d8	94.8			85-110	%REC	1	5/25/2014 18:15
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/29/14		Analyst: JB
BatchID: 59141							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/29/2014 14:00

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-024
Collection Date: 5/19/2014 01:00 PM

Work Order: 14051118
Lab ID: 14051118-05
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:34
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:37
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.59		0.00078	0.050	mg/L	1	5/27/2014 18:47
Antimony	0.00011	J	0.000036	0.0020	mg/L	1	5/27/2014 18:47
Arsenic	0.012		0.00058	0.0050	mg/L	1	5/27/2014 18:47
Barium	0.58		0.000063	0.10	mg/L	1	5/27/2014 18:47
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 18:47
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 18:47
Chromium	0.0017	J	0.00027	0.010	mg/L	1	5/27/2014 18:47
Cobalt	0.0021	J	0.000041	0.020	mg/L	1	5/27/2014 18:47
Copper	0.0022	J	0.00053	0.0040	mg/L	1	5/27/2014 18:47
Iron	13		0.0053	0.20	mg/L	1	5/27/2014 18:47
Lead	0.0013	J	0.000051	0.0030	mg/L	1	5/27/2014 18:47
Manganese	0.18		0.000054	0.050	mg/L	1	5/27/2014 18:47
Nickel	0.0044	J	0.00025	0.020	mg/L	1	5/27/2014 18:47
Selenium	0.00072	J	0.00064	0.0050	mg/L	1	5/27/2014 18:47
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 18:47
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 18:47
Vanadium	0.0026	J	0.00016	0.0040	mg/L	1	5/27/2014 18:47
Zinc	0.0073	J	0.00048	0.050	mg/L	1	5/27/2014 18:47
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.0085	J	0.00078	0.050	mg/L	1	5/27/2014 21:30
Antimony	0.000076	J	0.000036	0.0020	mg/L	1	5/27/2014 21:30
Arsenic	0.012		0.00058	0.0050	mg/L	1	5/27/2014 21:30
Barium	0.55		0.000063	0.10	mg/L	1	5/27/2014 21:30
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 21:30
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 21:30
Chromium	0.00070	J	0.00027	0.010	mg/L	1	5/27/2014 21:30
Cobalt	0.0018	J	0.000041	0.020	mg/L	1	5/27/2014 21:30
Copper	U		0.00053	0.0040	mg/L	1	5/27/2014 21:30
Iron	11		0.0053	0.20	mg/L	1	5/27/2014 21:30

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-024
Collection Date: 5/19/2014 01:00 PM

Work Order: 14051118
Lab ID: 14051118-05
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	U		0.000051	0.0030	mg/L	1	5/27/2014 21:30
Manganese	0.15		0.000054	0.050	mg/L	1	5/27/2014 21:30
Nickel	0.0031	J	0.00025	0.020	mg/L	1	5/27/2014 21:30
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 21:30
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 21:30
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 21:30
Vanadium	0.00084	J	0.00016	0.0040	mg/L	1	5/27/2014 21:30
Zinc	0.0019	J	0.00048	0.050	mg/L	1	5/27/2014 21:30

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/22/14

Analyst: HL

BatchID: 58901

1,1'-Biphenyl	U		0.095	10	µg/L	1	5/23/2014 18:43
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	5/23/2014 18:43
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	5/23/2014 18:43
2,4-Dichlorophenol	U		0.22	10	µg/L	1	5/23/2014 18:43
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	5/23/2014 18:43
2,4-Dinitrophenol	U		0.67	25	µg/L	1	5/23/2014 18:43
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	5/23/2014 18:43
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	5/23/2014 18:43
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 18:43
2-Chlorophenol	U		0.32	10	µg/L	1	5/23/2014 18:43
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 18:43
2-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 18:43
2-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 18:43
2-Nitrophenol	U		0.28	5.0	µg/L	1	5/23/2014 18:43
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	5/23/2014 18:43
3-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 18:43
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	5/23/2014 18:43
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 18:43
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	5/23/2014 18:43
4-Chloroaniline	U		0.32	10	µg/L	1	5/23/2014 18:43
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 18:43
4-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 18:43
4-Nitroaniline	U		0.30	25	µg/L	1	5/23/2014 18:43
4-Nitrophenol	U		0.51	25	µg/L	1	5/23/2014 18:43
Acenaphthene	U		0.11	5.0	µg/L	1	5/23/2014 18:43
Acenaphthylene	U		0.12	5.0	µg/L	1	5/23/2014 18:43
Acetophenone	U		0.090	5.0	µg/L	1	5/23/2014 18:43
Anthracene	U		0.72	5.0	µg/L	1	5/23/2014 18:43
Atrazine	U		0.13	5.0	µg/L	1	5/23/2014 18:43

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-024
Collection Date: 5/19/2014 01:00 PM

Work Order: 14051118
Lab ID: 14051118-05
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 18:43
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 18:43
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 18:43
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 18:43
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 18:43
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 18:43
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 18:43
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 18:43
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 18:43
Bis(2-ethylhexyl)phthalate	1.1	J	0.15	5.0	µg/L	1	5/23/2014 18:43
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 18:43
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 18:43
Carbazole	U		0.16	10	µg/L	1	5/23/2014 18:43
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 18:43
Dibenzo(a,h)anthracene	0.82	J	0.67	2.0	µg/L	1	5/23/2014 18:43
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 18:43
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 18:43
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 18:43
Di-n-butyl phthalate	0.91	J	0.14	5.0	µg/L	1	5/23/2014 18:43
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 18:43
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 18:43
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 18:43
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 18:43
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 18:43
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 18:43
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 18:43
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 18:43
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 18:43
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 18:43
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 18:43
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 18:43
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 18:43
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 18:43
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 18:43
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 18:43
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 18:43
Surr: 2,4,6-Tribromophenol	89.4			32-115	%REC	1	5/23/2014 18:43
Surr: 2-Fluorobiphenyl	71.4			32-100	%REC	1	5/23/2014 18:43
Surr: 2-Fluorophenol	49.2			22-59	%REC	1	5/23/2014 18:43
Surr: 4-Terphenyl-d14	94.1			23-112	%REC	1	5/23/2014 18:43

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-024
Collection Date: 5/19/2014 01:00 PM

Work Order: 14051118
Lab ID: 14051118-05
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	74.5			31-93	%REC	1	5/23/2014 18:43
Surr: Phenol-d6	25.9			13-36	%REC	1	5/23/2014 18:43
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141420							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	5/27/2014 13:31
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	5/27/2014 13:31
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	5/27/2014 13:31
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	5/27/2014 13:31
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	5/27/2014 13:31
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	5/27/2014 13:31
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	5/27/2014 13:31
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	5/27/2014 13:31
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	5/27/2014 13:31
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	5/27/2014 13:31
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	5/27/2014 13:31
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	5/27/2014 13:31
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/27/2014 13:31
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/27/2014 13:31
2-Butanone	U		0.64	25	µg/L	1	5/27/2014 13:31
2-Hexanone	U		0.19	50	µg/L	1	5/27/2014 13:31
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	5/27/2014 13:31
Acetone	U		3.0	50	µg/L	1	5/27/2014 13:31
Benzene	4.2		0.14	1.0	µg/L	1	5/27/2014 13:31
Bromodichloromethane	U		0.22	1.0	µg/L	1	5/27/2014 13:31
Bromoform	U		0.18	1.0	µg/L	1	5/27/2014 13:31
Bromomethane	U		0.38	5.0	µg/L	1	5/27/2014 13:31
Carbon disulfide	U		0.26	5.0	µg/L	1	5/27/2014 13:31
Carbon tetrachloride	U		0.16	1.0	µg/L	1	5/27/2014 13:31
Chlorobenzene	45		0.12	1.0	µg/L	1	5/27/2014 13:31
Chloroethane	U		0.25	5.0	µg/L	1	5/27/2014 13:31
Chloroform	U		0.15	1.0	µg/L	1	5/27/2014 13:31
Chloromethane	U		0.29	5.0	µg/L	1	5/27/2014 13:31
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	5/27/2014 13:31
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	5/27/2014 13:31
Cyclohexane	U		0.20	1.0	µg/L	1	5/27/2014 13:31
Dibromochloromethane	U		0.12	5.0	µg/L	1	5/27/2014 13:31
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	5/27/2014 13:31
Ethylbenzene	U		0.12	1.0	µg/L	1	5/27/2014 13:31
Isopropylbenzene	U		0.11	5.0	µg/L	1	5/27/2014 13:31

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-024
Collection Date: 5/19/2014 01:00 PM

Work Order: 14051118
Lab ID: 14051118-05
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	5/27/2014 13:31
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	5/27/2014 13:31
Methylcyclohexane	U		0.19	1.0	µg/L	1	5/27/2014 13:31
Methylene chloride	U		0.75	5.0	µg/L	1	5/27/2014 13:31
Styrene	U		0.12	1.0	µg/L	1	5/27/2014 13:31
Tetrachloroethene	U		0.098	1.0	µg/L	1	5/27/2014 13:31
Toluene	U		0.13	1.0	µg/L	1	5/27/2014 13:31
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	5/27/2014 13:31
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	5/27/2014 13:31
Trichloroethene	U		0.16	1.0	µg/L	1	5/27/2014 13:31
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	5/27/2014 13:31
Vinyl chloride	U		0.15	1.0	µg/L	1	5/27/2014 13:31
Xylenes, Total	U		0.30	3.0	µg/L	1	5/27/2014 13:31
Surr: 1,2-Dichloroethane-d4	102			75-120	%REC	1	5/27/2014 13:31
Surr: 4-Bromofluorobenzene	98.1			80-110	%REC	1	5/27/2014 13:31
Surr: Dibromofluoromethane	102			85-115	%REC	1	5/27/2014 13:31
Surr: Toluene-d8	101			85-110	%REC	1	5/27/2014 13:31
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/29/14		Analyst: JB
BatchID: 59141							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/29/2014 14:00

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-025
Collection Date: 5/19/2014 02:10 PM

Work Order: 14051118
Lab ID: 14051118-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:39
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 19:54
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	2.6		0.00078	0.050	mg/L	1	5/27/2014 18:53
Antimony	0.00024	J	0.000036	0.0020	mg/L	1	5/27/2014 18:53
Arsenic	0.0019	J	0.00058	0.0050	mg/L	1	5/27/2014 18:53
Barium	0.083	J	0.000063	0.10	mg/L	1	5/27/2014 18:53
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 18:53
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 18:53
Chromium	0.0038	J	0.00027	0.010	mg/L	1	5/27/2014 18:53
Cobalt	0.0015	J	0.000041	0.020	mg/L	1	5/27/2014 18:53
Copper	0.0074		0.00053	0.0040	mg/L	1	5/27/2014 18:53
Iron	3.8		0.0053	0.20	mg/L	1	5/27/2014 18:53
Lead	0.0025	J	0.000051	0.0030	mg/L	1	5/27/2014 18:53
Manganese	0.19		0.000054	0.050	mg/L	1	5/27/2014 18:53
Nickel	0.0063	J	0.00025	0.020	mg/L	1	5/27/2014 18:53
Selenium	0.0024	J	0.00064	0.0050	mg/L	1	5/27/2014 18:53
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 18:53
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 18:53
Vanadium	0.0068		0.00016	0.0040	mg/L	1	5/27/2014 18:53
Zinc	0.012	J	0.00048	0.050	mg/L	1	5/27/2014 18:53
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.051		0.00078	0.050	mg/L	1	5/27/2014 21:37
Antimony	0.00021	J	0.000036	0.0020	mg/L	1	5/27/2014 21:37
Arsenic	0.00063	J	0.00058	0.0050	mg/L	1	5/27/2014 21:37
Barium	0.068	J	0.000063	0.10	mg/L	1	5/27/2014 21:37
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 21:37
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 21:37
Chromium	U		0.00027	0.010	mg/L	1	5/27/2014 21:37
Cobalt	0.00059	J	0.000041	0.020	mg/L	1	5/27/2014 21:37
Copper	0.0037	J	0.00053	0.0040	mg/L	1	5/27/2014 21:37
Iron	0.11	J	0.0053	0.20	mg/L	1	5/27/2014 21:37

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-025
Collection Date: 5/19/2014 02:10 PM

Work Order: 14051118
Lab ID: 14051118-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.00025	J	0.000051	0.0030	mg/L	1	5/27/2014 21:37
Manganese	0.15		0.000054	0.050	mg/L	1	5/27/2014 21:37
Nickel	0.0023	J	0.00025	0.020	mg/L	1	5/27/2014 21:37
Selenium	0.0017	J	0.00064	0.0050	mg/L	1	5/27/2014 21:37
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 21:37
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 21:37
Vanadium	0.00035	J	0.00016	0.0040	mg/L	1	5/27/2014 21:37
Zinc	0.0022	J	0.00048	0.050	mg/L	1	5/27/2014 21:37

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/22/14

Analyst: HL

BatchID: 58901

1,1'-Biphenyl	U	0.095	10	µg/L	1	5/23/2014 19:05
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	5/23/2014 19:05
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	5/23/2014 19:05
2,4-Dichlorophenol	U	0.22	10	µg/L	1	5/23/2014 19:05
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	5/23/2014 19:05
2,4-Dinitrophenol	U	0.67	25	µg/L	1	5/23/2014 19:05
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	5/23/2014 19:05
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	5/23/2014 19:05
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 19:05
2-Chlorophenol	U	0.32	10	µg/L	1	5/23/2014 19:05
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 19:05
2-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 19:05
2-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 19:05
2-Nitrophenol	U	0.28	5.0	µg/L	1	5/23/2014 19:05
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	5/23/2014 19:05
3-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 19:05
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	5/23/2014 19:05
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 19:05
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	5/23/2014 19:05
4-Chloroaniline	U	0.32	10	µg/L	1	5/23/2014 19:05
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 19:05
4-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 19:05
4-Nitroaniline	U	0.30	25	µg/L	1	5/23/2014 19:05
4-Nitrophenol	U	0.51	25	µg/L	1	5/23/2014 19:05
Acenaphthene	U	0.11	5.0	µg/L	1	5/23/2014 19:05
Acenaphthylene	U	0.12	5.0	µg/L	1	5/23/2014 19:05
Acetophenone	U	0.090	5.0	µg/L	1	5/23/2014 19:05
Anthracene	U	0.72	5.0	µg/L	1	5/23/2014 19:05
Atrazine	U	0.13	5.0	µg/L	1	5/23/2014 19:05

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-025
Collection Date: 5/19/2014 02:10 PM

Work Order: 14051118
Lab ID: 14051118-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 19:05
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 19:05
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 19:05
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 19:05
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 19:05
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 19:05
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 19:05
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 19:05
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 19:05
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 19:05
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 19:05
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 19:05
Carbazole	U		0.16	10	µg/L	1	5/23/2014 19:05
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 19:05
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 19:05
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 19:05
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 19:05
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 19:05
Di-n-butyl phthalate	0.80	J	0.14	5.0	µg/L	1	5/23/2014 19:05
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 19:05
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 19:05
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 19:05
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 19:05
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 19:05
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 19:05
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 19:05
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 19:05
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 19:05
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 19:05
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 19:05
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 19:05
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 19:05
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 19:05
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 19:05
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 19:05
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 19:05
Surr: 2,4,6-Tribromophenol	81.7			32-115	%REC	1	5/23/2014 19:05
Surr: 2-Fluorobiphenyl	68.5			32-100	%REC	1	5/23/2014 19:05
Surr: 2-Fluorophenol	46.4			22-59	%REC	1	5/23/2014 19:05
Surr: 4-Terphenyl-d14	92.6			23-112	%REC	1	5/23/2014 19:05

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-025
Collection Date: 5/19/2014 02:10 PM

Work Order: 14051118
Lab ID: 14051118-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	68.3			31-93	%REC	1	5/23/2014 19:05
Surr: Phenol-d6	22.5			13-36	%REC	1	5/23/2014 19:05
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141420							
1,1,1-Trichloroethane	U		0.11	1.0	µg/L	1	5/27/2014 13:55
1,1,2,2-Tetrachloroethane	U		0.21	1.0	µg/L	1	5/27/2014 13:55
1,1,2-Trichloroethane	U		0.11	1.0	µg/L	1	5/27/2014 13:55
1,1,2-Trichlorotrifluoroethane	U		0.40	1.0	µg/L	1	5/27/2014 13:55
1,1-Dichloroethane	U		0.14	1.0	µg/L	1	5/27/2014 13:55
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	5/27/2014 13:55
1,2,4-Trichlorobenzene	U		0.096	5.0	µg/L	1	5/27/2014 13:55
1,2-Dibromo-3-chloropropane	U		0.35	1.0	µg/L	1	5/27/2014 13:55
1,2-Dibromoethane	U		0.14	1.0	µg/L	1	5/27/2014 13:55
1,2-Dichlorobenzene	U		0.17	1.0	µg/L	1	5/27/2014 13:55
1,2-Dichloroethane	U		0.11	1.0	µg/L	1	5/27/2014 13:55
1,2-Dichloropropane	U		0.12	1.0	µg/L	1	5/27/2014 13:55
1,3-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/27/2014 13:55
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	5/27/2014 13:55
2-Butanone	U		0.64	25	µg/L	1	5/27/2014 13:55
2-Hexanone	U		0.19	50	µg/L	1	5/27/2014 13:55
4-Methyl-2-pentanone	U		0.20	50	µg/L	1	5/27/2014 13:55
Acetone	U		3.0	50	µg/L	1	5/27/2014 13:55
Benzene	U		0.14	1.0	µg/L	1	5/27/2014 13:55
Bromodichloromethane	U		0.22	1.0	µg/L	1	5/27/2014 13:55
Bromoform	U		0.18	1.0	µg/L	1	5/27/2014 13:55
Bromomethane	U		0.38	5.0	µg/L	1	5/27/2014 13:55
Carbon disulfide	U		0.26	5.0	µg/L	1	5/27/2014 13:55
Carbon tetrachloride	U		0.16	1.0	µg/L	1	5/27/2014 13:55
Chlorobenzene	U		0.12	1.0	µg/L	1	5/27/2014 13:55
Chloroethane	U		0.25	5.0	µg/L	1	5/27/2014 13:55
Chloroform	U		0.15	1.0	µg/L	1	5/27/2014 13:55
Chloromethane	U		0.29	5.0	µg/L	1	5/27/2014 13:55
cis-1,2-Dichloroethene	U		0.10	1.0	µg/L	1	5/27/2014 13:55
cis-1,3-Dichloropropene	U		0.097	1.0	µg/L	1	5/27/2014 13:55
Cyclohexane	U		0.20	1.0	µg/L	1	5/27/2014 13:55
Dibromochloromethane	U		0.12	5.0	µg/L	1	5/27/2014 13:55
Dichlorodifluoromethane	U		0.18	5.0	µg/L	1	5/27/2014 13:55
Ethylbenzene	U		0.12	1.0	µg/L	1	5/27/2014 13:55
Isopropylbenzene	U		0.11	5.0	µg/L	1	5/27/2014 13:55

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-051914-ACN-025
Collection Date: 5/19/2014 02:10 PM

Work Order: 14051118
Lab ID: 14051118-06
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.76	10	µg/L	1	5/27/2014 13:55
Methyl tert-butyl ether	U		0.28	5.0	µg/L	1	5/27/2014 13:55
Methylcyclohexane	U		0.19	1.0	µg/L	1	5/27/2014 13:55
Methylene chloride	U		0.75	5.0	µg/L	1	5/27/2014 13:55
Styrene	U		0.12	1.0	µg/L	1	5/27/2014 13:55
Tetrachloroethene	U		0.098	1.0	µg/L	1	5/27/2014 13:55
Toluene	U		0.13	1.0	µg/L	1	5/27/2014 13:55
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	5/27/2014 13:55
trans-1,3-Dichloropropene	U		0.093	1.0	µg/L	1	5/27/2014 13:55
Trichloroethene	U		0.16	1.0	µg/L	1	5/27/2014 13:55
Trichlorofluoromethane	U		0.22	1.0	µg/L	1	5/27/2014 13:55
Vinyl chloride	U		0.15	1.0	µg/L	1	5/27/2014 13:55
Xylenes, Total	U		0.30	3.0	µg/L	1	5/27/2014 13:55
Surr: 1,2-Dichloroethane-d4	97.2			75-120	%REC	1	5/27/2014 13:55
Surr: 4-Bromofluorobenzene	99.0			80-110	%REC	1	5/27/2014 13:55
Surr: Dibromofluoromethane	102			85-115	%REC	1	5/27/2014 13:55
Surr: Toluene-d8	99.4			85-110	%REC	1	5/27/2014 13:55
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/29/14		Analyst: JB
BatchID: 59141							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/29/2014 14:00

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-026
Collection Date: 5/20/2014 09:10 AM

Work Order: 14051118
Lab ID: 14051118-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:03
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:05
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	5.4		0.00078	0.050	mg/L	1	5/27/2014 20:39
Antimony	0.00035	J	0.000036	0.0020	mg/L	1	5/27/2014 20:39
Arsenic	0.010		0.00058	0.0050	mg/L	1	5/27/2014 20:39
Barium	0.40		0.000063	0.10	mg/L	1	5/27/2014 20:39
Beryllium	0.00023	J	0.000082	0.0010	mg/L	1	5/27/2014 20:39
Cadmium	0.00028	J	0.000045	0.0010	mg/L	1	5/27/2014 20:39
Chromium	0.0088	J	0.00027	0.010	mg/L	1	5/27/2014 20:39
Cobalt	0.0056	J	0.000041	0.020	mg/L	1	5/27/2014 20:39
Copper	0.011		0.00053	0.0040	mg/L	1	5/27/2014 20:39
Iron	13		0.0053	0.20	mg/L	1	5/27/2014 20:39
Lead	0.0069		0.000051	0.0030	mg/L	1	5/27/2014 20:39
Manganese	0.60		0.000054	0.050	mg/L	1	5/27/2014 20:39
Nickel	0.015	J	0.00025	0.020	mg/L	1	5/27/2014 20:39
Selenium	0.0016	J	0.00064	0.0050	mg/L	1	5/27/2014 20:39
Silver	0.000047	J	0.000042	0.00020	mg/L	1	5/27/2014 20:39
Thallium	0.00018	J	0.000062	0.0020	mg/L	1	5/27/2014 20:39
Vanadium	0.016		0.00016	0.0040	mg/L	1	5/27/2014 20:39
Zinc	0.027	J	0.00048	0.050	mg/L	1	5/27/2014 20:39
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.056		0.00078	0.050	mg/L	1	5/27/2014 22:28
Antimony	0.00024	J	0.000036	0.0020	mg/L	1	5/27/2014 22:28
Arsenic	0.0051		0.00058	0.0050	mg/L	1	5/27/2014 22:28
Barium	0.37		0.000063	0.10	mg/L	1	5/27/2014 22:28
Beryllium	0.000097	J	0.000082	0.0010	mg/L	1	5/27/2014 22:28
Cadmium	0.00016	J	0.000045	0.0010	mg/L	1	5/27/2014 22:28
Chromium	0.00030	J	0.00027	0.010	mg/L	1	5/27/2014 22:28
Cobalt	0.0013	J	0.000041	0.020	mg/L	1	5/27/2014 22:28
Copper	U		0.00053	0.0040	mg/L	1	5/27/2014 22:28
Iron	2.0		0.0053	0.20	mg/L	1	5/27/2014 22:28

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-026
Collection Date: 5/20/2014 09:10 AM

Work Order: 14051118
Lab ID: 14051118-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.00020	J	0.000051	0.0030	mg/L	1	5/27/2014 22:28
Manganese	0.25		0.000054	0.050	mg/L	1	5/27/2014 22:28
Nickel	0.0031	J	0.00025	0.020	mg/L	1	5/27/2014 22:28
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 22:28
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 22:28
Thallium	0.00021	J	0.000062	0.0020	mg/L	1	5/27/2014 22:28
Vanadium	0.00061	J	0.00016	0.0040	mg/L	1	5/27/2014 22:28
Zinc	0.0029	J	0.00048	0.050	mg/L	1	5/27/2014 22:28

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/23/14

Analyst: RM

BatchID: 58955

1,1'-Biphenyl	U	0.095	10	µg/L	1	5/27/2014 14:11
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	5/27/2014 14:11
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	5/27/2014 14:11
2,4-Dichlorophenol	U	0.22	10	µg/L	1	5/27/2014 14:11
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	5/27/2014 14:11
2,4-Dinitrophenol	U	0.67	25	µg/L	1	5/27/2014 14:11
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	5/27/2014 14:11
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	5/27/2014 14:11
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	5/27/2014 14:11
2-Chlorophenol	U	0.32	10	µg/L	1	5/27/2014 14:11
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	5/27/2014 14:11
2-Methylphenol	U	0.20	10	µg/L	1	5/27/2014 14:11
2-Nitroaniline	U	0.34	25	µg/L	1	5/27/2014 14:11
2-Nitrophenol	U	0.28	5.0	µg/L	1	5/27/2014 14:11
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	5/27/2014 14:11
3-Nitroaniline	U	0.34	25	µg/L	1	5/27/2014 14:11
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	5/27/2014 14:11
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/27/2014 14:11
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	5/27/2014 14:11
4-Chloroaniline	U	0.32	10	µg/L	1	5/27/2014 14:11
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/27/2014 14:11
4-Methylphenol	U	0.20	10	µg/L	1	5/27/2014 14:11
4-Nitroaniline	U	0.30	25	µg/L	1	5/27/2014 14:11
4-Nitrophenol	U	0.51	25	µg/L	1	5/27/2014 14:11
Acenaphthene	U	0.11	5.0	µg/L	1	5/27/2014 14:11
Acenaphthylene	U	0.12	5.0	µg/L	1	5/27/2014 14:11
Acetophenone	U	0.090	5.0	µg/L	1	5/27/2014 14:11
Anthracene	U	0.72	5.0	µg/L	1	5/27/2014 14:11
Atrazine	U	0.13	5.0	µg/L	1	5/27/2014 14:11

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-026
Collection Date: 5/20/2014 09:10 AM

Work Order: 14051118
Lab ID: 14051118-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/27/2014 14:11
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/27/2014 14:11
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/27/2014 14:11
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/27/2014 14:11
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/27/2014 14:11
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/27/2014 14:11
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/27/2014 14:11
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/27/2014 14:11
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/27/2014 14:11
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/27/2014 14:11
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/27/2014 14:11
Caprolactam	U		4.7	10	µg/L	1	5/27/2014 14:11
Carbazole	U		0.16	10	µg/L	1	5/27/2014 14:11
Chrysene	U		0.71	1.0	µg/L	1	5/27/2014 14:11
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/27/2014 14:11
Dibenzofuran	U		0.28	4.0	µg/L	1	5/27/2014 14:11
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/27/2014 14:11
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/27/2014 14:11
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	5/27/2014 14:11
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/27/2014 14:11
Fluoranthene	U		0.77	1.0	µg/L	1	5/27/2014 14:11
Fluorene	U		0.10	5.0	µg/L	1	5/27/2014 14:11
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/27/2014 14:11
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/27/2014 14:11
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/27/2014 14:11
Hexachloroethane	U		0.47	5.0	µg/L	1	5/27/2014 14:11
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/27/2014 14:11
Isophorone	U		0.30	5.0	µg/L	1	5/27/2014 14:11
Naphthalene	U		0.12	5.0	µg/L	1	5/27/2014 14:11
Nitrobenzene	U		0.33	3.0	µg/L	1	5/27/2014 14:11
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/27/2014 14:11
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/27/2014 14:11
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/27/2014 14:11
Phenanthrene	U		0.86	2.0	µg/L	1	5/27/2014 14:11
Phenol	U		0.32	5.0	µg/L	1	5/27/2014 14:11
Pyrene	U		0.65	5.0	µg/L	1	5/27/2014 14:11
Surr: 2,4,6-Tribromophenol	69.4			32-115	%REC	1	5/27/2014 14:11
Surr: 2-Fluorobiphenyl	61.3			32-100	%REC	1	5/27/2014 14:11
Surr: 2-Fluorophenol	37.9			22-59	%REC	1	5/27/2014 14:11
Surr: 4-Terphenyl-d14	67.5			23-112	%REC	1	5/27/2014 14:11

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-026
Collection Date: 5/20/2014 09:10 AM

Work Order: 14051118
Lab ID: 14051118-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	67.2			31-93	%REC	1	5/27/2014 14:11
Surr: Phenol-d6	26.5			13-36	%REC	1	5/27/2014 14:11
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141660							
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	5/30/2014 04:17
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	5/30/2014 04:17
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	5/30/2014 04:17
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	5/30/2014 04:17
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	5/30/2014 04:17
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	5/30/2014 04:17
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 04:17
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	5/30/2014 04:17
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	5/30/2014 04:17
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	5/30/2014 04:17
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	5/30/2014 04:17
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	5/30/2014 04:17
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	5/30/2014 04:17
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	5/30/2014 04:17
2-Butanone	U		0.87	5.0	µg/L	1	5/30/2014 04:17
2-Hexanone	U		0.15	5.0	µg/L	1	5/30/2014 04:17
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	5/30/2014 04:17
Acetone	U		3.1	10	µg/L	1	5/30/2014 04:17
Benzene	U		0.25	1.0	µg/L	1	5/30/2014 04:17
Bromodichloromethane	U		0.16	1.0	µg/L	1	5/30/2014 04:17
Bromoform	U		0.099	1.0	µg/L	1	5/30/2014 04:17
Bromomethane	U		1.0	1.0	µg/L	1	5/30/2014 04:17
Carbon disulfide	U		0.26	1.0	µg/L	1	5/30/2014 04:17
Carbon tetrachloride	U		0.14	1.0	µg/L	1	5/30/2014 04:17
Chlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 04:17
Chloroethane	U		0.21	1.0	µg/L	1	5/30/2014 04:17
Chloroform	U		0.25	1.0	µg/L	1	5/30/2014 04:17
Chloromethane	U		0.25	1.0	µg/L	1	5/30/2014 04:17
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	5/30/2014 04:17
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	5/30/2014 04:17
Cyclohexane	U		0.31	1.0	µg/L	1	5/30/2014 04:17
Dibromochloromethane	U		0.17	1.0	µg/L	1	5/30/2014 04:17
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	5/30/2014 04:17
Ethylbenzene	U		0.22	1.0	µg/L	1	5/30/2014 04:17
Isopropylbenzene	U		0.25	1.0	µg/L	1	5/30/2014 04:17

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-026
Collection Date: 5/20/2014 09:10 AM

Work Order: 14051118
Lab ID: 14051118-07
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.62	2.0	µg/L	1	5/30/2014 04:17
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	5/30/2014 04:17
Methylcyclohexane	U		0.32	1.0	µg/L	1	5/30/2014 04:17
Methylene chloride	U		0.64	5.0	µg/L	1	5/30/2014 04:17
Styrene	U		0.18	1.0	µg/L	1	5/30/2014 04:17
Tetrachloroethene	U		0.25	1.0	µg/L	1	5/30/2014 04:17
Toluene	U		0.20	1.0	µg/L	1	5/30/2014 04:17
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	5/30/2014 04:17
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	5/30/2014 04:17
Trichloroethene	U		0.34	1.0	µg/L	1	5/30/2014 04:17
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	5/30/2014 04:17
Vinyl chloride	U		0.19	1.0	µg/L	1	5/30/2014 04:17
Xylenes, Total	U		0.62	3.0	µg/L	1	5/30/2014 04:17
Surr: 1,2-Dichloroethane-d4	97.0			75-120	%REC	1	5/30/2014 04:17
Surr: 4-Bromofluorobenzene	95.3			80-110	%REC	1	5/30/2014 04:17
Surr: Dibromofluoromethane	99.8			85-115	%REC	1	5/30/2014 04:17
Surr: Toluene-d8	97.8			85-110	%REC	1	5/30/2014 04:17
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/29/14		Analyst: JB
BatchID: 59141							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/29/2014 14:00

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-027
Collection Date: 5/20/2014 10:05 AM

Work Order: 14051118
Lab ID: 14051118-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:08
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:10
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	1.9		0.00078	0.050	mg/L	1	5/27/2014 20:46
Antimony	0.000089	J	0.000036	0.0020	mg/L	1	5/27/2014 20:46
Arsenic	0.0062		0.00058	0.0050	mg/L	1	5/27/2014 20:46
Barium	0.35		0.000063	0.10	mg/L	1	5/27/2014 20:46
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 20:46
Cadmium	0.000062	J	0.000045	0.0010	mg/L	1	5/27/2014 20:46
Chromium	0.0035	J	0.00027	0.010	mg/L	1	5/27/2014 20:46
Cobalt	0.0015	J	0.000041	0.020	mg/L	1	5/27/2014 20:46
Copper	0.0034	J	0.00053	0.0040	mg/L	1	5/27/2014 20:46
Iron	5.3		0.0053	0.20	mg/L	1	5/27/2014 20:46
Lead	0.0016	J	0.000051	0.0030	mg/L	1	5/27/2014 20:46
Manganese	0.35		0.000054	0.050	mg/L	1	5/27/2014 20:46
Nickel	0.0053	J	0.00025	0.020	mg/L	1	5/27/2014 20:46
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 20:46
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 20:46
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 20:46
Vanadium	0.0063		0.00016	0.0040	mg/L	1	5/27/2014 20:46
Zinc	0.0092	J	0.00048	0.050	mg/L	1	5/27/2014 20:46
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.12		0.00078	0.050	mg/L	1	5/27/2014 22:35
Antimony	0.00012	J	0.000036	0.0020	mg/L	1	5/27/2014 22:35
Arsenic	0.0045	J	0.00058	0.0050	mg/L	1	5/27/2014 22:35
Barium	0.32		0.000063	0.10	mg/L	1	5/27/2014 22:35
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 22:35
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 22:35
Chromium	0.00053	J	0.00027	0.010	mg/L	1	5/27/2014 22:35
Cobalt	0.0011	J	0.000041	0.020	mg/L	1	5/27/2014 22:35
Copper	0.00087	J	0.00053	0.0040	mg/L	1	5/27/2014 22:35
Iron	2.4		0.0053	0.20	mg/L	1	5/27/2014 22:35

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-027
Collection Date: 5/20/2014 10:05 AM

Work Order: 14051118
Lab ID: 14051118-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.000088	J	0.000051	0.0030	mg/L	1	5/27/2014 22:35
Manganese	0.30		0.000054	0.050	mg/L	1	5/27/2014 22:35
Nickel	0.0019	J	0.00025	0.020	mg/L	1	5/27/2014 22:35
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 22:35
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 22:35
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 22:35
Vanadium	0.0013	J	0.00016	0.0040	mg/L	1	5/27/2014 22:35
Zinc	0.0025	J	0.00048	0.050	mg/L	1	5/27/2014 22:35

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/23/14

Analyst: RM

BatchID: 58955

1,1'-Biphenyl	U		0.095	10	µg/L	1	5/23/2014 20:52
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	5/23/2014 20:52
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	5/23/2014 20:52
2,4-Dichlorophenol	U		0.22	10	µg/L	1	5/23/2014 20:52
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	5/23/2014 20:52
2,4-Dinitrophenol	U		0.67	25	µg/L	1	5/23/2014 20:52
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	5/23/2014 20:52
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	5/23/2014 20:52
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 20:52
2-Chlorophenol	U		0.32	10	µg/L	1	5/23/2014 20:52
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 20:52
2-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 20:52
2-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 20:52
2-Nitrophenol	U		0.28	5.0	µg/L	1	5/23/2014 20:52
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	5/23/2014 20:52
3-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 20:52
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	5/23/2014 20:52
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 20:52
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	5/23/2014 20:52
4-Chloroaniline	U		0.32	10	µg/L	1	5/23/2014 20:52
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 20:52
4-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 20:52
4-Nitroaniline	U		0.30	25	µg/L	1	5/23/2014 20:52
4-Nitrophenol	1.7	J	0.51	25	µg/L	1	5/23/2014 20:52
Acenaphthene	U		0.11	5.0	µg/L	1	5/23/2014 20:52
Acenaphthylene	U		0.12	5.0	µg/L	1	5/23/2014 20:52
Acetophenone	U		0.090	5.0	µg/L	1	5/23/2014 20:52
Anthracene	U		0.72	5.0	µg/L	1	5/23/2014 20:52
Atrazine	U		0.13	5.0	µg/L	1	5/23/2014 20:52

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-027
Collection Date: 5/20/2014 10:05 AM

Work Order: 14051118
Lab ID: 14051118-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 20:52
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 20:52
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 20:52
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 20:52
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 20:52
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 20:52
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 20:52
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 20:52
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 20:52
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 20:52
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 20:52
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 20:52
Carbazole	U		0.16	10	µg/L	1	5/23/2014 20:52
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 20:52
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 20:52
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 20:52
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 20:52
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 20:52
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	5/23/2014 20:52
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 20:52
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 20:52
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 20:52
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 20:52
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 20:52
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 20:52
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 20:52
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 20:52
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 20:52
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 20:52
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 20:52
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 20:52
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 20:52
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 20:52
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 20:52
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 20:52
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 20:52
Surr: 2,4,6-Tribromophenol	75.4			32-115	%REC	1	5/23/2014 20:52
Surr: 2-Fluorobiphenyl	75.3			32-100	%REC	1	5/23/2014 20:52
Surr: 2-Fluorophenol	43.3			22-59	%REC	1	5/23/2014 20:52
Surr: 4-Terphenyl-d14	78.8			23-112	%REC	1	5/23/2014 20:52

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-027
Collection Date: 5/20/2014 10:05 AM

Work Order: 14051118
Lab ID: 14051118-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	76.8			31-93	%REC	1	5/23/2014 20:52
Surr: Phenol-d6	27.0			13-36	%REC	1	5/23/2014 20:52
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141660							
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	5/30/2014 04:42
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	5/30/2014 04:42
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	5/30/2014 04:42
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	5/30/2014 04:42
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	5/30/2014 04:42
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	5/30/2014 04:42
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 04:42
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	5/30/2014 04:42
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	5/30/2014 04:42
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	5/30/2014 04:42
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	5/30/2014 04:42
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	5/30/2014 04:42
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	5/30/2014 04:42
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	5/30/2014 04:42
2-Butanone	U		0.87	5.0	µg/L	1	5/30/2014 04:42
2-Hexanone	U		0.15	5.0	µg/L	1	5/30/2014 04:42
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	5/30/2014 04:42
Acetone	U		3.1	10	µg/L	1	5/30/2014 04:42
Benzene	U		0.25	1.0	µg/L	1	5/30/2014 04:42
Bromodichloromethane	U		0.16	1.0	µg/L	1	5/30/2014 04:42
Bromoform	U		0.099	1.0	µg/L	1	5/30/2014 04:42
Bromomethane	U		1.0	1.0	µg/L	1	5/30/2014 04:42
Carbon disulfide	U		0.26	1.0	µg/L	1	5/30/2014 04:42
Carbon tetrachloride	U		0.14	1.0	µg/L	1	5/30/2014 04:42
Chlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 04:42
Chloroethane	U		0.21	1.0	µg/L	1	5/30/2014 04:42
Chloroform	U		0.25	1.0	µg/L	1	5/30/2014 04:42
Chloromethane	U		0.25	1.0	µg/L	1	5/30/2014 04:42
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	5/30/2014 04:42
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	5/30/2014 04:42
Cyclohexane	U		0.31	1.0	µg/L	1	5/30/2014 04:42
Dibromochloromethane	U		0.17	1.0	µg/L	1	5/30/2014 04:42
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	5/30/2014 04:42
Ethylbenzene	U		0.22	1.0	µg/L	1	5/30/2014 04:42
Isopropylbenzene	U		0.25	1.0	µg/L	1	5/30/2014 04:42

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-027
Collection Date: 5/20/2014 10:05 AM

Work Order: 14051118
Lab ID: 14051118-08
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.62	2.0	µg/L	1	5/30/2014 04:42
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	5/30/2014 04:42
Methylcyclohexane	U		0.32	1.0	µg/L	1	5/30/2014 04:42
Methylene chloride	U		0.64	5.0	µg/L	1	5/30/2014 04:42
Styrene	U		0.18	1.0	µg/L	1	5/30/2014 04:42
Tetrachloroethene	U		0.25	1.0	µg/L	1	5/30/2014 04:42
Toluene	U		0.20	1.0	µg/L	1	5/30/2014 04:42
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	5/30/2014 04:42
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	5/30/2014 04:42
Trichloroethene	U		0.34	1.0	µg/L	1	5/30/2014 04:42
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	5/30/2014 04:42
Vinyl chloride	U		0.19	1.0	µg/L	1	5/30/2014 04:42
Xylenes, Total	U		0.62	3.0	µg/L	1	5/30/2014 04:42
Surr: 1,2-Dichloroethane-d4	96.2			75-120	%REC	1	5/30/2014 04:42
Surr: 4-Bromofluorobenzene	96.4			80-110	%REC	1	5/30/2014 04:42
Surr: Dibromofluoromethane	97.7			85-115	%REC	1	5/30/2014 04:42
Surr: Toluene-d8	98.6			85-110	%REC	1	5/30/2014 04:42
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/30/14		Analyst: JB
BatchID: 59175							
Cyanide, Amenable	0.0012	J	0.0010	0.0050	mg/L	1	5/30/2014 10:45

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-028
Collection Date: 5/20/2014 10:45 AM

Work Order: 14051118
Lab ID: 14051118-09
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:12
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
<u>BatchID: 58977</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:15
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	1.8		0.00078	0.050	mg/L	1	5/27/2014 20:52
Antimony	0.00015	J	0.000036	0.0020	mg/L	1	5/27/2014 20:52
Arsenic	0.0095		0.00058	0.0050	mg/L	1	5/27/2014 20:52
Barium	0.34		0.000063	0.10	mg/L	1	5/27/2014 20:52
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 20:52
Cadmium	0.000061	J	0.000045	0.0010	mg/L	1	5/27/2014 20:52
Chromium	0.0038	J	0.00027	0.010	mg/L	1	5/27/2014 20:52
Cobalt	0.0016	J	0.000041	0.020	mg/L	1	5/27/2014 20:52
Copper	0.0051		0.00053	0.0040	mg/L	1	5/27/2014 20:52
Iron	9.6		0.0053	0.20	mg/L	1	5/27/2014 20:52
Lead	0.0027	J	0.000051	0.0030	mg/L	1	5/27/2014 20:52
Manganese	0.28		0.000054	0.050	mg/L	1	5/27/2014 20:52
Nickel	0.0055	J	0.00025	0.020	mg/L	1	5/27/2014 20:52
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 20:52
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 20:52
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 20:52
Vanadium	0.0064		0.00016	0.0040	mg/L	1	5/27/2014 20:52
Zinc	0.011	J	0.00048	0.050	mg/L	1	5/27/2014 20:52
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
<u>BatchID: 58997</u>							
Aluminum	0.015	J	0.00078	0.050	mg/L	1	5/27/2014 22:41
Antimony	0.000065	J	0.000036	0.0020	mg/L	1	5/27/2014 22:41
Arsenic	0.0056		0.00058	0.0050	mg/L	1	5/27/2014 22:41
Barium	0.33		0.000063	0.10	mg/L	1	5/27/2014 22:41
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 22:41
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 22:41
Chromium	0.00039	J	0.00027	0.010	mg/L	1	5/27/2014 22:41
Cobalt	0.00071	J	0.000041	0.020	mg/L	1	5/27/2014 22:41
Copper	0.0011	J	0.00053	0.0040	mg/L	1	5/27/2014 22:41
Iron	4.9		0.0053	0.20	mg/L	1	5/27/2014 22:41

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-028
Collection Date: 5/20/2014 10:45 AM

Work Order: 14051118
Lab ID: 14051118-09
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	U		0.000051	0.0030	mg/L	1	5/27/2014 22:41
Manganese	0.20		0.000054	0.050	mg/L	1	5/27/2014 22:41
Nickel	0.0019	J	0.00025	0.020	mg/L	1	5/27/2014 22:41
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 22:41
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 22:41
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 22:41
Vanadium	0.00057	J	0.00016	0.0040	mg/L	1	5/27/2014 22:41
Zinc	0.0011	J	0.00048	0.050	mg/L	1	5/27/2014 22:41

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/23/14

Analyst: RM

BatchID: 58955

1,1'-Biphenyl	U		0.095	10	µg/L	1	5/23/2014 21:12
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	5/23/2014 21:12
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	5/23/2014 21:12
2,4-Dichlorophenol	U		0.22	10	µg/L	1	5/23/2014 21:12
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	5/23/2014 21:12
2,4-Dinitrophenol	U		0.67	25	µg/L	1	5/23/2014 21:12
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	5/23/2014 21:12
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	5/23/2014 21:12
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 21:12
2-Chlorophenol	U		0.32	10	µg/L	1	5/23/2014 21:12
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 21:12
2-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 21:12
2-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 21:12
2-Nitrophenol	U		0.28	5.0	µg/L	1	5/23/2014 21:12
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	5/23/2014 21:12
3-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 21:12
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	5/23/2014 21:12
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 21:12
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	5/23/2014 21:12
4-Chloroaniline	U		0.32	10	µg/L	1	5/23/2014 21:12
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 21:12
4-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 21:12
4-Nitroaniline	U		0.30	25	µg/L	1	5/23/2014 21:12
4-Nitrophenol	U		0.51	25	µg/L	1	5/23/2014 21:12
Acenaphthene	U		0.11	5.0	µg/L	1	5/23/2014 21:12
Acenaphthylene	U		0.12	5.0	µg/L	1	5/23/2014 21:12
Acetophenone	U		0.090	5.0	µg/L	1	5/23/2014 21:12
Anthracene	U		0.72	5.0	µg/L	1	5/23/2014 21:12
Atrazine	U		0.13	5.0	µg/L	1	5/23/2014 21:12

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-028
Collection Date: 5/20/2014 10:45 AM

Work Order: 14051118
Lab ID: 14051118-09
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 21:12
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 21:12
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 21:12
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 21:12
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 21:12
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 21:12
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 21:12
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 21:12
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 21:12
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 21:12
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 21:12
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 21:12
Carbazole	U		0.16	10	µg/L	1	5/23/2014 21:12
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 21:12
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 21:12
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 21:12
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 21:12
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 21:12
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	5/23/2014 21:12
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 21:12
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 21:12
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 21:12
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 21:12
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 21:12
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 21:12
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 21:12
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 21:12
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 21:12
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 21:12
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 21:12
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 21:12
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 21:12
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 21:12
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 21:12
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 21:12
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 21:12
Surr: 2,4,6-Tribromophenol	75.3			32-115	%REC	1	5/23/2014 21:12
Surr: 2-Fluorobiphenyl	62.5			32-100	%REC	1	5/23/2014 21:12
Surr: 2-Fluorophenol	39.8			22-59	%REC	1	5/23/2014 21:12
Surr: 4-Terphenyl-d14	101			23-112	%REC	1	5/23/2014 21:12

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-028
Collection Date: 5/20/2014 10:45 AM

Work Order: 14051118
Lab ID: 14051118-09
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	69.2			31-93	%REC	1	5/23/2014 21:12
Surr: Phenol-d6	26.4			13-36	%REC	1	5/23/2014 21:12
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141660							
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	5/30/2014 05:06
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	5/30/2014 05:06
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	5/30/2014 05:06
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	5/30/2014 05:06
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	5/30/2014 05:06
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	5/30/2014 05:06
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 05:06
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	5/30/2014 05:06
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	5/30/2014 05:06
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	5/30/2014 05:06
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	5/30/2014 05:06
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	5/30/2014 05:06
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	5/30/2014 05:06
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	5/30/2014 05:06
2-Butanone	U		0.87	5.0	µg/L	1	5/30/2014 05:06
2-Hexanone	U		0.15	5.0	µg/L	1	5/30/2014 05:06
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	5/30/2014 05:06
Acetone	U		3.1	10	µg/L	1	5/30/2014 05:06
Benzene	U		0.25	1.0	µg/L	1	5/30/2014 05:06
Bromodichloromethane	U		0.16	1.0	µg/L	1	5/30/2014 05:06
Bromoform	U		0.099	1.0	µg/L	1	5/30/2014 05:06
Bromomethane	U		1.0	1.0	µg/L	1	5/30/2014 05:06
Carbon disulfide	U		0.26	1.0	µg/L	1	5/30/2014 05:06
Carbon tetrachloride	U		0.14	1.0	µg/L	1	5/30/2014 05:06
Chlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 05:06
Chloroethane	U		0.21	1.0	µg/L	1	5/30/2014 05:06
Chloroform	U		0.25	1.0	µg/L	1	5/30/2014 05:06
Chloromethane	U		0.25	1.0	µg/L	1	5/30/2014 05:06
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	5/30/2014 05:06
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	5/30/2014 05:06
Cyclohexane	U		0.31	1.0	µg/L	1	5/30/2014 05:06
Dibromochloromethane	U		0.17	1.0	µg/L	1	5/30/2014 05:06
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	5/30/2014 05:06
Ethylbenzene	U		0.22	1.0	µg/L	1	5/30/2014 05:06
Isopropylbenzene	U		0.25	1.0	µg/L	1	5/30/2014 05:06

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-028
Collection Date: 5/20/2014 10:45 AM

Work Order: 14051118
Lab ID: 14051118-09
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.62	2.0	µg/L	1	5/30/2014 05:06
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	5/30/2014 05:06
Methylcyclohexane	U		0.32	1.0	µg/L	1	5/30/2014 05:06
Methylene chloride	U		0.64	5.0	µg/L	1	5/30/2014 05:06
Styrene	U		0.18	1.0	µg/L	1	5/30/2014 05:06
Tetrachloroethene	U		0.25	1.0	µg/L	1	5/30/2014 05:06
Toluene	U		0.20	1.0	µg/L	1	5/30/2014 05:06
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	5/30/2014 05:06
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	5/30/2014 05:06
Trichloroethene	U		0.34	1.0	µg/L	1	5/30/2014 05:06
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	5/30/2014 05:06
Vinyl chloride	U		0.19	1.0	µg/L	1	5/30/2014 05:06
Xylenes, Total	U		0.62	3.0	µg/L	1	5/30/2014 05:06
Surr: 1,2-Dichloroethane-d4	97.1			75-120	%REC	1	5/30/2014 05:06
Surr: 4-Bromofluorobenzene	95.7			80-110	%REC	1	5/30/2014 05:06
Surr: Dibromofluoromethane	100			85-115	%REC	1	5/30/2014 05:06
Surr: Toluene-d8	97.5			85-110	%REC	1	5/30/2014 05:06
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/30/14		Analyst: JB
BatchID: <u>59175</u>							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/30/2014 10:45

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-029
Collection Date: 5/20/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
BatchID: 58977							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:17
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/23/14	Analyst: LR
BatchID: 58977							
Mercury	U		0.00010	0.00020	mg/L	1	5/23/2014 20:19
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
BatchID: 58997							
Aluminum	1.4		0.00078	0.050	mg/L	1	5/27/2014 20:58
Antimony	0.00011	J	0.000036	0.0020	mg/L	1	5/27/2014 20:58
Arsenic	0.0056		0.00058	0.0050	mg/L	1	5/27/2014 20:58
Barium	0.16		0.000063	0.10	mg/L	1	5/27/2014 20:58
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 20:58
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 20:58
Chromium	0.0024	J	0.00027	0.010	mg/L	1	5/27/2014 20:58
Cobalt	0.00098	J	0.000041	0.020	mg/L	1	5/27/2014 20:58
Copper	0.0028	J	0.00053	0.0040	mg/L	1	5/27/2014 20:58
Iron	4.2		0.0053	0.20	mg/L	1	5/27/2014 20:58
Lead	0.0022	J	0.000051	0.0030	mg/L	1	5/27/2014 20:58
Manganese	0.21		0.000054	0.050	mg/L	1	5/27/2014 20:58
Nickel	0.0036	J	0.00025	0.020	mg/L	1	5/27/2014 20:58
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 20:58
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 20:58
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 20:58
Vanadium	0.0043		0.00016	0.0040	mg/L	1	5/27/2014 20:58
Zinc	0.0079	J	0.00048	0.050	mg/L	1	5/27/2014 20:58
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/24/14	Analyst: ML
BatchID: 58997							
Aluminum	0.051		0.00078	0.050	mg/L	1	5/27/2014 22:47
Antimony	0.000063	J	0.000036	0.0020	mg/L	1	5/27/2014 22:47
Arsenic	0.0045	J	0.00058	0.0050	mg/L	1	5/27/2014 22:47
Barium	0.15		0.000063	0.10	mg/L	1	5/27/2014 22:47
Beryllium	U		0.000082	0.0010	mg/L	1	5/27/2014 22:47
Cadmium	U		0.000045	0.0010	mg/L	1	5/27/2014 22:47
Chromium	U		0.00027	0.010	mg/L	1	5/27/2014 22:47
Cobalt	0.00023	J	0.000041	0.020	mg/L	1	5/27/2014 22:47
Copper	U		0.00053	0.0040	mg/L	1	5/27/2014 22:47
Iron	2.1		0.0053	0.20	mg/L	1	5/27/2014 22:47

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-029
Collection Date: 5/20/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.000052	J	0.000051	0.0030	mg/L	1	5/27/2014 22:47
Manganese	0.18		0.000054	0.050	mg/L	1	5/27/2014 22:47
Nickel	0.0012	J	0.00025	0.020	mg/L	1	5/27/2014 22:47
Selenium	U		0.00064	0.0050	mg/L	1	5/27/2014 22:47
Silver	U		0.000042	0.00020	mg/L	1	5/27/2014 22:47
Thallium	U		0.000062	0.0020	mg/L	1	5/27/2014 22:47
Vanadium	0.00065	J	0.00016	0.0040	mg/L	1	5/27/2014 22:47
Zinc	0.0017	J	0.00048	0.050	mg/L	1	5/27/2014 22:47

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/23/14

Analyst: RM

BatchID: 58955

1,1'-Biphenyl	U	0.095	10	µg/L	1	5/23/2014 21:32
2,4,5-Trichlorophenol	U	0.25	5.0	µg/L	1	5/23/2014 21:32
2,4,6-Trichlorophenol	U	0.27	4.0	µg/L	1	5/23/2014 21:32
2,4-Dichlorophenol	U	0.22	10	µg/L	1	5/23/2014 21:32
2,4-Dimethylphenol	U	1.8	5.0	µg/L	1	5/23/2014 21:32
2,4-Dinitrophenol	U	0.67	25	µg/L	1	5/23/2014 21:32
2,4-Dinitrotoluene	U	0.27	5.0	µg/L	1	5/23/2014 21:32
2,6-Dinitrotoluene	U	0.23	5.0	µg/L	1	5/23/2014 21:32
2-Chloronaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 21:32
2-Chlorophenol	U	0.32	10	µg/L	1	5/23/2014 21:32
2-Methylnaphthalene	U	0.13	5.0	µg/L	1	5/23/2014 21:32
2-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 21:32
2-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 21:32
2-Nitrophenol	U	0.28	5.0	µg/L	1	5/23/2014 21:32
3,3'-Dichlorobenzidine	U	3.9	1.0	µg/L	1	5/23/2014 21:32
3-Nitroaniline	U	0.34	25	µg/L	1	5/23/2014 21:32
4,6-Dinitro-2-methylphenol	U	1.2	20	µg/L	1	5/23/2014 21:32
4-Bromophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 21:32
4-Chloro-3-methylphenol	U	0.31	5.0	µg/L	1	5/23/2014 21:32
4-Chloroaniline	U	0.32	10	µg/L	1	5/23/2014 21:32
4-Chlorophenyl phenyl ether	U	0.23	5.0	µg/L	1	5/23/2014 21:32
4-Methylphenol	U	0.20	10	µg/L	1	5/23/2014 21:32
4-Nitroaniline	U	0.30	25	µg/L	1	5/23/2014 21:32
4-Nitrophenol	U	0.51	25	µg/L	1	5/23/2014 21:32
Acenaphthene	U	0.11	5.0	µg/L	1	5/23/2014 21:32
Acenaphthylene	U	0.12	5.0	µg/L	1	5/23/2014 21:32
Acetophenone	U	0.090	5.0	µg/L	1	5/23/2014 21:32
Anthracene	U	0.72	5.0	µg/L	1	5/23/2014 21:32
Atrazine	U	0.13	5.0	µg/L	1	5/23/2014 21:32

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-029
Collection Date: 5/20/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 21:32
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 21:32
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 21:32
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 21:32
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 21:32
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 21:32
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 21:32
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 21:32
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 21:32
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 21:32
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 21:32
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 21:32
Carbazole	U		0.16	10	µg/L	1	5/23/2014 21:32
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 21:32
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 21:32
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 21:32
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 21:32
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 21:32
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	5/23/2014 21:32
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 21:32
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 21:32
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 21:32
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 21:32
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 21:32
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 21:32
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 21:32
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 21:32
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 21:32
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 21:32
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 21:32
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 21:32
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 21:32
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 21:32
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 21:32
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 21:32
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 21:32
Surr: 2,4,6-Tribromophenol	76.2			32-115	%REC	1	5/23/2014 21:32
Surr: 2-Fluorobiphenyl	74.9			32-100	%REC	1	5/23/2014 21:32
Surr: 2-Fluorophenol	43.0			22-59	%REC	1	5/23/2014 21:32
Surr: 4-Terphenyl-d14	83.8			23-112	%REC	1	5/23/2014 21:32

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-029
Collection Date: 5/20/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	76.9			31-93	%REC	1	5/23/2014 21:32
Surr: Phenol-d6	27.3			13-36	%REC	1	5/23/2014 21:32
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141660							
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	5/30/2014 05:31
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	5/30/2014 05:31
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	5/30/2014 05:31
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	5/30/2014 05:31
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	5/30/2014 05:31
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	5/30/2014 05:31
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 05:31
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	5/30/2014 05:31
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	5/30/2014 05:31
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	5/30/2014 05:31
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	5/30/2014 05:31
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	5/30/2014 05:31
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	5/30/2014 05:31
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	5/30/2014 05:31
2-Butanone	U		0.87	5.0	µg/L	1	5/30/2014 05:31
2-Hexanone	U		0.15	5.0	µg/L	1	5/30/2014 05:31
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	5/30/2014 05:31
Acetone	U		3.1	10	µg/L	1	5/30/2014 05:31
Benzene	U		0.25	1.0	µg/L	1	5/30/2014 05:31
Bromodichloromethane	U		0.16	1.0	µg/L	1	5/30/2014 05:31
Bromoform	U		0.099	1.0	µg/L	1	5/30/2014 05:31
Bromomethane	U		1.0	1.0	µg/L	1	5/30/2014 05:31
Carbon disulfide	U		0.26	1.0	µg/L	1	5/30/2014 05:31
Carbon tetrachloride	U		0.14	1.0	µg/L	1	5/30/2014 05:31
Chlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 05:31
Chloroethane	U		0.21	1.0	µg/L	1	5/30/2014 05:31
Chloroform	U		0.25	1.0	µg/L	1	5/30/2014 05:31
Chloromethane	U		0.25	1.0	µg/L	1	5/30/2014 05:31
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	5/30/2014 05:31
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	5/30/2014 05:31
Cyclohexane	U		0.31	1.0	µg/L	1	5/30/2014 05:31
Dibromochloromethane	U		0.17	1.0	µg/L	1	5/30/2014 05:31
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	5/30/2014 05:31
Ethylbenzene	U		0.22	1.0	µg/L	1	5/30/2014 05:31
Isopropylbenzene	U		0.25	1.0	µg/L	1	5/30/2014 05:31

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-029
Collection Date: 5/20/2014 11:55 AM

Work Order: 14051118
Lab ID: 14051118-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.62	2.0	µg/L	1	5/30/2014 05:31
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	5/30/2014 05:31
Methylcyclohexane	U		0.32	1.0	µg/L	1	5/30/2014 05:31
Methylene chloride	U		0.64	5.0	µg/L	1	5/30/2014 05:31
Styrene	U		0.18	1.0	µg/L	1	5/30/2014 05:31
Tetrachloroethene	U		0.25	1.0	µg/L	1	5/30/2014 05:31
Toluene	U		0.20	1.0	µg/L	1	5/30/2014 05:31
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	5/30/2014 05:31
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	5/30/2014 05:31
Trichloroethene	U		0.34	1.0	µg/L	1	5/30/2014 05:31
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	5/30/2014 05:31
Vinyl chloride	U		0.19	1.0	µg/L	1	5/30/2014 05:31
Xylenes, Total	U		0.62	3.0	µg/L	1	5/30/2014 05:31
Surr: 1,2-Dichloroethane-d4	96.0			75-120	%REC	1	5/30/2014 05:31
Surr: 4-Bromofluorobenzene	95.7			80-110	%REC	1	5/30/2014 05:31
Surr: Dibromofluoromethane	99.0			85-115	%REC	1	5/30/2014 05:31
Surr: Toluene-d8	98.5			85-110	%REC	1	5/30/2014 05:31
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/30/14	Analyst: JB	
<u>BatchID: 59175</u>							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/30/2014 10:45

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-030
Collection Date: 5/20/2014 01:15 PM

Work Order: 14051118
Lab ID: 14051118-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/27/14	Analyst: LR
<u>BatchID:</u> 59038							
Mercury	U		0.00010	0.00020	mg/L	1	5/27/2014 16:55
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/27/14	Analyst: LR
<u>BatchID:</u> 59038							
Mercury	U		0.00010	0.00020	mg/L	1	5/27/2014 16:58
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/27/14	Analyst: RH
<u>BatchID:</u> 59035							
Aluminum	0.31		0.00078	0.050	mg/L	1	5/28/2014 04:49
Antimony	U		0.000036	0.0020	mg/L	1	5/28/2014 04:49
Arsenic	0.0057		0.00058	0.0050	mg/L	1	5/28/2014 04:49
Barium	0.17		0.000063	0.10	mg/L	1	5/28/2014 04:49
Beryllium	U		0.000082	0.0010	mg/L	1	5/28/2014 04:49
Cadmium	U		0.000045	0.0010	mg/L	1	5/28/2014 04:49
Chromium	0.00057	J	0.00027	0.010	mg/L	1	5/28/2014 04:49
Cobalt	0.00050	J	0.000041	0.020	mg/L	1	5/28/2014 04:49
Copper	0.0016	J	0.00053	0.0040	mg/L	1	5/28/2014 12:57
Iron	5.3		0.0053	0.20	mg/L	1	5/28/2014 04:49
Lead	0.00038	J	0.000051	0.0030	mg/L	1	5/28/2014 04:49
Manganese	0.64		0.000054	0.050	mg/L	1	5/28/2014 04:49
Nickel	0.0038	J	0.00025	0.020	mg/L	1	5/28/2014 12:57
Selenium	0.00069	J	0.00064	0.0050	mg/L	1	5/28/2014 04:49
Silver	U		0.000042	0.00020	mg/L	1	5/28/2014 04:49
Thallium	U		0.000062	0.0020	mg/L	1	5/28/2014 04:49
Vanadium	0.00069	J	0.00016	0.0040	mg/L	1	5/28/2014 04:49
Zinc	0.0049	J	0.00048	0.050	mg/L	1	5/28/2014 04:49
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/27/14	Analyst: RH
<u>BatchID:</u> 59035							
Aluminum	0.0048	J	0.00078	0.050	mg/L	1	5/28/2014 05:19
Antimony	0.000074	J	0.000036	0.0020	mg/L	1	5/28/2014 05:19
Arsenic	0.0052		0.00058	0.0050	mg/L	1	5/28/2014 05:19
Barium	0.16		0.000063	0.10	mg/L	1	5/28/2014 05:19
Beryllium	U		0.000082	0.0010	mg/L	1	5/28/2014 05:19
Cadmium	U		0.000045	0.0010	mg/L	1	5/28/2014 05:19
Chromium	U		0.00027	0.010	mg/L	1	5/28/2014 05:19
Cobalt	0.00076	J	0.000041	0.020	mg/L	1	5/28/2014 05:19
Copper	0.00075	J	0.00053	0.0040	mg/L	1	5/28/2014 17:26
Iron	4.7		0.0053	0.20	mg/L	1	5/28/2014 05:19

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-030
Collection Date: 5/20/2014 01:15 PM

Work Order: 14051118
Lab ID: 14051118-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	U		0.000051	0.0030	mg/L	1	5/28/2014 05:19
Manganese	0.62		0.000054	0.050	mg/L	1	5/28/2014 05:19
Nickel	0.0029	J	0.00025	0.020	mg/L	1	5/28/2014 17:26
Selenium	U		0.00064	0.0050	mg/L	1	5/28/2014 05:19
Silver	U		0.000042	0.00020	mg/L	1	5/28/2014 05:19
Thallium	U		0.000062	0.0020	mg/L	1	5/28/2014 05:19
Vanadium	U		0.00016	0.0040	mg/L	1	5/28/2014 05:19
Zinc	0.0017	J	0.00048	0.050	mg/L	1	5/28/2014 05:19

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/23/14

Analyst: RM

BatchID: 58955

1,1'-Biphenyl	U		0.095	10	µg/L	1	5/23/2014 21:52
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	5/23/2014 21:52
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	5/23/2014 21:52
2,4-Dichlorophenol	U		0.22	10	µg/L	1	5/23/2014 21:52
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	5/23/2014 21:52
2,4-Dinitrophenol	U		0.67	25	µg/L	1	5/23/2014 21:52
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	5/23/2014 21:52
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	5/23/2014 21:52
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 21:52
2-Chlorophenol	U		0.32	10	µg/L	1	5/23/2014 21:52
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 21:52
2-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 21:52
2-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 21:52
2-Nitrophenol	U		0.28	5.0	µg/L	1	5/23/2014 21:52
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	5/23/2014 21:52
3-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 21:52
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	5/23/2014 21:52
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 21:52
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	5/23/2014 21:52
4-Chloroaniline	U		0.32	10	µg/L	1	5/23/2014 21:52
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 21:52
4-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 21:52
4-Nitroaniline	U		0.30	25	µg/L	1	5/23/2014 21:52
4-Nitrophenol	U		0.51	25	µg/L	1	5/23/2014 21:52
Acenaphthene	U		0.11	5.0	µg/L	1	5/23/2014 21:52
Acenaphthylene	U		0.12	5.0	µg/L	1	5/23/2014 21:52
Acetophenone	U		0.090	5.0	µg/L	1	5/23/2014 21:52
Anthracene	U		0.72	5.0	µg/L	1	5/23/2014 21:52
Atrazine	U		0.13	5.0	µg/L	1	5/23/2014 21:52

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-030
Collection Date: 5/20/2014 01:15 PM

Work Order: 14051118
Lab ID: 14051118-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 21:52
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 21:52
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 21:52
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 21:52
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 21:52
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 21:52
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 21:52
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 21:52
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 21:52
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 21:52
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 21:52
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 21:52
Carbazole	U		0.16	10	µg/L	1	5/23/2014 21:52
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 21:52
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 21:52
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 21:52
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 21:52
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 21:52
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	5/23/2014 21:52
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 21:52
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 21:52
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 21:52
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 21:52
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 21:52
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 21:52
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 21:52
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 21:52
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 21:52
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 21:52
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 21:52
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 21:52
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 21:52
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 21:52
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 21:52
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 21:52
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 21:52
Surr: 2,4,6-Tribromophenol	71.8			32-115	%REC	1	5/23/2014 21:52
Surr: 2-Fluorobiphenyl	66.9			32-100	%REC	1	5/23/2014 21:52
Surr: 2-Fluorophenol	41.8			22-59	%REC	1	5/23/2014 21:52
Surr: 4-Terphenyl-d14	86.9			23-112	%REC	1	5/23/2014 21:52

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-030
Collection Date: 5/20/2014 01:15 PM

Work Order: 14051118
Lab ID: 14051118-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	73.2			31-93	%REC	1	5/23/2014 21:52
Surr: Phenol-d6	26.5			13-36	%REC	1	5/23/2014 21:52
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141659							
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	5/30/2014 01:26
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	5/30/2014 01:26
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	5/30/2014 01:26
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	5/30/2014 01:26
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	5/30/2014 01:26
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	5/30/2014 01:26
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 01:26
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	5/30/2014 01:26
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	5/30/2014 01:26
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	5/30/2014 01:26
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	5/30/2014 01:26
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	5/30/2014 01:26
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	5/30/2014 01:26
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	5/30/2014 01:26
2-Butanone	U		0.87	5.0	µg/L	1	5/30/2014 01:26
2-Hexanone	U		0.15	5.0	µg/L	1	5/30/2014 01:26
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	5/30/2014 01:26
Acetone	U		3.1	10	µg/L	1	5/30/2014 01:26
Benzene	U		0.25	1.0	µg/L	1	5/30/2014 01:26
Bromodichloromethane	U		0.16	1.0	µg/L	1	5/30/2014 01:26
Bromoform	U		0.099	1.0	µg/L	1	5/30/2014 01:26
Bromomethane	U		1.0	1.0	µg/L	1	5/30/2014 01:26
Carbon disulfide	U		0.26	1.0	µg/L	1	5/30/2014 01:26
Carbon tetrachloride	U		0.14	1.0	µg/L	1	5/30/2014 01:26
Chlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 01:26
Chloroethane	U		0.21	1.0	µg/L	1	5/30/2014 01:26
Chloroform	U		0.25	1.0	µg/L	1	5/30/2014 01:26
Chloromethane	U		0.25	1.0	µg/L	1	5/30/2014 01:26
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	5/30/2014 01:26
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	5/30/2014 01:26
Cyclohexane	U		0.31	1.0	µg/L	1	5/30/2014 01:26
Dibromochloromethane	U		0.17	1.0	µg/L	1	5/30/2014 01:26
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	5/30/2014 01:26
Ethylbenzene	U		0.22	1.0	µg/L	1	5/30/2014 01:26
Isopropylbenzene	U		0.25	1.0	µg/L	1	5/30/2014 01:26

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-030
Collection Date: 5/20/2014 01:15 PM

Work Order: 14051118
Lab ID: 14051118-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.62	2.0	µg/L	1	5/30/2014 01:26
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	5/30/2014 01:26
Methylcyclohexane	U		0.32	1.0	µg/L	1	5/30/2014 01:26
Methylene chloride	U		0.64	5.0	µg/L	1	5/30/2014 01:26
Styrene	U		0.18	1.0	µg/L	1	5/30/2014 01:26
Tetrachloroethene	U		0.25	1.0	µg/L	1	5/30/2014 01:26
Toluene	U		0.20	1.0	µg/L	1	5/30/2014 01:26
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	5/30/2014 01:26
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	5/30/2014 01:26
Trichloroethene	U		0.34	1.0	µg/L	1	5/30/2014 01:26
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	5/30/2014 01:26
Vinyl chloride	U		0.19	1.0	µg/L	1	5/30/2014 01:26
Xylenes, Total	U		0.62	3.0	µg/L	1	5/30/2014 01:26
Surr: 1,2-Dichloroethane-d4	97.6			75-120	%REC	1	5/30/2014 01:26
Surr: 4-Bromofluorobenzene	98.2			80-110	%REC	1	5/30/2014 01:26
Surr: Dibromofluoromethane	99.5			85-115	%REC	1	5/30/2014 01:26
Surr: Toluene-d8	98.8			85-110	%REC	1	5/30/2014 01:26
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/30/14	Analyst: JB	
BatchID: 59175							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/30/2014 10:45

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-031
Collection Date: 5/20/2014 02:30 PM

Work Order: 14051118
Lab ID: 14051118-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			SW7470			Prep: SW7470 / 5/27/14	Analyst: LR
<u>BatchID: 59038</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/27/2014 17:10
MERCURY BY CVAA (DISSOLVED)							
			SW7470			Prep: SW7470 / 5/27/14	Analyst: LR
<u>BatchID: 59038</u>							
Mercury	U		0.00010	0.00020	mg/L	1	5/27/2014 17:13
METALS BY ICP-MS							
			SW6020A			Prep: SW3005A / 5/27/14	Analyst: RH
<u>BatchID: 59035</u>							
Aluminum	0.0050	J	0.00078	0.050	mg/L	1	5/28/2014 04:55
Antimony	U		0.000036	0.0020	mg/L	1	5/28/2014 04:55
Arsenic	U		0.00058	0.0050	mg/L	1	5/28/2014 04:55
Barium	0.00028	J	0.000063	0.10	mg/L	1	5/28/2014 04:55
Beryllium	U		0.000082	0.0010	mg/L	1	5/28/2014 04:55
Cadmium	U		0.000045	0.0010	mg/L	1	5/28/2014 04:55
Chromium	U		0.00027	0.010	mg/L	1	5/28/2014 04:55
Cobalt	U		0.000041	0.020	mg/L	1	5/28/2014 04:55
Copper	0.00056	J	0.00053	0.0040	mg/L	1	5/28/2014 13:03
Iron	0.0084	J	0.0053	0.20	mg/L	1	5/28/2014 04:55
Lead	0.000054	J	0.000051	0.0030	mg/L	1	5/28/2014 04:55
Manganese	0.00025	J	0.000054	0.050	mg/L	1	5/28/2014 04:55
Nickel	U		0.00025	0.020	mg/L	1	5/28/2014 13:03
Selenium	U		0.00064	0.0050	mg/L	1	5/28/2014 04:55
Silver	U		0.000042	0.00020	mg/L	1	5/28/2014 04:55
Thallium	U		0.000062	0.0020	mg/L	1	5/28/2014 04:55
Vanadium	U		0.00016	0.0040	mg/L	1	5/28/2014 04:55
Zinc	0.00057	J	0.00048	0.050	mg/L	1	5/28/2014 04:55
METALS BY ICP-MS (DISSOLVED)							
			SW6020A			Prep: SW3005A / 5/27/14	Analyst: RH
<u>BatchID: 59035</u>							
Aluminum	0.0094	J	0.00078	0.050	mg/L	1	5/28/2014 05:25
Antimony	U		0.000036	0.0020	mg/L	1	5/28/2014 05:25
Arsenic	U		0.00058	0.0050	mg/L	1	5/28/2014 05:25
Barium	0.00035	J	0.000063	0.10	mg/L	1	5/28/2014 05:25
Beryllium	U		0.000082	0.0010	mg/L	1	5/28/2014 05:25
Cadmium	U		0.000045	0.0010	mg/L	1	5/28/2014 05:25
Chromium	U		0.00027	0.010	mg/L	1	5/28/2014 05:25
Cobalt	U		0.000041	0.020	mg/L	1	5/28/2014 05:25
Copper	U		0.00053	0.0040	mg/L	1	5/28/2014 17:32
Iron	0.013	J	0.0053	0.20	mg/L	1	5/28/2014 05:25

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-031
Collection Date: 5/20/2014 02:30 PM

Work Order: 14051118
Lab ID: 14051118-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Lead	0.000058	J	0.000051	0.0030	mg/L	1	5/28/2014 05:25
Manganese	0.00039	J	0.000054	0.050	mg/L	1	5/28/2014 05:25
Nickel	U		0.00025	0.020	mg/L	1	5/28/2014 17:32
Selenium	U		0.00064	0.0050	mg/L	1	5/28/2014 05:25
Silver	U		0.000042	0.00020	mg/L	1	5/28/2014 05:25
Thallium	U		0.000062	0.0020	mg/L	1	5/28/2014 05:25
Vanadium	U		0.00016	0.0040	mg/L	1	5/28/2014 05:25
Zinc	0.00087	J	0.00048	0.050	mg/L	1	5/28/2014 05:25

SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 5/23/14

Analyst: HL

BatchID: 58955

1,1'-Biphenyl	U		0.095	10	µg/L	1	5/23/2014 20:11
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	5/23/2014 20:11
2,4,6-Trichlorophenol	U		0.27	4.0	µg/L	1	5/23/2014 20:11
2,4-Dichlorophenol	U		0.22	10	µg/L	1	5/23/2014 20:11
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	5/23/2014 20:11
2,4-Dinitrophenol	U		0.67	25	µg/L	1	5/23/2014 20:11
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	5/23/2014 20:11
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	5/23/2014 20:11
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 20:11
2-Chlorophenol	U		0.32	10	µg/L	1	5/23/2014 20:11
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	5/23/2014 20:11
2-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 20:11
2-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 20:11
2-Nitrophenol	U		0.28	5.0	µg/L	1	5/23/2014 20:11
3,3'-Dichlorobenzidine	U		3.9	1.0	µg/L	1	5/23/2014 20:11
3-Nitroaniline	U		0.34	25	µg/L	1	5/23/2014 20:11
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	5/23/2014 20:11
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 20:11
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	5/23/2014 20:11
4-Chloroaniline	U		0.32	10	µg/L	1	5/23/2014 20:11
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	5/23/2014 20:11
4-Methylphenol	U		0.20	10	µg/L	1	5/23/2014 20:11
4-Nitroaniline	U		0.30	25	µg/L	1	5/23/2014 20:11
4-Nitrophenol	U		0.51	25	µg/L	1	5/23/2014 20:11
Acenaphthene	U		0.11	5.0	µg/L	1	5/23/2014 20:11
Acenaphthylene	U		0.12	5.0	µg/L	1	5/23/2014 20:11
Acetophenone	U		0.090	5.0	µg/L	1	5/23/2014 20:11
Anthracene	U		0.72	5.0	µg/L	1	5/23/2014 20:11
Atrazine	U		0.13	5.0	µg/L	1	5/23/2014 20:11

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-031
Collection Date: 5/20/2014 02:30 PM

Work Order: 14051118
Lab ID: 14051118-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		0.46	10	µg/L	1	5/23/2014 20:11
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	5/23/2014 20:11
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	5/23/2014 20:11
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	5/23/2014 20:11
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	5/23/2014 20:11
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	5/23/2014 20:11
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	5/23/2014 20:11
Bis(2-chloroethyl)ether	U		0.34	1.0	µg/L	1	5/23/2014 20:11
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	5/23/2014 20:11
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	5/23/2014 20:11
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	5/23/2014 20:11
Caprolactam	U		4.7	10	µg/L	1	5/23/2014 20:11
Carbazole	U		0.16	10	µg/L	1	5/23/2014 20:11
Chrysene	U		0.71	1.0	µg/L	1	5/23/2014 20:11
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	5/23/2014 20:11
Dibenzofuran	U		0.28	4.0	µg/L	1	5/23/2014 20:11
Diethyl phthalate	U		0.24	5.0	µg/L	1	5/23/2014 20:11
Dimethyl phthalate	U		0.27	5.0	µg/L	1	5/23/2014 20:11
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	5/23/2014 20:11
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	5/23/2014 20:11
Fluoranthene	U		0.77	1.0	µg/L	1	5/23/2014 20:11
Fluorene	U		0.10	5.0	µg/L	1	5/23/2014 20:11
Hexachlorobenzene	U		0.22	0.50	µg/L	1	5/23/2014 20:11
Hexachlorobutadiene	U		0.24	0.50	µg/L	1	5/23/2014 20:11
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	5/23/2014 20:11
Hexachloroethane	U		0.47	5.0	µg/L	1	5/23/2014 20:11
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	5/23/2014 20:11
Isophorone	U		0.30	5.0	µg/L	1	5/23/2014 20:11
Naphthalene	U		0.12	5.0	µg/L	1	5/23/2014 20:11
Nitrobenzene	U		0.33	3.0	µg/L	1	5/23/2014 20:11
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	5/23/2014 20:11
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	5/23/2014 20:11
Pentachlorophenol	U		0.22	1.0	µg/L	1	5/23/2014 20:11
Phenanthrene	U		0.86	2.0	µg/L	1	5/23/2014 20:11
Phenol	U		0.32	5.0	µg/L	1	5/23/2014 20:11
Pyrene	U		0.65	5.0	µg/L	1	5/23/2014 20:11
Surr: 2,4,6-Tribromophenol	71.8			32-115	%REC	1	5/23/2014 20:11
Surr: 2-Fluorobiphenyl	58.8			32-100	%REC	1	5/23/2014 20:11
Surr: 2-Fluorophenol	33.8			22-59	%REC	1	5/23/2014 20:11
Surr: 4-Terphenyl-d14	99.3			23-112	%REC	1	5/23/2014 20:11

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-031
Collection Date: 5/20/2014 02:30 PM

Work Order: 14051118
Lab ID: 14051118-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	58.1			31-93	%REC	1	5/23/2014 20:11
Surr: Phenol-d6	19.0			13-36	%REC	1	5/23/2014 20:11
VOLATILE ORGANIC COMPOUNDS			SW8260			Analyst: AK	
BatchID: R141659							
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	5/30/2014 01:50
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	5/30/2014 01:50
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	5/30/2014 01:50
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	5/30/2014 01:50
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	5/30/2014 01:50
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	5/30/2014 01:50
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 01:50
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	5/30/2014 01:50
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	5/30/2014 01:50
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	5/30/2014 01:50
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	5/30/2014 01:50
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	5/30/2014 01:50
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	5/30/2014 01:50
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	5/30/2014 01:50
2-Butanone	U		0.87	5.0	µg/L	1	5/30/2014 01:50
2-Hexanone	U		0.15	5.0	µg/L	1	5/30/2014 01:50
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	5/30/2014 01:50
Acetone	U		3.1	10	µg/L	1	5/30/2014 01:50
Benzene	U		0.25	1.0	µg/L	1	5/30/2014 01:50
Bromodichloromethane	U		0.16	1.0	µg/L	1	5/30/2014 01:50
Bromoform	U		0.099	1.0	µg/L	1	5/30/2014 01:50
Bromomethane	U		1.0	1.0	µg/L	1	5/30/2014 01:50
Carbon disulfide	U		0.26	1.0	µg/L	1	5/30/2014 01:50
Carbon tetrachloride	U		0.14	1.0	µg/L	1	5/30/2014 01:50
Chlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 01:50
Chloroethane	U		0.21	1.0	µg/L	1	5/30/2014 01:50
Chloroform	U		0.25	1.0	µg/L	1	5/30/2014 01:50
Chloromethane	U		0.25	1.0	µg/L	1	5/30/2014 01:50
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	5/30/2014 01:50
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	5/30/2014 01:50
Cyclohexane	U		0.31	1.0	µg/L	1	5/30/2014 01:50
Dibromochloromethane	U		0.17	1.0	µg/L	1	5/30/2014 01:50
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	5/30/2014 01:50
Ethylbenzene	U		0.22	1.0	µg/L	1	5/30/2014 01:50
Isopropylbenzene	U		0.25	1.0	µg/L	1	5/30/2014 01:50

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: W-R2330012-052014-ACN-031
Collection Date: 5/20/2014 02:30 PM

Work Order: 14051118
Lab ID: 14051118-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	U		0.62	2.0	µg/L	1	5/30/2014 01:50
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	5/30/2014 01:50
Methylcyclohexane	U		0.32	1.0	µg/L	1	5/30/2014 01:50
Methylene chloride	U		0.64	5.0	µg/L	1	5/30/2014 01:50
Styrene	U		0.18	1.0	µg/L	1	5/30/2014 01:50
Tetrachloroethene	U		0.25	1.0	µg/L	1	5/30/2014 01:50
Toluene	0.40	J	0.20	1.0	µg/L	1	5/30/2014 01:50
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	5/30/2014 01:50
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	5/30/2014 01:50
Trichloroethene	U		0.34	1.0	µg/L	1	5/30/2014 01:50
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	5/30/2014 01:50
Vinyl chloride	U		0.19	1.0	µg/L	1	5/30/2014 01:50
Xylenes, Total	U		0.62	3.0	µg/L	1	5/30/2014 01:50
Surr: 1,2-Dichloroethane-d4	95.6			75-120	%REC	1	5/30/2014 01:50
Surr: 4-Bromofluorobenzene	100			80-110	%REC	1	5/30/2014 01:50
Surr: Dibromofluoromethane	97.9			85-115	%REC	1	5/30/2014 01:50
Surr: Toluene-d8	99.9			85-110	%REC	1	5/30/2014 01:50
CYANIDE, AMENABLE			SW9012A		Prep: SW9012A / 5/30/14		Analyst: JB
BatchID: 59175							
Cyanide, Amenable	U		0.0010	0.0050	mg/L	1	5/30/2014 10:45

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 5/19/2014

Work Order: 14051118
Lab ID: 14051118-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260				Analyst: AK
<u>BatchID: R141660</u>							
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	5/30/2014 12:57
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	5/30/2014 12:57
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	5/30/2014 12:57
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	5/30/2014 12:57
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	5/30/2014 12:57
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	5/30/2014 12:57
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 12:57
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	5/30/2014 12:57
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	5/30/2014 12:57
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	5/30/2014 12:57
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	5/30/2014 12:57
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	5/30/2014 12:57
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	5/30/2014 12:57
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	5/30/2014 12:57
2-Butanone	U		0.87	5.0	µg/L	1	5/30/2014 12:57
2-Hexanone	U		0.15	5.0	µg/L	1	5/30/2014 12:57
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	5/30/2014 12:57
Acetone	U		3.1	10	µg/L	1	5/30/2014 12:57
Benzene	U		0.25	1.0	µg/L	1	5/30/2014 12:57
Bromodichloromethane	U		0.16	1.0	µg/L	1	5/30/2014 12:57
Bromoform	U		0.099	1.0	µg/L	1	5/30/2014 12:57
Bromomethane	U		1.0	1.0	µg/L	1	5/30/2014 12:57
Carbon disulfide	U		0.26	1.0	µg/L	1	5/30/2014 12:57
Carbon tetrachloride	U		0.14	1.0	µg/L	1	5/30/2014 12:57
Chlorobenzene	U		0.19	1.0	µg/L	1	5/30/2014 12:57
Chloroethane	U		0.21	1.0	µg/L	1	5/30/2014 12:57
Chloroform	0.68	J	0.25	1.0	µg/L	1	5/30/2014 12:57
Chloromethane	U		0.25	1.0	µg/L	1	5/30/2014 12:57
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	5/30/2014 12:57
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	5/30/2014 12:57
Cyclohexane	U		0.31	1.0	µg/L	1	5/30/2014 12:57
Dibromochloromethane	U		0.17	1.0	µg/L	1	5/30/2014 12:57
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	5/30/2014 12:57
Ethylbenzene	U		0.22	1.0	µg/L	1	5/30/2014 12:57
Isopropylbenzene	U		0.25	1.0	µg/L	1	5/30/2014 12:57
Methyl acetate	U		0.62	2.0	µg/L	1	5/30/2014 12:57
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	5/30/2014 12:57

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

ALS Group USA, Corp

Date: 30-May-14

Client: The Mannik & Smith Group, Inc.
Project: RACER - Van Buren Landfill (R2330012)
Sample ID: Trip Blank
Collection Date: 5/19/2014

Work Order: 14051118
Lab ID: 14051118-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.32	1.0	µg/L	1	5/30/2014 12:57
Methylene chloride	0.68	J	0.64	5.0	µg/L	1	5/30/2014 12:57
Styrene	U		0.18	1.0	µg/L	1	5/30/2014 12:57
Tetrachloroethene	U		0.25	1.0	µg/L	1	5/30/2014 12:57
Toluene	U		0.20	1.0	µg/L	1	5/30/2014 12:57
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	5/30/2014 12:57
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	5/30/2014 12:57
Trichloroethene	U		0.34	1.0	µg/L	1	5/30/2014 12:57
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	5/30/2014 12:57
Vinyl chloride	U		0.19	1.0	µg/L	1	5/30/2014 12:57
Xylenes, Total	U		0.62	3.0	µg/L	1	5/30/2014 12:57
Surr: 1,2-Dichloroethane-d4	97.2			75-120	%REC	1	5/30/2014 12:57
Surr: 4-Bromofluorobenzene	96.6			80-110	%REC	1	5/30/2014 12:57
Surr: Dibromofluoromethane	98.6			85-115	%REC	1	5/30/2014 12:57
Surr: Toluene-d8	97.9			85-110	%REC	1	5/30/2014 12:57

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

Client: The Mannik & Smith Group, Inc.

Work Order: 14051118

Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58977**

Instrument ID **HG1**

Method: **SW7470**

MBLK		Sample ID: MBLK-58977-58977				Units: mg/L		Analysis Date: 5/23/2014 07:04 PM		
Client ID:		Run ID: HG1_140523A				SeqNo: 2778382		Prep Date: 5/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS		Sample ID: LCS-58977-58977				Units: mg/L		Analysis Date: 5/23/2014 07:07 PM		
Client ID:		Run ID: HG1_140523A				SeqNo: 2778383		Prep Date: 5/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.00188 0.00020 0.002 0 94 80-120 0

MS		Sample ID: 14051118-06DMS				Units: mg/L		Analysis Date: 5/23/2014 07:49 PM		
Client ID: W-R2330012-051914-ACN-025		Run ID: HG1_140523A				SeqNo: 2778398		Prep Date: 5/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001942 0.00020 0.002 0.000039 95.2 75-125 0

MSD		Sample ID: 14051118-06DMSD				Units: mg/L		Analysis Date: 5/23/2014 07:51 PM		
Client ID: W-R2330012-051914-ACN-025		Run ID: HG1_140523A				SeqNo: 2778399		Prep Date: 5/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002051 0.00020 0.002 0.000039 101 75-125 0.001942 5.46 20

The following samples were analyzed in this batch:

14051118-01D	14051118-01E	14051118-02D
14051118-02E	14051118-03D	14051118-03E
14051118-04D	14051118-04E	14051118-05D
14051118-05E	14051118-06D	14051118-06E
14051118-07D	14051118-07E	14051118-08D
14051118-08E	14051118-09D	14051118-09E
14051118-10D	14051118-10E	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **59038** Instrument ID **HG1** Method: **SW7470**

MBLK		Sample ID: MBLK-59038-59038				Units: mg/L		Analysis Date: 5/27/2014 04:37 PM		
Client ID:		Run ID: HG1_140527A				SeqNo: 2782013		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

LCS		Sample ID: LCS-59038-59038				Units: mg/L		Analysis Date: 5/27/2014 04:39 PM		
Client ID:		Run ID: HG1_140527A				SeqNo: 2782014		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.002045 0.00020 0.002 0 102 80-120 0

MS		Sample ID: 14051021-02AMS					Units: mg/L		Analysis Date: 5/27/2014 04:51 PM		
Client ID:			Run ID: HG1_140527A			SeqNo: 2782019		Prep Date: 5/27/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.02032 0.0020 0.02 0.0002 101 75-125 0

MSD		Sample ID: 14051021-02AMSD				Units: mg/L		Analysis Date: 5/27/2014 04:53 PM		
Client ID:		Run ID: HG1_140527A			SeqNo: 2782020		Prep Date: 5/27/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.02055 0.0020 0.02 0.0002 102 75-125 0.02032 1.13 20

The following samples were analyzed in this batch:

14051118-11D	14051118-11E	14051118-12D
14051118-12E		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58997** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-58997-58997				Units: mg/L		Analysis Date: 5/27/2014 06:10 PM			
Client ID:			Run ID: ICPMS1_140527A			SeqNo: 2782664		Prep Date: 5/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	U	0.010									
Antimony	U	0.0050									
Arsenic	U	0.0050									
Barium	U	0.0050									
Beryllium	U	0.0020									
Cadmium	U	0.0020									
Chromium	U	0.0050									
Cobalt	U	0.0050									
Copper	U	0.0050									
Iron	U	0.080									
Lead	U	0.0050									
Manganese	U	0.0050									
Nickel	U	0.0050									
Selenium	U	0.0050									
Silver	U	0.0050									
Thallium	U	0.0050									
Vanadium	U	0.0050									

MBLK		Sample ID: MBLK-58997-58997				Units: mg/L		Analysis Date: 5/28/2014 05:56 PM		
Client ID:		Run ID: ICPMS1_140528A				SeqNo: 2784690		Prep Date: 5/24/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	0.003354	0.010								J

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58997** Instrument ID **ICPMS1** Method: **SW6020A**

LCS		Sample ID: LCS-58997-58997				Units: mg/L		Analysis Date: 5/27/2014 06:16 PM		
Client ID:		Run ID: ICPMS1_140527A				SeqNo: 2782666		Prep Date: 5/24/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1064	0.010	0.1	0	106	80-120	0			
Antimony	0.0955	0.0050	0.1	0	95.5	80-120	0			
Arsenic	0.0969	0.0050	0.1	0	96.9	80-120	0			
Barium	0.09512	0.0050	0.1	0	95.1	80-120	0			
Beryllium	0.09777	0.0020	0.1	0	97.8	80-120	0			
Cadmium	0.09724	0.0020	0.1	0	97.2	80-120	0			
Chromium	0.09857	0.0050	0.1	0	98.6	80-120	0			
Cobalt	0.09679	0.0050	0.1	0	96.8	80-120	0			
Copper	0.09714	0.0050	0.1	0	97.1	80-120	0			
Iron	9.86	0.080	10	0	98.6	80-120	0			
Lead	0.0905	0.0050	0.1	0	90.5	80-120	0			
Manganese	0.0975	0.0050	0.1	0	97.5	80-120	0			
Nickel	0.0968	0.0050	0.1	0	96.8	80-120	0			
Selenium	0.1014	0.0050	0.1	0	101	80-120	0			
Silver	0.09244	0.0050	0.1	0	92.4	80-120	0			
Thallium	0.08779	0.0050	0.1	0	87.8	80-120	0			
Vanadium	0.1008	0.0050	0.1	0	101	80-120	0			

LCS		Sample ID: LCS-58997-58997				Units: mg/L		Analysis Date: 5/28/2014 06:02 PM		
Client ID:		Run ID: ICPMS1_140528A				SeqNo: 2784691		Prep Date: 5/24/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	0.09898	0.010	0.1	0	99	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58997** Instrument ID **ICPMS1** Method: **SW6020A**

MS				Sample ID: 14051118-06EMS			Units: mg/L		Analysis Date: 5/27/2014 10:16 PM		
Client ID: W-R2330012-051914-ACN-025			Run ID: ICPMS1_140527A		SeqNo: 2782735		Prep Date: 5/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1789	0.010	0.1	0.05089	128	75-125		0		S	
Antimony	0.09679	0.0050	0.1	0.0002138	96.6	75-125		0			
Arsenic	0.09919	0.0050	0.1	0.0006284	98.6	75-125		0			
Barium	0.1656	0.0050	0.1	0.06796	97.6	75-125		0			
Beryllium	0.09502	0.0020	0.1	-0.0000566	95.1	75-125		0			
Cadmium	0.09626	0.0020	0.1	0.00002643	96.2	75-125		0			
Chromium	0.09814	0.0050	0.1	0.00009558	98	75-125		0			
Cobalt	0.09654	0.0050	0.1	0.0005882	96	75-125		0			
Copper	0.09807	0.0050	0.1	0.003746	94.3	75-125		0			
Iron	9.842	0.080	10	0.108	97.3	75-125		0			
Lead	0.09144	0.0050	0.1	0.000247	91.2	75-125		0			
Manganese	0.2437	0.0050	0.1	0.1464	97.3	75-125		0			
Nickel	0.09872	0.0050	0.1	0.002299	96.4	75-125		0			
Selenium	0.09829	0.0050	0.1	0.001699	96.6	75-125		0			
Silver	0.09266	0.0050	0.1	-0.0000187	92.7	75-125		0			
Vanadium	0.1009	0.0050	0.1	0.0003504	101	75-125		0			
Zinc	0.08873	0.010	0.1	0.002213	86.5	75-125		0			

MS				Sample ID: 14051118-06EMS			Units: mg/L		Analysis Date: 5/28/2014 06:33 PM		
Client ID: W-R2330012-051914-ACN-025			Run ID: ICPMS1_140528A			SeqNo: 2784696		Prep Date: 5/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Thallium	0.09391	0.0050	0.1	0	93.9	75-125	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58997** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 14051118-06EMSD			Units: mg/L		Analysis Date: 5/27/2014 10:22 PM		
Client ID: W-R2330012-051914-ACN-025			Run ID: ICPMS1_140527A		SeqNo: 2782737		Prep Date: 5/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	0.1768	0.010	0.1	0.05089	126	75-125	0.1789	1.18	20	S	
Antimony	0.09426	0.0050	0.1	0.0002138	94	75-125	0.09679	2.65	20		
Arsenic	0.09672	0.0050	0.1	0.0006284	96.1	75-125	0.09919	2.52	20		
Barium	0.1606	0.0050	0.1	0.06796	92.6	75-125	0.1656	3.07	20		
Beryllium	0.09133	0.0020	0.1	-0.0000566	91.4	75-125	0.09502	3.96	20		
Cadmium	0.0946	0.0020	0.1	0.00002643	94.6	75-125	0.09626	1.74	20		
Chromium	0.09529	0.0050	0.1	0.00009558	95.2	75-125	0.09814	2.95	20		
Cobalt	0.09362	0.0050	0.1	0.0005882	93	75-125	0.09654	3.07	20		
Copper	0.09532	0.0050	0.1	0.003746	91.6	75-125	0.09807	2.84	20		
Iron	9.489	0.080	10	0.108	93.8	75-125	9.842	3.65	20		
Lead	0.08889	0.0050	0.1	0.000247	88.6	75-125	0.09144	2.83	20		
Manganese	0.2374	0.0050	0.1	0.1464	91	75-125	0.2437	2.62	20		
Nickel	0.09371	0.0050	0.1	0.002299	91.4	75-125	0.09872	5.21	20		
Selenium	0.09403	0.0050	0.1	0.001699	92.3	75-125	0.09829	4.43	20		
Silver	0.09001	0.0050	0.1	-0.0000187	90	75-125	0.09266	2.9	20		
Vanadium	0.09733	0.0050	0.1	0.0003504	97	75-125	0.1009	3.6	20		
Zinc	0.08675	0.010	0.1	0.002213	84.5	75-125	0.08873	2.26	20		

MSD				Sample ID: 14051118-06EMSD				Units: mg/L			Analysis Date: 5/28/2014 06:39 PM			
Client ID: W-R2330012-051914-ACN-025				Run ID: ICPMS1_140528A				SeqNo: 2784697			Prep Date: 5/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Thallium	0.0936	0.0050	0.1	0	93.6	75-125	0.09391	0.331	20					

The following samples were analyzed in this batch:

14051118-01D	14051118-01E	14051118-02D
14051118-02E	14051118-03D	14051118-03E
14051118-04D	14051118-04E	14051118-05D
14051118-05E	14051118-06D	14051118-06E
14051118-07D	14051118-07E	14051118-08D
14051118-08E	14051118-09D	14051118-09E
14051118-10D	14051118-10E	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **59035** Instrument ID **ICPMS2** Method: **SW6020A**

MBLK		Sample ID: MBLK-59035-59035				Units: mg/L		Analysis Date: 5/28/2014 02:13 AM		
Client ID:		Run ID: ICPMS2_140527A				SeqNo: 2782508		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.001314	0.010								J
Antimony	0.00004145	0.0050								J
Arsenic	U	0.0050								
Barium	U	0.0050								
Beryllium	U	0.0020								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Cobalt	U	0.0050								
Iron	U	0.080								
Lead	U	0.0050								
Manganese	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								
Thallium	U	0.0050								
Vanadium	U	0.0050								
Zinc	U	0.010								

MBLK		Sample ID: MBLK-59035-59035				Units: mg/L		Analysis Date: 5/28/2014 12:28 PM		
Client ID:		Run ID: ICPMS2_140527A				SeqNo: 2783395		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	U	0.0050								
Nickel	U	0.0050								

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **59035** Instrument ID **ICPMS2** Method: **SW6020A**

LCS		Sample ID: LCS-59035-59035				Units: mg/L		Analysis Date: 5/28/2014 02:19 AM		
Client ID:		Run ID: ICPMS2_140527A				SeqNo: 2782509		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09266	0.010	0.1	0	92.7	80-120	0			
Antimony	0.09338	0.0050	0.1	0	93.4	80-120	0			
Arsenic	0.09203	0.0050	0.1	0	92	80-120	0			
Barium	0.09037	0.0050	0.1	0	90.4	80-120	0			
Beryllium	0.08984	0.0020	0.1	0	89.8	80-120	0			
Cadmium	0.09079	0.0020	0.1	0	90.8	80-120	0			
Chromium	0.09636	0.0050	0.1	0	96.4	80-120	0			
Cobalt	0.09339	0.0050	0.1	0	93.4	80-120	0			
Iron	9.506	0.080	10	0	95.1	80-120	0			
Lead	0.08788	0.0050	0.1	0	87.9	80-120	0			
Manganese	0.09435	0.0050	0.1	0	94.4	80-120	0			
Selenium	0.08938	0.0050	0.1	0	89.4	80-120	0			
Silver	0.09407	0.0050	0.1	0	94.1	80-120	0			
Thallium	0.09448	0.0050	0.1	0	94.5	80-120	0			
Vanadium	0.1012	0.0050	0.1	0	101	80-120	0			
Zinc	0.09626	0.010	0.1	0	96.3	80-120	0			

LCS		Sample ID: LCS-59035-59035				Units: mg/L		Analysis Date: 5/28/2014 12:34 PM		
Client ID:		Run ID: ICPMS2_140527A				SeqNo: 2783397		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	0.09172	0.0050	0.1	0	91.7	80-120	0			
Nickel	0.09101	0.0050	0.1	0	91	80-120	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **59035** Instrument ID **ICPMS2** Method: **SW6020A**

MS		Sample ID: 1405998-08AMS				Units: mg/L		Analysis Date: 5/28/2014 03:38 AM		
Client ID:		Run ID: ICPMS2_140527A				SeqNo: 2782521		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	1.877	0.10	2	0.09556	89.1	75-125	0			
Antimony	2.352	0.050	2	0.0007853	118	75-125	0			
Arsenic	1.925	0.050	2	-0.003675	96.4	75-125	0			
Barium	1.881	0.050	2	0.04963	91.6	75-125	0			
Beryllium	1.888	0.020	2	-4.471E-05	94.4	75-125	0			
Cadmium	1.792	0.020	2	0.0005008	89.6	75-125	0			
Chromium	1.874	0.050	2	0.002291	93.6	75-125	0			
Cobalt	1.814	0.050	2	0.0006528	90.7	75-125	0			
Iron	185.8	0.80	200	0.1455	92.8	75-125	0			
Lead	2.01	0.050	2	0.005971	100	75-125	0			
Manganese	1.881	0.050	2	0.02938	92.6	75-125	0			
Selenium	1.915	0.050	2	0.0008861	95.7	75-125	0			
Silver	1.789	0.050	2	-7.994E-05	89.5	75-125	0			
Thallium	1.899	0.050	2	-0.0006777	95	75-125	0			
Vanadium	1.996	0.050	2	0.001467	99.7	75-125	0			
Zinc	4.144	0.10	2	1.25	145	75-125	0			S

MS		Sample ID: 1405998-08AMS				Units: mg/L		Analysis Date: 5/28/2014 12:40 PM		
Client ID:		Run ID: ICPMS2_140527A				SeqNo: 2783399		Prep Date: 5/27/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	2.52	0.050	2	0	126	75-125	0			S
Nickel	2.529	0.050	2	0	126	75-125	0			S

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **59035** Instrument ID **ICPMS2** Method: **SW6020A**

MSD				Sample ID: 1405998-08AMSD			Units: mg/L		Analysis Date: 5/28/2014 04:01 AM		
Client ID:			Run ID: ICPMS2_140527A			SeqNo: 2782525		Prep Date: 5/27/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	1.819	0.10	2	0.09556	86.2	75-125	1.877	3.14	20		
Antimony	2.322	0.050	2	0.0007853	116	75-125	2.352	1.28	20		
Arsenic	1.897	0.050	2	-0.003675	95	75-125	1.925	1.47	20		
Barium	1.833	0.050	2	0.04963	89.2	75-125	1.881	2.58	20		
Beryllium	1.841	0.020	2	-4.471E-05	92.1	75-125	1.888	2.52	20		
Cadmium	1.753	0.020	2	0.0005008	87.6	75-125	1.792	2.2	20		
Chromium	1.844	0.050	2	0.002291	92.1	75-125	1.874	1.61	20		
Cobalt	1.772	0.050	2	0.0006528	88.6	75-125	1.814	2.34	20		
Iron	183.3	0.80	200	0.1455	91.6	75-125	185.8	1.35	20		
Lead	1.975	0.050	2	0.005971	98.5	75-125	2.01	1.76	20		
Manganese	1.836	0.050	2	0.02938	90.3	75-125	1.881	2.42	20		
Selenium	1.865	0.050	2	0.0008861	93.2	75-125	1.915	2.65	20		
Silver	1.759	0.050	2	-7.994E-05	88	75-125	1.789	1.69	20		
Thallium	1.873	0.050	2	-0.0006777	93.7	75-125	1.899	1.38	20		
Vanadium	1.968	0.050	2	0.001467	98.3	75-125	1.996	1.41	20		
Zinc	4.081	0.10	2	1.25	142	75-125	4.144	1.53	20	S	

MSD				Sample ID: 1405998-08AMSD				Units: mg/L			Analysis Date: 5/28/2014 12:46 PM			
Client ID:				Run ID: ICPMS2_140527A				SeqNo: 2783400			Prep Date: 5/27/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Copper		2.493	0.050	2	0	125	75-125	2.52	1.08	20				
Nickel		2.474	0.050	2	0	124	75-125	2.529	2.2	20				

The following samples were analyzed in this batch:

14051118-11D	14051118-11E	14051118-12D
14051118-12E		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58901** Instrument ID **SVMS7** Method: **SW8270**

MBLK				Sample ID: SBLKW1-58901-58901		Units: µg/L		Analysis Date: 5/23/2014 09:50 AM			
Client ID:			Run ID: SVMS7_140523A			SeqNo: 2781283		Prep Date: 5/22/2014		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	1.0									
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: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58901	Instrument ID SVMS7	Method: SW8270						
Chrysene	U	5.0						
Dibenzo(a,h)anthracene	U	5.0						
Dibenzofuran	U	5.0						
Diethyl phthalate	1.05	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>	35.32	0	50	0	70.6	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	31.88	0	50	0	63.8	32-100	0	
<i>Surr: 2-Fluorophenol</i>	21.09	0	50	0	42.2	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	47.53	0	50	0	95.1	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	31.02	0	50	0	62	31-93	0	
<i>Surr: Phenol-d6</i>	10.15	0	50	0	20.3	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58901** Instrument ID **SVMS7** Method: **SW8270**

LCS		Sample ID: SLCSW1-58901-58901				Units: µg/L		Analysis Date: 5/23/2014 09:28 AM		
Client ID:		Run ID: SVMS7_140523A				SeqNo: 2781282		Prep Date: 5/22/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	13.74	5.0	20	0	68.7	50-110	0			
2,4,6-Trichlorophenol	12.9	5.0	20	0	64.5	50-115	0			
2,4-Dichlorophenol	14.48	10	20	0	72.4	50-105	0			
2,4-Dimethylphenol	11.28	5.0	20	0	56.4	30-110	0			
2,4-Dinitrophenol	14.72	5.0	20	0	73.6	15-140	0			
2,4-Dinitrotoluene	17.32	5.0	20	0	86.6	50-120	0			
2,6-Dinitrotoluene	16.43	5.0	20	0	82.2	50-115	0			
2-Chloronaphthalene	14.26	5.0	20	0	71.3	50-105	0			
2-Chlorophenol	14.12	5.0	20	0	70.6	35-105	0			
2-Methylnaphthalene	14.36	5.0	20	0	71.8	45-105	0			
2-Methylphenol	11.1	5.0	20	0	55.5	40-110	0			
2-Nitroaniline	13.22	20	20	0	66.1	50-115	0			J
2-Nitrophenol	13.27	5.0	20	0	66.4	40-115	0			
3-Nitroaniline	15.42	20	20	0	77.1	20-125	0			J
4,6-Dinitro-2-methylphenol	14.83	20	20	0	74.2	40-130	0			J
4-Bromophenyl phenyl ether	16.6	5.0	20	0	83	50-115	0			
4-Chloro-3-methylphenol	13.15	5.0	20	0	65.8	45-110	0			
4-Chloroaniline	14.8	20	20	0	74	15-110	0			J
4-Chlorophenyl phenyl ether	14.32	5.0	20	0	71.6	50-110	0			
4-Methylphenol	9.18	5.0	20	0	45.9	30-110	0			
4-Nitroaniline	14.54	20	20	0	72.7	35-150	0			J
4-Nitrophenol	4.96	20	20	0	24.8	1-58	0			J
Acenaphthene	14.28	5.0	20	0	71.4	45-110	0			
Acenaphthylene	14.31	5.0	20	0	71.6	50-105	0			
Anthracene	15.32	5.0	20	0	76.6	55-110	0			
Benzo(a)anthracene	15.02	5.0	20	0	75.1	55-110	0			
Benzo(a)pyrene	15.03	5.0	20	0	75.2	55-110	0			
Benzo(b)fluoranthene	16.18	5.0	20	0	80.9	45-120	0			
Benzo(g,h,i)perylene	19.9	5.0	20	0	99.5	40-125	0			
Benzo(k)fluoranthene	16.52	5.0	20	0	82.6	45-125	0			
Bis(2-chloroethoxy)methane	13.59	5.0	20	0	68	45-105	0			
Bis(2-chloroethyl)ether	13.97	5.0	20	0	69.8	35-110	0			
Bis(2-chloroisopropyl)ether	13.54	5.0	20	0	67.7	25-130	0			
Bis(2-ethylhexyl)phthalate	15.92	5.0	20	0	79.6	40-125	0			
Butyl benzyl phthalate	13.81	5.0	20	0	69	45-115	0			
Carbazole	16.27	10	20	0	81.4	50-150	0			
Chrysene	16.3	5.0	20	0	81.5	55-110	0			
Dibenzo(a,h)anthracene	16.34	5.0	20	0	81.7	40-125	0			
Dibenzofuran	13.32	5.0	20	0	66.6	55-105	0			
Diethyl phthalate	14.81	20	20	0	74	40-120	0			J
Dimethyl phthalate	15.09	20	20	0	75.4	25-125	0			J
Di-n-butyl phthalate	14.9	5.0	20	0	74.5	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58901		Instrument ID SVMS7		Method: SW8270				
Di-n-octyl phthalate	17.97	5.0	20	0	89.8	35-135	0	
Fluoranthene	16.93	5.0	20	0	84.6	55-115	0	
Fluorene	13.78	5.0	20	0	68.9	50-110	0	
Hexachlorobenzene	15.89	5.0	20	0	79.4	50-110	0	
Hexachlorobutadiene	13.44	5.0	20	0	67.2	25-105	0	
Hexachlorocyclopentadiene	8.46	20	20	0	42.3	25-105	0	J
Hexachloroethane	14.55	5.0	20	0	72.8	30-95	0	
Indeno(1,2,3-cd)pyrene	16.6	5.0	20	0	83	45-125	0	
Isophorone	13.88	5.0	20	0	69.4	50-110	0	
Naphthalene	13.57	5.0	20	0	67.8	40-100	0	
Nitrobenzene	13.76	5.0	20	0	68.8	45-110	0	
N-Nitrosodi-n-propylamine	14.24	5.0	20	0	71.2	35-130	0	
N-Nitrosodiphenylamine	16.11	5.0	20	0	80.6	50-110	0	
Pentachlorophenol	11.7	20	20	0	58.5	40-115	0	J
Phenanthrene	14.1	5.0	20	0	70.5	50-115	0	
Phenol	6.05	5.0	20	0	30.2	12-43	0	
Pyrene	17.47	5.0	20	0	87.4	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	38.67	0	50	0	77.3	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	33.07	0	50	0	66.1	32-100	0	
<i>Surr: 2-Fluorophenol</i>	23.19	0	50	0	46.4	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	48.06	0	50	0	96.1	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	37.94	0	50	0	75.9	31-93	0	
<i>Surr: Phenol-d6</i>	12.42	0	50	0	24.8	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58901** Instrument ID **SVMS7** Method: **SW8270**

MS				Sample ID: 14051050-01C MS			Units: µg/L		Analysis Date: 5/23/2014 12:52 PM		
Client ID:			Run ID: SVMS7_140523A			SeqNo: 2781284		Prep Date: 5/22/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	120.8	50	200	0	60.4	50-110	0				
2,4,6-Trichlorophenol	122	50	200	0	61	50-115	0				
2,4-Dichlorophenol	126.8	100	200	0	63.4	50-105	0				
2,4-Dimethylphenol	95.2	50	200	0	47.6	30-110	0				
2,4-Dinitrophenol	156.2	50	200	0	78.1	15-140	0				
2,4-Dinitrotoluene	169.6	50	200	0	84.8	50-120	0				
2,6-Dinitrotoluene	162.5	50	200	0	81.2	50-115	0				
2-Chloronaphthalene	117.7	50	200	0	58.8	50-105	0				
2-Chlorophenol	127.6	50	200	0	63.8	35-105	0				
2-Methylnaphthalene	131.6	50	200	0	65.8	45-105	0				
2-Methylphenol	101.5	50	200	0	50.8	40-110	0				
2-Nitroaniline	136	200	200	0	68	50-115	0			J	
2-Nitrophenol	115.2	50	200	0	57.6	40-115	0				
3-Nitroaniline	132.5	200	200	0	66.2	20-125	0			J	
4,6-Dinitro-2-methylphenol	159.5	200	200	0	79.8	40-130	0			J	
4-Bromophenyl phenyl ether	143.9	50	200	0	72	50-115	0				
4-Chloro-3-methylphenol	136.5	50	200	0	68.2	45-110	0				
4-Chloroaniline	130.3	200	200	0	65.2	15-110	0			J	
4-Chlorophenyl phenyl ether	140.1	50	200	0	70	50-110	0				
4-Methylphenol	102.3	50	200	0	51.2	30-110	0				
4-Nitroaniline	143.2	200	200	0	71.6	35-150	0			J	
4-Nitrophenol	41.1	200	200	0	20.6	1-58	0			J	
Acenaphthene	120.6	50	200	0	60.3	45-110	0				
Acenaphthylene	126.2	50	200	0	63.1	50-105	0				
Anthracene	147.7	50	200	0	73.8	55-110	0				
Benzo(a)anthracene	150.1	50	200	0	75	55-110	0				
Benzo(a)pyrene	145.7	50	200	0	72.8	55-110	0				
Benzo(b)fluoranthene	154.4	50	200	0	77.2	45-120	0				
Benzo(g,h,i)perylene	165	50	200	0	82.5	40-125	0				
Benzo(k)fluoranthene	159.9	50	200	0	80	45-125	0				
Bis(2-chloroethoxy)methane	120	50	200	0	60	45-105	0				
Bis(2-chloroethyl)ether	109.8	50	200	0	54.9	35-110	0				
Bis(2-chloroisopropyl)ether	118.1	50	200	0	59	25-130	0				
Bis(2-ethylhexyl)phthalate	166	50	200	0	83	40-125	0				
Butyl benzyl phthalate	144.8	50	200	0	72.4	45-115	0				
Carbazole	152.9	100	200	0	76.4	50-150	0				
Chrysene	153.1	50	200	0	76.6	55-110	0				
Dibenzo(a,h)anthracene	145.7	50	200	0	72.8	40-125	0				
Dibenzofuran	118.7	50	200	0	59.4	55-105	0				
Diethyl phthalate	148.1	200	200	0	74	40-120	0			J	
Dimethyl phthalate	155.6	200	200	0	77.8	25-125	0			J	
Di-n-butyl phthalate	153.6	50	200	0	76.8	55-115	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58901	Instrument ID SVMS7			Method: SW8270			
Di-n-octyl phthalate	195.9	50	200	0	98	35-135	0
Fluoranthene	167.7	50	200	0	83.8	55-115	0
Fluorene	125.4	50	200	0	62.7	50-110	0
Hexachlorobenzene	141.8	50	200	0	70.9	50-110	0
Hexachlorobutadiene	113.6	50	200	0	56.8	25-105	0
Hexachlorocyclopentadiene	68.1	200	200	0	34	25-105	0
Hexachloroethane	120.8	50	200	0	60.4	30-95	0
Indeno(1,2,3-cd)pyrene	140.2	50	200	0	70.1	45-125	0
Isophorone	125.6	50	200	0	62.8	50-110	0
Naphthalene	111.2	50	200	0	55.6	40-100	0
Nitrobenzene	127.9	50	200	0	64	45-110	0
N-Nitrosodi-n-propylamine	128.4	50	200	0	64.2	35-130	0
N-Nitrosodiphenylamine	148.9	50	200	0	74.4	50-110	0
Pentachlorophenol	153.1	200	200	0	76.6	40-115	0
Phenanthrene	132.9	50	200	0	66.4	50-115	0
Phenol	50	50	200	0	25	12-43	0
Pyrene	158.7	50	200	0	79.4	50-130	0
Surr: 2,4,6-Tribromophenol	341.4	0	500	0	68.3	38-115	0
Surr: 2-Fluorobiphenyl	269.6	0	500	0	53.9	32-100	0
Surr: 2-Fluorophenol	189.4	0	500	0	37.9	22-59	0
Surr: 4-Terphenyl-d14	456.2	0	500	0	91.2	23-112	0
Surr: Nitrobenzene-d5	327.5	0	500	0	65.5	31-93	0
Surr: Phenol-d6	101.5	0	500	0	20.3	13-36	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58901** Instrument ID **SVMS7** Method: **SW8270**

MSD				Sample ID: 14051050-01C MSD			Units: µg/L		Analysis Date: 5/23/2014 01:14 PM		
Client ID:		Run ID: SVMS7_140523A			SeqNo: 2781285		Prep Date: 5/22/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	124.5	50	200	0	62.2	50-110	120.8	3.02	30		
2,4,6-Trichlorophenol	110.3	50	200	0	55.2	50-115	122	10.1	30		
2,4-Dichlorophenol	125.2	100	200	0	62.6	50-105	126.8	1.27	30		
2,4-Dimethylphenol	100.9	50	200	0	50.4	30-110	95.2	5.81	30		
2,4-Dinitrophenol	149.9	50	200	0	75	15-140	156.2	4.12	30		
2,4-Dinitrotoluene	155.5	50	200	0	77.8	50-120	169.6	8.67	30		
2,6-Dinitrotoluene	152.5	50	200	0	76.2	50-115	162.5	6.35	30		
2-Chloronaphthalene	114.7	50	200	0	57.4	50-105	117.7	2.58	30		
2-Chlorophenol	125.4	50	200	0	62.7	35-105	127.6	1.74	30		
2-Methylnaphthalene	117.3	50	200	0	58.6	45-105	131.6	11.5	30		
2-Methylphenol	92.1	50	200	0	46	40-110	101.5	9.71	30		
2-Nitroaniline	124.8	200	200	0	62.4	50-115	136	0	30	J	
2-Nitrophenol	113.7	50	200	0	56.8	40-115	115.2	1.31	30		
3-Nitroaniline	114.7	200	200	0	57.4	20-125	132.5	0	30	J	
4,6-Dinitro-2-methylphenol	145.5	200	200	0	72.8	40-130	159.5	0	30	J	
4-Bromophenyl phenyl ether	153.8	50	200	0	76.9	50-115	143.9	6.65	30		
4-Chloro-3-methylphenol	132.7	50	200	0	66.4	45-110	136.5	2.82	30		
4-Chloroaniline	126.3	200	200	0	63.2	15-110	130.3	0	30	J	
4-Chlorophenyl phenyl ether	134.2	50	200	0	67.1	50-110	140.1	4.3	30		
4-Methylphenol	95.2	50	200	0	47.6	30-110	102.3	7.19	30		
4-Nitroaniline	101	200	200	0	50.5	35-150	143.2	0	30	J	
4-Nitrophenol	68.8	200	200	0	34.4	1-58	41.1	0	0	J	
Acenaphthene	130.4	50	200	0	65.2	45-110	120.6	7.81	30		
Acenaphthylene	118.7	50	200	0	59.4	50-105	126.2	6.12	30		
Anthracene	149.1	50	200	0	74.6	55-110	147.7	0.943	30		
Benzo(a)anthracene	154	50	200	0	77	55-110	150.1	2.56	30		
Benzo(a)pyrene	145.5	50	200	0	72.8	55-110	145.7	0.137	30		
Benzo(b)fluoranthene	151.2	50	200	0	75.6	45-120	154.4	2.09	30		
Benzo(g,h,i)perylene	187.4	50	200	0	93.7	40-125	165	12.7	30		
Benzo(k)fluoranthene	157.6	50	200	0	78.8	45-125	159.9	1.45	30		
Bis(2-chloroethoxy)methane	127.6	50	200	0	63.8	45-105	120	6.14	30		
Bis(2-chloroethyl)ether	103.8	50	200	0	51.9	35-110	109.8	5.62	30		
Bis(2-chloroisopropyl)ether	109.7	50	200	0	54.8	25-130	118.1	7.37	30		
Bis(2-ethylhexyl)phthalate	166.1	50	200	0	83	40-125	166	0.0602	30		
Butyl benzyl phthalate	145.6	50	200	0	72.8	45-115	144.8	0.551	30		
Carbazole	153.8	100	200	0	76.9	50-150	152.9	0.587	30		
Chrysene	161	50	200	0	80.5	55-110	153.1	5.03	30		
Dibenzo(a,h)anthracene	165	50	200	0	82.5	40-125	145.7	12.4	30		
Dibenzofuran	110.4	50	200	0	55.2	55-105	118.7	7.25	30		
Diethyl phthalate	138.9	200	200	0	69.4	40-120	148.1	0	30	J	
Dimethyl phthalate	146.1	200	200	0	73	25-125	155.6	0	30	J	
Di-n-butyl phthalate	150	50	200	0	75	55-115	153.6	2.37	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58901		Instrument ID SVMS7		Method: SW8270					
Di-n-octyl phthalate	175	50	200	0	87.5	35-135	195.9	11.3	30
Fluoranthene	159.9	50	200	0	80	55-115	167.7	4.76	30
Fluorene	118.5	50	200	0	59.2	50-110	125.4	5.66	30
Hexachlorobenzene	149.4	50	200	0	74.7	50-110	141.8	5.22	30
Hexachlorobutadiene	117.8	50	200	0	58.9	25-105	113.6	3.63	30
Hexachlorocyclopentadiene	74	200	200	0	37	25-105	68.1	0	30 J
Hexachloroethane	118.8	50	200	0	59.4	30-95	120.8	1.67	30
Indeno(1,2,3-cd)pyrene	153	50	200	0	76.5	45-125	140.2	8.73	30
Isophorone	127	50	200	0	63.5	50-110	125.6	1.11	30
Naphthalene	111.1	50	200	0	55.6	40-100	111.2	0.09	30
Nitrobenzene	127.1	50	200	0	63.6	45-110	127.9	0.627	30
N-Nitrosodi-n-propylamine	128.5	50	200	0	64.2	35-130	128.4	0.0779	30
N-Nitrosodiphenylamine	158.8	50	200	0	79.4	50-110	148.9	6.43	30
Pentachlorophenol	141.7	200	200	0	70.8	40-115	153.1	0	30 J
Phenanthrene	133.2	50	200	0	66.6	50-115	132.9	0.225	30
Phenol	49.1	50	200	0	24.6	12-43	50	0	30 J
Pyrene	163.6	50	200	0	81.8	50-130	158.7	3.04	30
<i>Surr: 2,4,6-Tribromophenol</i>	365.4	0	500	0	73.1	38-115	341.4	6.79	40
<i>Surr: 2-Fluorobiphenyl</i>	265.9	0	500	0	53.2	32-100	269.6	1.38	40
<i>Surr: 2-Fluorophenol</i>	180.7	0	500	0	36.1	22-59	189.4	4.7	40
<i>Surr: 4-Terphenyl-d14</i>	482.8	0	500	0	96.6	23-112	456.2	5.67	40
<i>Surr: Nitrobenzene-d5</i>	329.5	0	500	0	65.9	31-93	327.5	0.609	40
<i>Surr: Phenol-d6</i>	101.9	0	500	0	20.4	13-36	101.5	0.393	40

The following samples were analyzed in this batch:

14051118-01B	14051118-02B	14051118-03B
14051118-04B	14051118-05B	14051118-06B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58955** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKW1-58955-58955				Units: µg/L		Analysis Date: 5/27/2014 10:58 AM		
Client ID:		Run ID: SVMS8_140527A				SeqNo: 2781498		Prep Date: 5/23/2014		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	1.0								
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: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58955	Instrument ID SVMS8	Method: SW8270						
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>	<i>32.51</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>65</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>30.34</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>60.7</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>17.18</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>34.4</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>38.63</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>77.3</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>33.38</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>66.8</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>10.84</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>21.7</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: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58955** Instrument ID **SVMS8** Method: **SW8270**

LCS		Sample ID: SLCSW1-58955-58955				Units: µg/L		Analysis Date: 5/27/2014 11:19 AM		
Client ID:		Run ID: SVMS8_140527A				SeqNo: 2781499		Prep Date: 5/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	14.53	5.0	20	0	72.6	50-110	0			
2,4,6-Trichlorophenol	13.76	5.0	20	0	68.8	50-115	0			
2,4-Dichlorophenol	14.31	10	20	0	71.6	50-105	0			
2,4-Dimethylphenol	11.16	5.0	20	0	55.8	30-110	0			
2,4-Dinitrophenol	14.9	5.0	20	0	74.5	15-140	0			
2,4-Dinitrotoluene	17.84	5.0	20	0	89.2	50-120	0			
2,6-Dinitrotoluene	16.93	5.0	20	0	84.6	50-115	0			
2-Chloronaphthalene	12.85	5.0	20	0	64.2	50-105	0			
2-Chlorophenol	12.55	5.0	20	0	62.8	35-105	0			
2-Methylnaphthalene	13.95	5.0	20	0	69.8	45-105	0			
2-Methylphenol	12.44	5.0	20	0	62.2	40-110	0			
2-Nitroaniline	15.91	20	20	0	79.6	50-115	0			J
2-Nitrophenol	14.41	5.0	20	0	72	40-115	0			
3-Nitroaniline	17.69	20	20	0	88.4	20-125	0			J
4,6-Dinitro-2-methylphenol	15.93	20	20	0	79.6	40-130	0			J
4-Bromophenyl phenyl ether	13.92	5.0	20	0	69.6	50-115	0			
4-Chloro-3-methylphenol	15.27	5.0	20	0	76.4	45-110	0			
4-Chloroaniline	15.48	20	20	0	77.4	15-110	0			J
4-Chlorophenyl phenyl ether	15.13	5.0	20	0	75.6	50-110	0			
4-Methylphenol	11.57	5.0	20	0	57.8	30-110	0			
4-Nitroaniline	20.66	20	20	0	103	35-150	0			
4-Nitrophenol	5.5	20	20	0	27.5	1-58	0			J
Acenaphthene	14.14	5.0	20	0	70.7	45-110	0			
Acenaphthylene	14.01	5.0	20	0	70	50-105	0			
Anthracene	15.71	5.0	20	0	78.6	55-110	0			
Benzo(a)anthracene	16.03	5.0	20	0	80.2	55-110	0			
Benzo(a)pyrene	16.89	5.0	20	0	84.4	55-110	0			
Benzo(b)fluoranthene	16.09	5.0	20	0	80.4	45-120	0			
Benzo(g,h,i)perylene	15.98	5.0	20	0	79.9	40-125	0			
Benzo(k)fluoranthene	16.31	5.0	20	0	81.6	45-125	0			
Bis(2-chloroethoxy)methane	14.63	5.0	20	0	73.2	45-105	0			
Bis(2-chloroethyl)ether	16.22	5.0	20	0	81.1	35-110	0			
Bis(2-chloroisopropyl)ether	16.62	5.0	20	0	83.1	25-130	0			
Bis(2-ethylhexyl)phthalate	15.48	5.0	20	0	77.4	40-125	0			
Butyl benzyl phthalate	14.21	5.0	20	0	71	45-115	0			
Carbazole	17.89	10	20	0	89.4	50-150	0			
Chrysene	15.89	5.0	20	0	79.4	55-110	0			
Dibenzo(a,h)anthracene	16.36	5.0	20	0	81.8	40-125	0			
Dibenzofuran	15.11	5.0	20	0	75.6	55-105	0			
Diethyl phthalate	16.74	20	20	0	83.7	40-120	0			J
Dimethyl phthalate	15.68	20	20	0	78.4	25-125	0			J
Di-n-butyl phthalate	18.42	5.0	20	0	92.1	55-115	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58955		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	15.32	5.0	20	0	76.6	35-135	0	
Fluoranthene	18.97	5.0	20	0	94.8	55-115	0	
Fluorene	15.07	5.0	20	0	75.4	50-110	0	
Hexachlorobenzene	15.01	5.0	20	0	75	50-110	0	
Hexachlorobutadiene	12.23	5.0	20	0	61.2	25-105	0	
Hexachlorocyclopentadiene	8.86	20	20	0	44.3	25-105	0	J
Hexachloroethane	13.64	5.0	20	0	68.2	30-95	0	
Indeno(1,2,3-cd)pyrene	16.57	5.0	20	0	82.8	45-125	0	
Isophorone	15.81	5.0	20	0	79	50-110	0	
Naphthalene	12.92	5.0	20	0	64.6	40-100	0	
Nitrobenzene	13.72	5.0	20	0	68.6	45-110	0	
N-Nitrosodi-n-propylamine	17.26	5.0	20	0	86.3	35-130	0	
N-Nitrosodiphenylamine	14.33	5.0	20	0	71.6	50-110	0	
Pentachlorophenol	14.01	20	20	0	70	40-115	0	J
Phenanthrene	15.76	5.0	20	0	78.8	50-115	0	
Phenol	5.49	5.0	20	0	27.4	12-43	0	
Pyrene	13.52	5.0	20	0	67.6	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	35.76	0	50	0	71.5	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	30.51	0	50	0	61	32-100	0	
<i>Surr: 2-Fluorophenol</i>	18.82	0	50	0	37.6	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	38.92	0	50	0	77.8	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	37.43	0	50	0	74.9	31-93	0	
<i>Surr: Phenol-d6</i>	13.57	0	50	0	27.1	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58955** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 14051118-07B MS			Units: µg/L		Analysis Date: 5/27/2014 01:30 PM		
Client ID: W-R2330012-052014-ACN-026			Run ID: SVMS8_140527A			SeqNo: 2781500		Prep Date: 5/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	150.9	50	200	0	75.4	50-110	0				
2,4,6-Trichlorophenol	144.5	50	200	0	72.2	50-115	0				
2,4-Dichlorophenol	140.5	100	200	0	70.2	50-105	0				
2,4-Dimethylphenol	110	50	200	0	55	30-110	0				
2,4-Dinitrophenol	164	50	200	0	82	15-140	0				
2,4-Dinitrotoluene	181.7	50	200	0	90.8	50-120	0				
2,6-Dinitrotoluene	173	50	200	0	86.5	50-115	0				
2-Chloronaphthalene	130.3	50	200	0	65.2	50-105	0				
2-Chlorophenol	131	50	200	0	65.5	35-105	0				
2-Methylnaphthalene	138	50	200	0	69	45-105	0				
2-Methylphenol	124	50	200	0	62	40-110	0				
2-Nitroaniline	166.3	200	200	0	83.2	50-115	0			J	
2-Nitrophenol	141.5	50	200	0	70.8	40-115	0				
3-Nitroaniline	187.1	200	200	0	93.6	20-125	0			J	
4,6-Dinitro-2-methylphenol	162.4	200	200	0	81.2	40-130	0			J	
4-Bromophenyl phenyl ether	143	50	200	0	71.5	50-115	0				
4-Chloro-3-methylphenol	150.1	50	200	0	75	45-110	0				
4-Chloroaniline	155.7	200	200	0	77.8	15-110	0			J	
4-Chlorophenyl phenyl ether	151.3	50	200	0	75.6	50-110	0				
4-Methylphenol	114	50	200	0	57	30-110	0				
4-Nitroaniline	214.5	200	200	0	107	35-150	0				
4-Nitrophenol	56.6	200	200	0	28.3	1-58	0			J	
Acenaphthene	142.6	50	200	0	71.3	45-110	0				
Acenaphthylene	138	50	200	0	69	50-105	0				
Anthracene	160.1	50	200	0	80	55-110	0				
Benzo(a)anthracene	160.4	50	200	0	80.2	55-110	0				
Benzo(a)pyrene	169.7	50	200	0	84.8	55-110	0				
Benzo(b)fluoranthene	169.1	50	200	0	84.6	45-120	0				
Benzo(g,h,i)perylene	139.9	50	200	0	70	40-125	0				
Benzo(k)fluoranthene	171.8	50	200	0	85.9	45-125	0				
Bis(2-chloroethoxy)methane	142.8	50	200	0	71.4	45-105	0				
Bis(2-chloroethyl)ether	159	50	200	0	79.5	35-110	0				
Bis(2-chloroisopropyl)ether	163.5	50	200	0	81.8	25-130	0				
Bis(2-ethylhexyl)phthalate	156.4	50	200	0	78.2	40-125	0				
Butyl benzyl phthalate	146.9	50	200	0	73.4	45-115	0				
Carbazole	182.3	100	200	0	91.2	50-150	0				
Chrysene	161.1	50	200	0	80.6	55-110	0				
Dibenzo(a,h)anthracene	142.5	50	200	0	71.2	40-125	0				
Dibenzofuran	151.2	50	200	0	75.6	55-105	0				
Diethyl phthalate	166.2	200	200	0	83.1	40-120	0			J	
Dimethyl phthalate	157.6	200	200	0	78.8	25-125	0			J	
Di-n-butyl phthalate	183.2	50	200	0	91.6	55-115	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58955		Instrument ID SVMS8		Method: SW8270				
Di-n-octyl phthalate	160.6	50	200	0	80.3	35-135	0	
Fluoranthene	186.6	50	200	0	93.3	55-115	0	
Fluorene	150.4	50	200	0	75.2	50-110	0	
Hexachlorobenzene	151.9	50	200	0	76	50-110	0	
Hexachlorobutadiene	124	50	200	0	62	25-105	0	
Hexachlorocyclopentadiene	104.7	200	200	0	52.4	25-105	0	J
Hexachloroethane	134.1	50	200	0	67	30-95	0	
Indeno(1,2,3-cd)pyrene	145.8	50	200	0	72.9	45-125	0	
Isophorone	152.8	50	200	0	76.4	50-110	0	
Naphthalene	127.7	50	200	0	63.8	40-100	0	
Nitrobenzene	139.9	50	200	0	70	45-110	0	
N-Nitrosodi-n-propylamine	164.3	50	200	0	82.2	35-130	0	
N-Nitrosodiphenylamine	148.1	50	200	0	74	50-110	0	
Pentachlorophenol	156	200	200	0	78	40-115	0	J
Phenanthrene	160	50	200	0	80	50-115	0	
Phenol	50.1	50	200	0	25	12-43	0	
Pyrene	142.4	50	200	0	71.2	50-130	0	
Surr: 2,4,6-Tribromophenol	372.4	0	500	0	74.5	38-115	0	
Surr: 2-Fluorobiphenyl	305.4	0	500	0	61.1	32-100	0	
Surr: 2-Fluorophenol	184.9	0	500	0	37	22-59	0	
Surr: 4-Terphenyl-d14	403.8	0	500	0	80.8	23-112	0	
Surr: Nitrobenzene-d5	362.6	0	500	0	72.5	31-93	0	
Surr: Phenol-d6	119.4	0	500	0	23.9	13-36	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **58955** Instrument ID **SVMS8** Method: **SW8270**

MSD				Sample ID: 14051118-07B MSD			Units: µg/L		Analysis Date: 5/27/2014 01:51 PM		
Client ID: W-R2330012-052014-ACN-026			Run ID: SVMS8_140527A			SeqNo: 2781501		Prep Date: 5/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-Trichlorophenol	149	50	200	0	74.5	50-110	150.9	1.27	30		
2,4,6-Trichlorophenol	140.7	50	200	0	70.4	50-115	144.5	2.66	30		
2,4-Dichlorophenol	140.6	100	200	0	70.3	50-105	140.5	0.0711	30		
2,4-Dimethylphenol	107.9	50	200	0	54	30-110	110	1.93	30		
2,4-Dinitrophenol	180.2	50	200	0	90.1	15-140	164	9.41	30		
2,4-Dinitrotoluene	188.1	50	200	0	94	50-120	181.7	3.46	30		
2,6-Dinitrotoluene	173.5	50	200	0	86.8	50-115	173	0.289	30		
2-Chloronaphthalene	132.1	50	200	0	66	50-105	130.3	1.37	30		
2-Chlorophenol	127	50	200	0	63.5	35-105	131	3.1	30		
2-Methylnaphthalene	143.1	50	200	0	71.6	45-105	138	3.63	30		
2-Methylphenol	122.8	50	200	0	61.4	40-110	124	0.972	30		
2-Nitroaniline	171.1	200	200	0	85.6	50-115	166.3	0	30	J	
2-Nitrophenol	145	50	200	0	72.5	40-115	141.5	2.44	30		
3-Nitroaniline	187.4	200	200	0	93.7	20-125	187.1	0	30	J	
4,6-Dinitro-2-methylphenol	165.4	200	200	0	82.7	40-130	162.4	0	30	J	
4-Bromophenyl phenyl ether	142.3	50	200	0	71.2	50-115	143	0.491	30		
4-Chloro-3-methylphenol	156	50	200	0	78	45-110	150.1	3.85	30		
4-Chloroaniline	157.1	200	200	0	78.6	15-110	155.7	0	30	J	
4-Chlorophenyl phenyl ether	154	50	200	0	77	50-110	151.3	1.77	30		
4-Methylphenol	116.9	50	200	0	58.4	30-110	114	2.51	30		
4-Nitroaniline	213.8	200	200	0	107	35-150	214.5	0.327	30		
4-Nitrophenol	63.8	200	200	0	31.9	1-58	56.6	0	0	J	
Acenaphthene	146.6	50	200	0	73.3	45-110	142.6	2.77	30		
Acenaphthylene	142.1	50	200	0	71	50-105	138	2.93	30		
Anthracene	157.8	50	200	0	78.9	55-110	160.1	1.45	30		
Benzo(a)anthracene	156.9	50	200	0	78.4	55-110	160.4	2.21	30		
Benzo(a)pyrene	166.7	50	200	0	83.4	55-110	169.7	1.78	30		
Benzo(b)fluoranthene	159.9	50	200	0	80	45-120	169.1	5.59	30		
Benzo(g,h,i)perylene	140	50	200	0	70	40-125	139.9	0.0715	30		
Benzo(k)fluoranthene	165.1	50	200	0	82.6	45-125	171.8	3.98	30		
Bis(2-chloroethoxy)methane	145.3	50	200	0	72.6	45-105	142.8	1.74	30		
Bis(2-chloroethyl)ether	157.5	50	200	0	78.8	35-110	159	0.948	30		
Bis(2-chloroisopropyl)ether	166.1	50	200	0	83	25-130	163.5	1.58	30		
Bis(2-ethylhexyl)phthalate	153	50	200	0	76.5	40-125	156.4	2.2	30		
Butyl benzyl phthalate	142.6	50	200	0	71.3	45-115	146.9	2.97	30		
Carbazole	181.6	100	200	0	90.8	50-150	182.3	0.385	30		
Chrysene	156.5	50	200	0	78.2	55-110	161.1	2.9	30		
Dibenzo(a,h)anthracene	146.4	50	200	0	73.2	40-125	142.5	2.7	30		
Dibenzofuran	154.5	50	200	0	77.2	55-105	151.2	2.16	30		
Diethyl phthalate	169.5	200	200	0	84.8	40-120	166.2	0	30	J	
Dimethyl phthalate	163.3	200	200	0	81.6	25-125	157.6	0	30	J	
Di-n-butyl phthalate	183.9	50	200	0	92	55-115	183.2	0.381	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: 58955	Instrument ID SVMS8			Method: SW8270					
Di-n-octyl phthalate	151	50	200	0	75.5	35-135	160.6	6.16	30
Fluoranthene	188	50	200	0	94	55-115	186.6	0.747	30
Fluorene	153.6	50	200	0	76.8	50-110	150.4	2.11	30
Hexachlorobenzene	147.9	50	200	0	74	50-110	151.9	2.67	30
Hexachlorobutadiene	123.9	50	200	0	62	25-105	124	0.0807	30
Hexachlorocyclopentadiene	97.7	200	200	0	48.8	25-105	104.7	0	30 J
Hexachloroethane	134.7	50	200	0	67.4	30-95	134.1	0.446	30
Indeno(1,2,3-cd)pyrene	148.4	50	200	0	74.2	45-125	145.8	1.77	30
Isophorone	155.3	50	200	0	77.6	50-110	152.8	1.62	30
Naphthalene	128.9	50	200	0	64.4	40-100	127.7	0.935	30
Nitrobenzene	139.9	50	200	0	70	45-110	139.9	0	30
N-Nitrosodi-n-propylamine	168.3	50	200	0	84.2	35-130	164.3	2.41	30
N-Nitrosodiphenylamine	144.7	50	200	0	72.4	50-110	148.1	2.32	30
Pentachlorophenol	159.1	200	200	0	79.6	40-115	156	0	30 J
Phenanthrene	158.2	50	200	0	79.1	50-115	160	1.13	30
Phenol	53.4	50	200	0	26.7	12-43	50.1	6.38	30
Pyrene	135.4	50	200	0	67.7	50-130	142.4	5.04	30
<i>Surr: 2,4,6-Tribromophenol</i>	<i>371.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>74.3</i>	<i>38-115</i>	<i>372.4</i>	<i>0.269</i>	<i>40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>307.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>61.5</i>	<i>32-100</i>	<i>305.4</i>	<i>0.718</i>	<i>40</i>
<i>Surr: 2-Fluorophenol</i>	<i>186.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>37.3</i>	<i>22-59</i>	<i>184.9</i>	<i>0.808</i>	<i>40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>374.9</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>75</i>	<i>23-112</i>	<i>403.8</i>	<i>7.42</i>	<i>40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>354.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>70.9</i>	<i>31-93</i>	<i>362.6</i>	<i>2.26</i>	<i>40</i>
<i>Surr: Phenol-d6</i>	<i>129</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>25.8</i>	<i>13-36</i>	<i>119.4</i>	<i>7.73</i>	<i>40</i>

The following samples were analyzed in this batch:

14051118-07B	14051118-08B	14051118-09B
14051118-10B	14051118-11B	14051118-12B

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141375** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VLKW2-140524-R141375				Units: µg/L		Analysis Date: 5/25/2014 01:03 AM		
Client ID:		Run ID: VMS9_140524B				SeqNo: 2780329		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: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141375	Instrument ID VMS9	Method: SW8260						
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>21.27</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>106</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>17.76</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.65</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>19.22</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.1</i>	<i>85-110</i>	<i>0</i>	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141375** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW2-140524-R141375				Units: µg/L		Analysis Date: 5/24/2014 11:49 PM		
Client ID:		Run ID: VMS9_140524B				SeqNo: 2780327		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	22.44	1.0	20	0	112	75-130	0			
1,1,2,2-Tetrachloroethane	21.94	1.0	20	0	110	75-130	0			
1,1,2-Trichloroethane	20.81	1.0	20	0	104	75-125	0			
1,1-Dichloroethane	20.88	1.0	20	0	104	75-133	0			
1,1-Dichloroethene	21.62	1.0	20	0	108	70-145	0			
1,2,4-Trichlorobenzene	21.52	1.0	20	0	108	70-135	0			
1,2-Dibromo-3-chloropropane	21.85	1.0	20	0	109	60-130	0			
1,2-Dibromoethane	21.41	1.0	20	0	107	80-150	0			
1,2-Dichlorobenzene	20.59	1.0	20	0	103	70-130	0			
1,2-Dichloroethane	21.13	1.0	20	0	106	78-125	0			
1,2-Dichloropropane	21.18	2.0	20	0	106	75-125	0			
1,3-Dichlorobenzene	21.3	2.0	20	0	106	75-130	0			
1,4-Dichlorobenzene	20.62	2.0	20	0	103	75-130	0			
2-Butanone	24.29	5.0	20	0	121	55-150	0			
2-Hexanone	23.85	5.0	20	0	119	60-135	0			
4-Methyl-2-pentanone	28.8	5.0	20	0	144	77-178	0			
Acetone	24.59	20	20	0	123	60-160	0			
Benzene	20.76	1.0	20	0	104	85-125	0			
Bromodichloromethane	21.17	1.0	20	0	106	75-125	0			
Bromoform	20.5	1.0	20	0	102	60-125	0			
Bromomethane	20.36	1.0	20	0	102	30-185	0			
Carbon disulfide	23.32	2.5	20	0	117	60-165	0			
Carbon tetrachloride	19.53	1.0	20	0	97.6	65-140	0			
Chlorobenzene	20.76	1.0	20	0	104	80-120	0			
Chloroethane	19.68	1.0	20	0	98.4	50-140	0			
Chloroform	20.74	1.0	20	0	104	80-130	0			
Chloromethane	20.69	1.0	20	0	103	50-130	0			
cis-1,2-Dichloroethene	20.37	1.0	20	0	102	75-134	0			
cis-1,3-Dichloropropene	23.05	1.0	20	0	115	70-130	0			
Dibromochloromethane	18.64	1.0	20	0	93.2	60-115	0			
Dichlorodifluoromethane	17.93	1.0	20	0	89.6	20-120	0			
Ethylbenzene	22.46	1.0	20	0	112	85-125	0			
Isopropylbenzene	19.4	1.0	20	0	97	80-127	0			
Methyl tert-butyl ether	21.22	5.0	20	0	106	80-130	0			
Methylene chloride	21.93	5.0	20	0	110	75-140	0			
Styrene	20.52	1.0	20	0	103	85-125	0			
Tetrachloroethene	19.83	2.0	20	0	99.2	77-138	0			
Toluene	20.97	1.0	20	0	105	85-125	0			
trans-1,2-Dichloroethene	22.01	1.0	20	0	110	80-140	0			
trans-1,3-Dichloropropene	20.6	1.0	20	0	103	81-123	0			
Trichloroethene	21.05	1.0	20	0	105	84-130	0			
Trichlorofluoromethane	19.46	1.0	20	0	97.3	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141375	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	21.52	1.0	20	0	108	50-136	0
Xylenes, Total	61.8	3.0	60	0	103	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.88</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.4</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.89</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.51</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.6</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.33</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141375** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 14051138-01A MS			Units: µg/L		Analysis Date: 5/25/2014 09:40 AM		
Client ID:		Run ID: VMS9_140524B			SeqNo: 2780374		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	21.77	1.0	20	0	109	75-130		0			
1,1,2,2-Tetrachloroethane	19.92	1.0	20	0	99.6	75-130		0			
1,1,2-Trichloroethane	20.05	1.0	20	0	100	75-125		0			
1,1-Dichloroethane	20.27	1.0	20	0	101	75-133		0			
1,1-Dichloroethene	22.24	1.0	20	0	111	70-145		0			
1,2,4-Trichlorobenzene	18.17	1.0	20	0	90.8	70-135		0			
1,2-Dibromo-3-chloropropane	18.37	1.0	20	0	91.8	60-130		0			
1,2-Dibromoethane	20.02	1.0	20	0	100	80-150		0			
1,2-Dichlorobenzene	19.36	1.0	20	0	96.8	70-130		0			
1,2-Dichloroethane	19.91	1.0	20	0	99.6	78-125		0			
1,2-Dichloropropane	19.9	2.0	20	0	99.5	75-125		0			
1,3-Dichlorobenzene	20.05	2.0	20	0	100	75-130		0			
1,4-Dichlorobenzene	19.54	2.0	20	0	97.7	75-130		0			
2-Butanone	19.21	5.0	20	0	96	55-150		0			
2-Hexanone	15.56	5.0	20	0	77.8	60-135		0			
4-Methyl-2-pentanone	24.04	5.0	20	0	120	77-178		0			
Acetone	20.23	20	20	0	101	60-160		0			
Benzene	20.11	1.0	20	0	101	85-125		0			
Bromodichloromethane	20.25	1.0	20	0	101	75-125		0			
Bromoform	18.78	1.0	20	0	93.9	60-125		0			
Bromomethane	17.09	1.0	20	0	85.4	30-185		0			
Carbon disulfide	22.69	2.5	20	0	113	60-165		0			
Carbon tetrachloride	22.11	1.0	20	0	111	65-140		0			
Chlorobenzene	20.23	1.0	20	0	101	80-120		0			
Chloroethane	22.47	1.0	20	0	112	50-140		0			
Chloroform	20.18	1.0	20	0	101	80-130		0			
Chloromethane	18.99	1.0	20	0	95	50-130		0			
cis-1,2-Dichloroethene	19.56	1.0	20	0	97.8	75-134		0			
cis-1,3-Dichloropropene	20.5	1.0	20	0	102	70-130		0			
Dibromochloromethane	17.64	1.0	20	0	88.2	60-115		0			
Dichlorodifluoromethane	18.56	1.0	20	0	92.8	20-120		0			
Ethylbenzene	22.81	1.0	20	0	114	85-125		0			
Isopropylbenzene	19.42	1.0	20	0	97.1	80-127		0			
Methyl tert-butyl ether	18.94	5.0	20	0	94.7	80-130		0			
Methylene chloride	20.99	5.0	20	0	105	75-140		0			
Styrene	19.82	1.0	20	0	99.1	85-125		0			
Tetrachloroethene	19.83	2.0	20	0	99.2	77-138		0			
Toluene	20.71	1.0	20	0	104	85-125		0			
trans-1,2-Dichloroethene	21.81	1.0	20	0	109	80-140		0			
trans-1,3-Dichloropropene	18.68	1.0	20	0	93.4	81-123		0			
Trichloroethene	20.59	1.0	20	0	103	84-130		0			
Trichlorofluoromethane	19.38	1.0	20	0	96.9	60-140		0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141375	Instrument ID VMS9			Method: SW8260			
Vinyl chloride	21.36	1.0	20	0	107	50-136	0
Xylenes, Total	61.79	3.0	60	0	103	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	19.62	0	20	0	98.1	75-120	0
<i>Surr: 4-Bromofluorobenzene</i>	21.28	0	20	0	106	80-110	0
<i>Surr: Dibromofluoromethane</i>	19.18	0	20	0	95.9	85-115	0
<i>Surr: Toluene-d8</i>	20.38	0	20	0	102	85-110	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141375** Instrument ID **VMS9** Method: **SW8260**

MSD				Sample ID: 14051138-01A MSD			Units: µg/L		Analysis Date: 5/25/2014 10:04 AM		
Client ID:		Run ID: VMS9_140524B			SeqNo: 2780375		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	21.33	1.0	20	0	107	75-130	21.77	2.04	30		
1,1,2,2-Tetrachloroethane	19.02	1.0	20	0	95.1	75-130	19.92	4.62	30		
1,1,2-Trichloroethane	18.99	1.0	20	0	95	75-125	20.05	5.43	30		
1,1-Dichloroethane	19.83	1.0	20	0	99.2	75-133	20.27	2.19	30		
1,1-Dichloroethene	21.46	1.0	20	0	107	70-145	22.24	3.57	30		
1,2,4-Trichlorobenzene	17.84	1.0	20	0	89.2	70-135	18.17	1.83	30		
1,2-Dibromo-3-chloropropane	17.03	1.0	20	0	85.2	60-130	18.37	7.57	30		
1,2-Dibromoethane	19.38	1.0	20	0	96.9	80-150	20.02	3.25	30		
1,2-Dichlorobenzene	18.63	1.0	20	0	93.2	70-130	19.36	3.84	30		
1,2-Dichloroethane	19.64	1.0	20	0	98.2	78-125	19.91	1.37	30		
1,2-Dichloropropane	19.77	2.0	20	0	98.8	75-125	19.9	0.655	30		
1,3-Dichlorobenzene	19.37	2.0	20	0	96.8	75-130	20.05	3.45	30		
1,4-Dichlorobenzene	18.74	2.0	20	0	93.7	75-130	19.54	4.18	30		
2-Butanone	18.14	5.0	20	0	90.7	55-150	19.21	5.73	30		
2-Hexanone	19.06	5.0	20	0	95.3	60-135	15.56	20.2	30		
4-Methyl-2-pentanone	23.55	5.0	20	0	118	77-178	24.04	2.06	30		
Acetone	20.55	20	20	0	103	60-160	20.23	1.57	30		
Benzene	19.72	1.0	20	0	98.6	85-125	20.11	1.96	30		
Bromodichloromethane	19.44	1.0	20	0	97.2	75-125	20.25	4.08	30		
Bromoform	18.04	1.0	20	0	90.2	60-125	18.78	4.02	30		
Bromomethane	18.47	1.0	20	0	92.4	30-185	17.09	7.76	30		
Carbon disulfide	22.44	2.5	20	0	112	60-165	22.69	1.11	30		
Carbon tetrachloride	18.61	1.0	20	0	93	65-140	22.11	17.2	30		
Chlorobenzene	19.56	1.0	20	0	97.8	80-120	20.23	3.37	30		
Chloroethane	20.65	1.0	20	0	103	50-140	22.47	8.44	30		
Chloroform	19.78	1.0	20	0	98.9	80-130	20.18	2	30		
Chloromethane	18.86	1.0	20	0	94.3	50-130	18.99	0.687	30		
cis-1,2-Dichloroethene	19.14	1.0	20	0	95.7	75-134	19.56	2.17	30		
cis-1,3-Dichloropropene	20.27	1.0	20	0	101	70-130	20.5	1.13	30		
Dibromochloromethane	17.07	1.0	20	0	85.4	60-115	17.64	3.28	30		
Dichlorodifluoromethane	17.97	1.0	20	0	89.8	20-120	18.56	3.23	30		
Ethylbenzene	21.64	1.0	20	0	108	85-125	22.81	5.26	30		
Isopropylbenzene	18.54	1.0	20	0	92.7	80-127	19.42	4.64	30		
Methyl tert-butyl ether	18.84	5.0	20	0	94.2	80-130	18.94	0.529	30		
Methylene chloride	20.78	5.0	20	0	104	75-140	20.99	1.01	30		
Styrene	19.21	1.0	20	0	96	85-125	19.82	3.13	30		
Tetrachloroethene	19.61	2.0	20	0	98	77-138	19.83	1.12	30		
Toluene	20.19	1.0	20	0	101	85-125	20.71	2.54	30		
trans-1,2-Dichloroethene	20.89	1.0	20	0	104	80-140	21.81	4.31	30		
trans-1,3-Dichloropropene	18.02	1.0	20	0	90.1	81-123	18.68	3.6	30		
Trichloroethene	20.33	1.0	20	0	102	84-130	20.59	1.27	30		
Trichlorofluoromethane	19.15	1.0	20	0	95.8	60-140	19.38	1.19	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141375	Instrument ID VMS9			Method: SW8260					
Vinyl chloride	20.9	1.0	20	0	104	50-136	21.36	2.18	30
Xylenes, Total	59.15	3.0	60	0	98.6	80-126	61.79	4.37	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.57</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.8</i>	<i>75-120</i>	<i>19.62</i>	<i>0.255</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.87</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>80-110</i>	<i>21.28</i>	<i>1.95</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.39</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97</i>	<i>85-115</i>	<i>19.18</i>	<i>1.09</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>19.97</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.8</i>	<i>85-110</i>	<i>20.38</i>	<i>2.03</i>	<i>30</i>

The following samples were analyzed in this batch:

14051118-
01A

14051118-
02A

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141420** Instrument ID **VMS8** Method: **SW8260**

MBLK		Sample ID: VLKW1-140527-R141420				Units: µg/L		Analysis Date: 5/27/2014 01:05 PM		
Client ID:		Run ID: VMS8_140527A				SeqNo: 2781812		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: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141420	Instrument ID VMS8	Method: SW8260
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>19.76</i>	<i>0 20 0 98.8 75-120 0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.4</i>	<i>0 20 0 97 80-110 0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.43</i>	<i>0 20 0 97.2 85-115 0</i>
<i>Surr: Toluene-d8</i>	<i>20</i>	<i>0 20 0 100 85-110 0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141420** Instrument ID **VMS8** Method: **SW8260**

LCS		Sample ID: VLCSW1-140527-R141420				Units: µg/L		Analysis Date: 5/27/2014 11:26 AM		
Client ID:		Run ID: VMS8_140527A				SeqNo: 2781811		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	24.93	1.0	20	0	125	75-130	0			
1,1,2,2-Tetrachloroethane	21.71	1.0	20	0	109	75-130	0			
1,1,2-Trichloroethane	23.09	1.0	20	0	115	75-125	0			
1,1-Dichloroethane	24.15	1.0	20	0	121	75-133	0			
1,1-Dichloroethene	27.31	1.0	20	0	137	70-145	0			
1,2,4-Trichlorobenzene	27.32	1.0	20	0	137	70-135	0			S
1,2-Dibromo-3-chloropropane	19.85	1.0	20	0	99.2	60-130	0			
1,2-Dibromoethane	23.81	1.0	20	0	119	80-150	0			
1,2-Dichlorobenzene	23.99	1.0	20	0	120	70-130	0			
1,2-Dichloroethane	22.41	1.0	20	0	112	78-125	0			
1,2-Dichloropropane	22.83	2.0	20	0	114	75-125	0			
1,3-Dichlorobenzene	25.3	2.0	20	0	126	75-130	0			
1,4-Dichlorobenzene	23.83	2.0	20	0	119	75-130	0			
2-Butanone	19.36	5.0	20	0	96.8	55-150	0			
2-Hexanone	19.94	5.0	20	0	99.7	60-135	0			
4-Methyl-2-pentanone	25.46	5.0	20	0	127	77-178	0			
Acetone	18.13	20	20	0	90.6	60-160	0			J
Benzene	22.04	1.0	20	0	110	85-125	0			
Bromodichloromethane	22.99	1.0	20	0	115	75-125	0			
Bromoform	21.18	1.0	20	0	106	60-125	0			
Bromomethane	29.38	1.0	20	0	147	30-185	0			
Carbon disulfide	28.12	2.5	20	0	141	60-165	0			
Carbon tetrachloride	22.29	1.0	20	0	111	65-140	0			
Chlorobenzene	23.12	1.0	20	0	116	80-120	0			
Chloroethane	21.07	1.0	20	0	105	50-140	0			
Chloroform	22.86	1.0	20	0	114	80-130	0			
Chloromethane	20.34	1.0	20	0	102	50-130	0			
cis-1,2-Dichloroethene	24.8	1.0	20	0	124	75-134	0			
cis-1,3-Dichloropropene	24.99	1.0	20	0	125	70-130	0			
Dibromochloromethane	21.99	1.0	20	0	110	60-115	0			
Dichlorodifluoromethane	17.51	1.0	20	0	87.6	20-120	0			
Ethylbenzene	23.8	1.0	20	0	119	85-125	0			
Isopropylbenzene	24.34	1.0	20	0	122	80-127	0			
Methyl tert-butyl ether	22.28	5.0	20	0	111	80-130	0			
Methylene chloride	23.29	5.0	20	0	116	75-140	0			
Styrene	23.72	1.0	20	0	119	85-125	0			
Tetrachloroethene	26.18	2.0	20	0	131	77-138	0			
Toluene	22.99	1.0	20	0	115	85-125	0			
trans-1,2-Dichloroethene	25.94	1.0	20	0	130	80-140	0			
trans-1,3-Dichloropropene	24.11	1.0	20	0	121	81-123	0			
Trichloroethene	23.95	1.0	20	0	120	84-130	0			
Trichlorofluoromethane	24.89	1.0	20	0	124	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141420	Instrument ID VMS8		Method: SW8260				
Vinyl chloride	23.91	1.0	20	0	120	50-136	0
Xylenes, Total	69.54	3.0	60	0	116	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.53</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.6</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.51</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.6</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.15</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.24</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141420** Instrument ID **VMS8** Method: **SW8260**

MS					Sample ID: 14051118-06A MS		Units: µg/L		Analysis Date: 5/27/2014 09:22 PM		
Client ID: W-R2330012-051914-ACN-025			Run ID: VMS8_140527A			SeqNo: 2782195		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	25.14	1.0	20	0	126	75-130	0				
1,1,2,2-Tetrachloroethane	20.6	1.0	20	0	103	75-130	0				
1,1,2-Trichloroethane	21.7	1.0	20	0	108	75-125	0				
1,1-Dichloroethane	23.68	1.0	20	0	118	75-133	0				
1,1-Dichloroethene	27.54	1.0	20	0	138	70-145	0				
1,2,4-Trichlorobenzene	18.34	1.0	20	0	91.7	70-135	0				
1,2-Dibromo-3-chloropropane	18.05	1.0	20	0	90.2	60-130	0				
1,2-Dibromoethane	22.57	1.0	20	0	113	80-150	0				
1,2-Dichlorobenzene	21.11	1.0	20	0	106	70-130	0				
1,2-Dichloroethane	22	1.0	20	0	110	78-125	0				
1,2-Dichloropropane	22.09	2.0	20	0	110	75-125	0				
1,3-Dichlorobenzene	21.76	2.0	20	0	109	75-130	0				
1,4-Dichlorobenzene	20.59	2.0	20	0	103	75-130	0				
2-Butanone	19.46	5.0	20	0	97.3	55-150	0				
2-Hexanone	18.29	5.0	20	0	91.4	60-135	0				
4-Methyl-2-pentanone	25.47	5.0	20	0	127	77-178	0				
Acetone	19.91	20	20	0	99.6	60-160	0			J	
Benzene	21.46	1.0	20	0	107	85-125	0				
Bromodichloromethane	21.65	1.0	20	0	108	75-125	0				
Bromoform	18.69	1.0	20	0	93.4	60-125	0				
Bromomethane	32.63	1.0	20	0	163	30-185	0				
Carbon disulfide	27.43	2.5	20	0	137	60-165	0				
Carbon tetrachloride	22.04	1.0	20	0	110	65-140	0				
Chlorobenzene	21.85	1.0	20	0	109	80-120	0				
Chloroethane	14	1.0	20	0	70	50-140	0				
Chloroform	21.92	1.0	20	0	110	80-130	0				
Chloromethane	21	1.0	20	0	105	50-130	0				
cis-1,2-Dichloroethene	23.9	1.0	20	0	120	75-134	0				
cis-1,3-Dichloropropene	23.8	1.0	20	0	119	70-130	0				
Dibromochloromethane	19.64	1.0	20	0	98.2	60-115	0				
Dichlorodifluoromethane	19.79	1.0	20	0	99	20-120	0				
Ethylbenzene	22.7	1.0	20	0	114	85-125	0				
Isopropylbenzene	22.72	1.0	20	0	114	80-127	0				
Methyl tert-butyl ether	21.26	5.0	20	0	106	80-130	0				
Methylene chloride	22.35	5.0	20	0	112	75-140	0				
Styrene	22.29	1.0	20	0	111	85-125	0				
Tetrachloroethene	27.39	2.0	20	0	137	77-138	0				
Toluene	22.09	1.0	20	0	110	85-125	0				
trans-1,2-Dichloroethene	25.99	1.0	20	0	130	80-140	0				
trans-1,3-Dichloropropene	22.44	1.0	20	0	112	81-123	0				
Trichloroethene	23.49	1.0	20	0	117	84-130	0				
Trichlorofluoromethane	24.86	1.0	20	0	124	60-140	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141420	Instrument ID VMS8		Method: SW8260				
Vinyl chloride	24.95	1.0	20	0	125	50-136	0
Xylenes, Total	66.25	3.0	60	0	110	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.81</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.75</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.8</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.17</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.04</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141420** Instrument ID **VMS8** Method: **SW8260**

MSD				Sample ID: 14051118-06A MSD			Units: µg/L		Analysis Date: 5/27/2014 09:46 PM	
Client ID: W-R2330012-051914-ACN-025				Run ID: VMS8_140527A			SeqNo: 2782196		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	24.84	1.0	20	0	124	75-130	25.14	1.2	30	
1,1,2,2-Tetrachloroethane	20.44	1.0	20	0	102	75-130	20.6	0.78	30	
1,1,2-Trichloroethane	22.17	1.0	20	0	111	75-125	21.7	2.14	30	
1,1-Dichloroethane	23.4	1.0	20	0	117	75-133	23.68	1.19	30	
1,1-Dichloroethene	27.37	1.0	20	0	137	70-145	27.54	0.619	30	
1,2,4-Trichlorobenzene	20.16	1.0	20	0	101	70-135	18.34	9.45	30	
1,2-Dibromo-3-chloropropane	17.8	1.0	20	0	89	60-130	18.05	1.39	30	
1,2-Dibromoethane	23.1	1.0	20	0	116	80-150	22.57	2.32	30	
1,2-Dichlorobenzene	21.22	1.0	20	0	106	70-130	21.11	0.52	30	
1,2-Dichloroethane	21.89	1.0	20	0	109	78-125	22	0.501	30	
1,2-Dichloropropane	21.67	2.0	20	0	108	75-125	22.09	1.92	30	
1,3-Dichlorobenzene	22.29	2.0	20	0	111	75-130	21.76	2.41	30	
1,4-Dichlorobenzene	20.67	2.0	20	0	103	75-130	20.59	0.388	30	
2-Butanone	19.49	5.0	20	0	97.4	55-150	19.46	0.154	30	
2-Hexanone	19.76	5.0	20	0	98.8	60-135	18.29	7.73	30	
4-Methyl-2-pentanone	25.6	5.0	20	0	128	77-178	25.47	0.509	30	
Acetone	18.97	20	20	0	94.8	60-160	19.91	0	30	J
Benzene	21.26	1.0	20	0	106	85-125	21.46	0.936	30	
Bromodichloromethane	21.51	1.0	20	0	108	75-125	21.65	0.649	30	
Bromoform	19.01	1.0	20	0	95	60-125	18.69	1.7	30	
Bromomethane	32.93	1.0	20	0	165	30-185	32.63	0.915	30	
Carbon disulfide	27.53	2.5	20	0	138	60-165	27.43	0.364	30	
Carbon tetrachloride	21.53	1.0	20	0	108	65-140	22.04	2.34	30	
Chlorobenzene	21.99	1.0	20	0	110	80-120	21.85	0.639	30	
Chloroethane	13.93	1.0	20	0	69.6	50-140	14	0.501	30	
Chloroform	22.02	1.0	20	0	110	80-130	21.92	0.455	30	
Chloromethane	20.9	1.0	20	0	104	50-130	21	0.477	30	
cis-1,2-Dichloroethene	23.95	1.0	20	0	120	75-134	23.9	0.209	30	
cis-1,3-Dichloropropene	23.67	1.0	20	0	118	70-130	23.8	0.548	30	
Dibromochloromethane	19.92	1.0	20	0	99.6	60-115	19.64	1.42	30	
Dichlorodifluoromethane	19.79	1.0	20	0	99	20-120	19.79	0	30	
Ethylbenzene	22.69	1.0	20	0	113	85-125	22.7	0.0441	30	
Isopropylbenzene	22.93	1.0	20	0	115	80-127	22.72	0.92	30	
Methyl tert-butyl ether	21.49	5.0	20	0	107	80-130	21.26	1.08	30	
Methylene chloride	22.65	5.0	20	0	113	75-140	22.35	1.33	30	
Styrene	22.38	1.0	20	0	112	85-125	22.29	0.403	30	
Tetrachloroethene	27.53	2.0	20	0	138	77-138	27.39	0.51	30	
Toluene	22.13	1.0	20	0	111	85-125	22.09	0.181	30	
trans-1,2-Dichloroethene	25.54	1.0	20	0	128	80-140	25.99	1.75	30	
trans-1,3-Dichloropropene	22.46	1.0	20	0	112	81-123	22.44	0.0891	30	
Trichloroethene	23.94	1.0	20	0	120	84-130	23.49	1.9	30	
Trichlorofluoromethane	25.28	1.0	20	0	126	60-140	24.86	1.68	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141420	Instrument ID VMS8			Method: SW8260					
Vinyl chloride	24.51	1.0	20	0	123	50-136	24.95	1.78	30
Xylenes, Total	66.12	3.0	60	0	110	80-126	66.25	0.196	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.07</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>75-120</i>	<i>19.81</i>	<i>1.3</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.69</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>80-110</i>	<i>19.75</i>	<i>0.304</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.99</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>20.17</i>	<i>0.896</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>20.03</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-110</i>	<i>20.04</i>	<i>0.0499</i>	<i>30</i>

The following samples were analyzed in this batch:

14051118-05A	14051118-06A

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141421A** Instrument ID **VMS9** Method: **SW8260**

MBLK		Sample ID: VLKW3-140524-R141421A				Units: µg/L		Analysis Date: 5/25/2014 01:21 PM		
Client ID:		Run ID: VMS9_140524C				SeqNo: 2780538		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: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141421A	Instrument ID VMS9	Method: SW8260						
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>20.36</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>17.66</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.3</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.07</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.11</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95.6</i>	<i>85-110</i>	<i>0</i>	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141421A** Instrument ID **VMS9** Method: **SW8260**

LCS		Sample ID: VLCSW3-140524-R141421A				Units: µg/L		Analysis Date: 5/25/2014 12:07 PM		
Client ID:		Run ID: VMS9_140524C				SeqNo: 2780537		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	20.88	1.0	20	0	104	75-130	0			
1,1,2,2-Tetrachloroethane	19.82	1.0	20	0	99.1	75-130	0			
1,1,2-Trichloroethane	19.77	1.0	20	0	98.8	75-125	0			
1,1-Dichloroethane	20.03	1.0	20	0	100	75-133	0			
1,1-Dichloroethene	20.91	1.0	20	0	105	70-145	0			
1,2,4-Trichlorobenzene	20.72	1.0	20	0	104	70-135	0			
1,2-Dibromo-3-chloropropane	19.16	1.0	20	0	95.8	60-130	0			
1,2-Dibromoethane	20.12	1.0	20	0	101	80-150	0			
1,2-Dichlorobenzene	19.89	1.0	20	0	99.4	70-130	0			
1,2-Dichloroethane	20.05	1.0	20	0	100	78-125	0			
1,2-Dichloropropane	20.04	2.0	20	0	100	75-125	0			
1,3-Dichlorobenzene	20.68	2.0	20	0	103	75-130	0			
1,4-Dichlorobenzene	19.93	2.0	20	0	99.6	75-130	0			
2-Butanone	20.5	5.0	20	0	102	55-150	0			
2-Hexanone	20.04	5.0	20	0	100	60-135	0			
4-Methyl-2-pentanone	24.24	5.0	20	0	121	77-178	0			
Acetone	22.4	20	20	0	112	60-160	0			
Benzene	20.04	1.0	20	0	100	85-125	0			
Bromodichloromethane	20.2	1.0	20	0	101	75-125	0			
Bromoform	19.02	1.0	20	0	95.1	60-125	0			
Bromomethane	20.58	1.0	20	0	103	30-185	0			
Carbon disulfide	22.37	2.5	20	0	112	60-165	0			
Carbon tetrachloride	18.09	1.0	20	0	90.4	65-140	0			
Chlorobenzene	20.48	1.0	20	0	102	80-120	0			
Chloroethane	19.21	1.0	20	0	96	50-140	0			
Chloroform	20.27	1.0	20	0	101	80-130	0			
Chloromethane	18.21	1.0	20	0	91	50-130	0			
cis-1,2-Dichloroethene	20.02	1.0	20	0	100	75-134	0			
cis-1,3-Dichloropropene	20.9	1.0	20	0	104	70-130	0			
Dibromochloromethane	18.05	1.0	20	0	90.2	60-115	0			
Dichlorodifluoromethane	15.75	1.0	20	0	78.8	20-120	0			
Ethylbenzene	22.2	1.0	20	0	111	85-125	0			
Isopropylbenzene	19.01	1.0	20	0	95	80-127	0			
Methyl tert-butyl ether	19.44	5.0	20	0	97.2	80-130	0			
Methylene chloride	21.05	5.0	20	0	105	75-140	0			
Styrene	20.07	1.0	20	0	100	85-125	0			
Tetrachloroethene	19.32	2.0	20	0	96.6	77-138	0			
Toluene	20.37	1.0	20	0	102	85-125	0			
trans-1,2-Dichloroethene	21.42	1.0	20	0	107	80-140	0			
trans-1,3-Dichloropropene	19.7	1.0	20	0	98.5	81-123	0			
Trichloroethene	20.18	1.0	20	0	101	84-130	0			
Trichlorofluoromethane	18.52	1.0	20	0	92.6	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141421A	Instrument ID VMS9		Method: SW8260				
Vinyl chloride	20.24	1.0	20	0	101	50-136	0
Xylenes, Total	61.42	3.0	60	0	102	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.25</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.2</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>21.23</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>106</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.01</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.32</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141421A** Instrument ID **VMS9** Method: **SW8260**

MS				Sample ID: 14051135-01A MS			Units: µg/L		Analysis Date: 5/25/2014 09:56 PM	
Client ID:				Run ID: VMS9_140524C			SeqNo: 2780543		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	24.11	1.0	20	0	121	75-130	0			
1,1,2,2-Tetrachloroethane	19.22	1.0	20	0	96.1	75-130	0			
1,1,2-Trichloroethane	19.99	1.0	20	0	100	75-125	0			
1,1-Dichloroethane	20.89	1.0	20	0	104	75-133	0			
1,1-Dichloroethene	22.26	1.0	20	0	111	70-145	0			
1,2,4-Trichlorobenzene	16.92	1.0	20	0	84.6	70-135	0			
1,2-Dibromo-3-chloropropane	17.52	1.0	20	0	87.6	60-130	0			
1,2-Dibromoethane	20.09	1.0	20	0	100	80-150	0			
1,2-Dichlorobenzene	18.71	1.0	20	0	93.6	70-130	0			
1,2-Dichloroethane	21.14	1.0	20	0	106	78-125	0			
1,2-Dichloropropane	21.28	2.0	20	0	106	75-125	0			
1,3-Dichlorobenzene	19.54	2.0	20	0	97.7	75-130	0			
1,4-Dichlorobenzene	18.93	2.0	20	0	94.6	75-130	0			
2-Butanone	19.05	5.0	20	0	95.2	55-150	0			
2-Hexanone	17.87	5.0	20	0	89.4	60-135	0			
4-Methyl-2-pentanone	23.45	5.0	20	0	117	77-178	0			
Acetone	23.49	20	20	0.19	116	60-160	0			
Benzene	20.96	1.0	20	0	105	85-125	0			
Bromodichloromethane	21	1.0	20	0	105	75-125	0			
Bromoform	18.52	1.0	20	0	92.6	60-125	0			
Bromomethane	13.99	1.0	20	0	70	30-185	0			
Carbon disulfide	23.9	2.5	20	0	120	60-165	0			
Carbon tetrachloride	24.14	1.0	20	0	121	65-140	0			
Chlorobenzene	20.16	1.0	20	0	101	80-120	0			
Chloroethane	22.2	1.0	20	0	111	50-140	0			
Chloroform	20.87	1.0	20	0	104	80-130	0			
Chloromethane	18.79	1.0	20	0	94	50-130	0			
cis-1,2-Dichloroethene	19.33	1.0	20	0	96.6	75-134	0			
cis-1,3-Dichloropropene	20.16	1.0	20	0	101	70-130	0			
Dibromochloromethane	18.11	1.0	20	0	90.6	60-115	0			
Dichlorodifluoromethane	19.18	1.0	20	0	95.9	20-120	0			
Ethylbenzene	21.72	1.0	20	0	109	85-125	0			
Isopropylbenzene	18.78	1.0	20	0	93.9	80-127	0			
Methyl tert-butyl ether	19.32	5.0	20	0	96.6	80-130	0			
Methylene chloride	21.64	5.0	20	0	108	75-140	0			
Styrene	19.53	1.0	20	0	97.6	85-125	0			
Tetrachloroethene	20.2	2.0	20	0	101	77-138	0			
Toluene	21.12	1.0	20	0	106	85-125	0			
trans-1,2-Dichloroethene	22.44	1.0	20	0	112	80-140	0			
trans-1,3-Dichloropropene	18.09	1.0	20	0	90.4	81-123	0			
Trichloroethene	21.36	1.0	20	0	107	84-130	0			
Trichlorofluoromethane	20.51	1.0	20	0	103	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141421A	Instrument ID VMS9	Method: SW8260					
Vinyl chloride	21.32	1.0	20	0	107	50-136	0
Xylenes, Total	61.22	3.0	60	0	102	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.21</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>21.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>106</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.01</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.01</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141421A** Instrument ID **VMS9** Method: **SW8260**

MSD				Sample ID: 14051135-01A MSD			Units: µg/L		Analysis Date: 5/25/2014 10:21 PM	
Client ID:				Run ID: VMS9_140524C			SeqNo: 2780544		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	23.45	1.0	20	0	117	75-130	24.11	2.78	30	
1,1,2,2-Tetrachloroethane	18.95	1.0	20	0	94.8	75-130	19.22	1.41	30	
1,1,2-Trichloroethane	19.83	1.0	20	0	99.2	75-125	19.99	0.804	30	
1,1-Dichloroethane	20.23	1.0	20	0	101	75-133	20.89	3.21	30	
1,1-Dichloroethene	21.83	1.0	20	0	109	70-145	22.26	1.95	30	
1,2,4-Trichlorobenzene	18.3	1.0	20	0	91.5	70-135	16.92	7.84	30	
1,2-Dibromo-3-chloropropane	17.71	1.0	20	0	88.6	60-130	17.52	1.08	30	
1,2-Dibromoethane	19.75	1.0	20	0	98.8	80-150	20.09	1.71	30	
1,2-Dichlorobenzene	18.91	1.0	20	0	94.6	70-130	18.71	1.06	30	
1,2-Dichloroethane	20.35	1.0	20	0	102	78-125	21.14	3.81	30	
1,2-Dichloropropane	20.69	2.0	20	0	103	75-125	21.28	2.81	30	
1,3-Dichlorobenzene	19.89	2.0	20	0	99.4	75-130	19.54	1.78	30	
1,4-Dichlorobenzene	19.24	2.0	20	0	96.2	75-130	18.93	1.62	30	
2-Butanone	19.42	5.0	20	0	97.1	55-150	19.05	1.92	30	
2-Hexanone	18.29	5.0	20	0	91.4	60-135	17.87	2.32	30	
4-Methyl-2-pentanone	24.37	5.0	20	0	122	77-178	23.45	3.85	30	
Acetone	23.29	20	20	0.19	116	60-160	23.49	0.855	30	
Benzene	20.54	1.0	20	0	103	85-125	20.96	2.02	30	
Bromodichloromethane	20.63	1.0	20	0	103	75-125	21	1.78	30	
Bromoform	18.11	1.0	20	0	90.6	60-125	18.52	2.24	30	
Bromomethane	16.44	1.0	20	0	82.2	30-185	13.99	16.1	30	
Carbon disulfide	23.67	2.5	20	0	118	60-165	23.9	0.967	30	
Carbon tetrachloride	19.83	1.0	20	0	99.2	65-140	24.14	19.6	30	
Chlorobenzene	19.89	1.0	20	0	99.4	80-120	20.16	1.35	30	
Chloroethane	22.28	1.0	20	0	111	50-140	22.2	0.36	30	
Chloroform	20.47	1.0	20	0	102	80-130	20.87	1.94	30	
Chloromethane	19.11	1.0	20	0	95.6	50-130	18.79	1.69	30	
cis-1,2-Dichloroethene	19.12	1.0	20	0	95.6	75-134	19.33	1.09	30	
cis-1,3-Dichloropropene	19.85	1.0	20	0	99.2	70-130	20.16	1.55	30	
Dibromochloromethane	17.88	1.0	20	0	89.4	60-115	18.11	1.28	30	
Dichlorodifluoromethane	18.62	1.0	20	0	93.1	20-120	19.18	2.96	30	
Ethylbenzene	21.84	1.0	20	0	109	85-125	21.72	0.551	30	
Isopropylbenzene	18.83	1.0	20	0	94.2	80-127	18.78	0.266	30	
Methyl tert-butyl ether	19.07	5.0	20	0	95.4	80-130	19.32	1.3	30	
Methylene chloride	21.38	5.0	20	0	107	75-140	21.64	1.21	30	
Styrene	19.25	1.0	20	0	96.2	85-125	19.53	1.44	30	
Tetrachloroethene	20.05	2.0	20	0	100	77-138	20.2	0.745	30	
Toluene	20.68	1.0	20	0	103	85-125	21.12	2.11	30	
trans-1,2-Dichloroethene	21.78	1.0	20	0	109	80-140	22.44	2.99	30	
trans-1,3-Dichloropropene	17.98	1.0	20	0	89.9	81-123	18.09	0.61	30	
Trichloroethene	21.38	1.0	20	0	107	84-130	21.36	0.0936	30	
Trichlorofluoromethane	19.8	1.0	20	0	99	60-140	20.51	3.52	30	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141421A	Instrument ID VMS9			Method: SW8260					
Vinyl chloride	20.7	1.0	20	0	104	50-136	21.32	2.95	30
Xylenes, Total	60.5	3.0	60	0	101	80-126	61.22	1.18	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.95</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.8</i>	<i>75-120</i>	<i>20.21</i>	<i>1.29</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.82</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>104</i>	<i>80-110</i>	<i>21.14</i>	<i>1.53</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.8</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99</i>	<i>85-115</i>	<i>20.01</i>	<i>1.06</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>20.33</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>85-110</i>	<i>20.01</i>	<i>1.59</i>	<i>30</i>

The following samples were analyzed in this batch:

14051118-03A

14051118-04A

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141659** Instrument ID **VMS8** Method: **SW8260**

MBLK		Sample ID: VLKW2-140529-R141659				Units: µg/L		Analysis Date: 5/30/2014 12:37 PM		
Client ID:		Run ID: VMS8_140529B				SeqNo: 2786730		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	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	1.0								
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	1.0								
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	1.0								
Methylcyclohexane	U	1.0								
Methylene chloride	U	5.0								
Styrene	U	1.0								
Tetrachloroethene	U	1.0								
Toluene	U	1.0								

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141659	Instrument ID VMS8	Method: SW8260						
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						
Surr: 1,2-Dichloroethane-d4	19.86	0	20	0	99.3	75-120	0	
Surr: 4-Bromofluorobenzene	20	0	20	0	100	80-110	0	
Surr: Dibromofluoromethane	19.17	0	20	0	95.8	85-115	0	
Surr: Toluene-d8	19.45	0	20	0	97.2	85-110	0	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141659** Instrument ID **VMS8** Method: **SW8260**

LCS		Sample ID: VLCSW2-140529-R141659				Units: µg/L		Analysis Date: 5/29/2014 11:24 PM		
Client ID:		Run ID: VMS8_140529B				SeqNo: 2786717		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	21.74	1.0	20	0	109	75-130	0			
1,1,2,2-Tetrachloroethane	20.87	1.0	20	0	104	75-130	0			
1,1,2-Trichloroethane	21.62	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	21.59	1.0	20	0	108	75-133	0			
1,1-Dichloroethene	23.42	1.0	20	0	117	70-145	0			
1,2,4-Trichlorobenzene	22.95	1.0	20	0	115	70-135	0			
1,2-Dibromo-3-chloropropane	19.74	1.0	20	0	98.7	60-130	0			
1,2-Dibromoethane	22.48	1.0	20	0	112	80-150	0			
1,2-Dichlorobenzene	20.99	1.0	20	0	105	70-130	0			
1,2-Dichloroethane	20.56	1.0	20	0	103	78-125	0			
1,2-Dichloropropane	20.59	1.0	20	0	103	75-125	0			
1,3-Dichlorobenzene	21.49	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	20.52	1.0	20	0	103	75-130	0			
2-Butanone	18.89	5.0	20	0	94.4	55-150	0			
2-Hexanone	19.53	5.0	20	0	97.6	60-135	0			
4-Methyl-2-pentanone	24.44	1.0	20	0	122	77-178	0			
Acetone	18.35	10	20	0	91.8	60-160	0			
Benzene	19.53	1.0	20	0	97.6	85-125	0			
Bromodichloromethane	20.32	1.0	20	0	102	75-125	0			
Bromoform	18.95	1.0	20	0	94.8	60-125	0			
Bromomethane	24.26	1.0	20	0	121	30-185	0			
Carbon disulfide	24.47	1.0	20	0	122	60-165	0			
Carbon tetrachloride	18.96	1.0	20	0	94.8	65-140	0			
Chlorobenzene	20.46	1.0	20	0	102	80-120	0			
Chloroethane	17.45	1.0	20	0	87.2	50-140	0			
Chloroform	20.37	1.0	20	0	102	80-130	0			
Chloromethane	19.67	1.0	20	0	98.4	50-130	0			
cis-1,2-Dichloroethene	21.52	1.0	20	0	108	75-134	0			
cis-1,3-Dichloropropene	22.2	1.0	20	0	111	70-130	0			
Dibromochloromethane	18.9	1.0	20	0	94.5	60-115	0			
Dichlorodifluoromethane	16.69	1.0	20	0	83.4	20-120	0			
Ethylbenzene	20.52	1.0	20	0	103	85-125	0			
Isopropylbenzene	20.74	1.0	20	0	104	80-127	0			
Methyl tert-butyl ether	20.8	1.0	20	0	104	80-130	0			
Methylene chloride	22.13	5.0	20	0	111	75-140	0			
Styrene	21.09	1.0	20	0	105	85-125	0			
Tetrachloroethene	23.23	1.0	20	0	116	77-138	0			
Toluene	19.7	1.0	20	0	98.5	85-125	0			
trans-1,2-Dichloroethene	23.06	1.0	20	0	115	80-140	0			
trans-1,3-Dichloropropene	20.77	1.0	20	0	104	81-123	0			
Trichloroethene	21.55	1.0	20	0	108	84-130	0			
Trichlorofluoromethane	21.14	1.0	20	0	106	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141659	Instrument ID VMS8		Method: SW8260				
Vinyl chloride	21.47	1.0	20	0	107	50-136	0
Xylenes, Total	60.19	3.0	60	0	100	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.82</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.1</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.99</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.14</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.54</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.7</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141659** Instrument ID **VMS8** Method: **SW8260**

MS					Sample ID: 14051118-11A MS		Units: µg/L		Analysis Date: 5/30/2014 09:09 AM		
Client ID: W-R2330012-052014-ACN-030			Run ID: VMS8_140529B			SeqNo: 2786727		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	23.66	1.0	20	0	118	75-130	0				
1,1,2,2-Tetrachloroethane	20.38	1.0	20	0	102	75-130	0				
1,1,2-Trichloroethane	21.42	1.0	20	0	107	75-125	0				
1,1-Dichloroethane	23	1.0	20	0	115	75-133	0				
1,1-Dichloroethene	25.39	1.0	20	0	127	70-145	0				
1,2,4-Trichlorobenzene	20.18	1.0	20	0	101	70-135	0				
1,2-Dibromo-3-chloropropane	17.2	1.0	20	0	86	60-130	0				
1,2-Dibromoethane	22.13	1.0	20	0	111	80-150	0				
1,2-Dichlorobenzene	24.29	1.0	20	0	121	70-130	0				
1,2-Dichloroethane	20.77	1.0	20	0	104	78-125	0				
1,2-Dichloropropane	21.2	1.0	20	0	106	75-125	0				
1,3-Dichlorobenzene	21.51	1.0	20	0	108	75-130	0				
1,4-Dichlorobenzene	20.59	1.0	20	0	103	75-130	0				
2-Butanone	17.52	5.0	20	0	87.6	55-150	0				
2-Hexanone	18.6	5.0	20	0	93	60-135	0				
4-Methyl-2-pentanone	24	1.0	20	0	120	77-178	0				
Acetone	19.97	10	20	0	99.8	60-160	0				
Benzene	20.77	1.0	20	0	104	85-125	0				
Bromodichloromethane	20.67	1.0	20	0	103	75-125	0				
Bromoform	17.97	1.0	20	0	89.8	60-125	0				
Bromomethane	17.94	1.0	20	0	89.7	30-185	0				
Carbon disulfide	27.28	1.0	20	0	136	60-165	0				
Carbon tetrachloride	20.47	1.0	20	0	102	65-140	0				
Chlorobenzene	20.95	1.0	20	0	105	80-120	0				
Chloroethane	5.13	1.0	20	0	25.6	50-140	0			S	
Chloroform	21.29	1.0	20	0	106	80-130	0				
Chloromethane	21.81	1.0	20	0	109	50-130	0				
cis-1,2-Dichloroethene	22.71	1.0	20	0	114	75-134	0				
cis-1,3-Dichloropropene	21.69	1.0	20	0	108	70-130	0				
Dibromochloromethane	18.56	1.0	20	0	92.8	60-115	0				
Dichlorodifluoromethane	18.15	1.0	20	0	90.8	20-120	0				
Ethylbenzene	21.7	1.0	20	0	108	85-125	0				
Isopropylbenzene	21.91	1.0	20	0	110	80-127	0				
Methyl tert-butyl ether	21.25	1.0	20	0	106	80-130	0				
Methylene chloride	22	5.0	20	0	110	75-140	0				
Styrene	21.76	1.0	20	0	109	85-125	0				
Tetrachloroethene	25.04	1.0	20	0	125	77-138	0				
Toluene	21.21	1.0	20	0	106	85-125	0				
trans-1,2-Dichloroethene	25.23	1.0	20	0	126	80-140	0				
trans-1,3-Dichloropropene	20.31	1.0	20	0	102	81-123	0				
Trichloroethene	22.96	1.0	20	0	115	84-130	0				
Trichlorofluoromethane	23.17	1.0	20	0	116	60-140	0				

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141659	Instrument ID VMS8		Method: SW8260				
Vinyl chloride	24.49	1.0	20	0	122	50-136	0
Xylenes, Total	63.14	3.0	60	0	105	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.57</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.8</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.97</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.8</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.87</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.4</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.96</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.8</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141659** Instrument ID **VMS8** Method: **SW8260**

MSD				Sample ID: 14051118-11A MSD			Units: µg/L		Analysis Date: 5/30/2014 09:34 AM		
Client ID: W-R2330012-052014-ACN-030			Run ID: VMS8_140529B			SeqNo: 2786729		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	23.74	1.0	20	0	119	75-130	23.66	0.338	30		
1,1,2,2-Tetrachloroethane	20.23	1.0	20	0	101	75-130	20.38	0.739	30		
1,1,2-Trichloroethane	21.29	1.0	20	0	106	75-125	21.42	0.609	30		
1,1-Dichloroethane	23.05	1.0	20	0	115	75-133	23	0.217	30		
1,1-Dichloroethene	26.88	1.0	20	0	134	70-145	25.39	5.7	30		
1,2,4-Trichlorobenzene	20.17	1.0	20	0	101	70-135	20.18	0.0496	30		
1,2-Dibromo-3-chloropropane	17.4	1.0	20	0	87	60-130	17.2	1.16	30		
1,2-Dibromoethane	21.86	1.0	20	0	109	80-150	22.13	1.23	30		
1,2-Dichlorobenzene	22.75	1.0	20	0	114	70-130	24.29	6.55	30		
1,2-Dichloroethane	20.68	1.0	20	0	103	78-125	20.77	0.434	30		
1,2-Dichloropropane	21.24	1.0	20	0	106	75-125	21.2	0.189	30		
1,3-Dichlorobenzene	21.05	1.0	20	0	105	75-130	21.51	2.16	30		
1,4-Dichlorobenzene	20.16	1.0	20	0	101	75-130	20.59	2.11	30		
2-Butanone	17.36	5.0	20	0	86.8	55-150	17.52	0.917	30		
2-Hexanone	17.96	5.0	20	0	89.8	60-135	18.6	3.5	30		
4-Methyl-2-pentanone	23.56	1.0	20	0	118	77-178	24	1.85	30		
Acetone	20.92	10	20	0	105	60-160	19.97	4.65	30		
Benzene	20.61	1.0	20	0	103	85-125	20.77	0.773	30		
Bromodichloromethane	20.73	1.0	20	0	104	75-125	20.67	0.29	30		
Bromoform	17.91	1.0	20	0	89.6	60-125	17.97	0.334	30		
Bromomethane	17.92	1.0	20	0	89.6	30-185	17.94	0.112	30		
Carbon disulfide	27.82	1.0	20	0	139	60-165	27.28	1.96	30		
Carbon tetrachloride	20.3	1.0	20	0	102	65-140	20.47	0.834	30		
Chlorobenzene	21.02	1.0	20	0	105	80-120	20.95	0.334	30		
Chloroethane	19.58	1.0	20	0	97.9	50-140	5.13	117	30	R	
Chloroform	21.18	1.0	20	0	106	80-130	21.29	0.518	30		
Chloromethane	21.42	1.0	20	0	107	50-130	21.81	1.8	30		
cis-1,2-Dichloroethene	22.32	1.0	20	0	112	75-134	22.71	1.73	30		
cis-1,3-Dichloropropene	21.66	1.0	20	0	108	70-130	21.69	0.138	30		
Dibromochloromethane	18.64	1.0	20	0	93.2	60-115	18.56	0.43	30		
Dichlorodifluoromethane	18.04	1.0	20	0	90.2	20-120	18.15	0.608	30		
Ethylbenzene	21.75	1.0	20	0	109	85-125	21.7	0.23	30		
Isopropylbenzene	21.76	1.0	20	0	109	80-127	21.91	0.687	30		
Methyl tert-butyl ether	20.84	1.0	20	0	104	80-130	21.25	1.95	30		
Methylene chloride	22.07	5.0	20	0	110	75-140	22	0.318	30		
Styrene	21.33	1.0	20	0	107	85-125	21.76	2	30		
Tetrachloroethene	24.39	1.0	20	0	122	77-138	25.04	2.63	30		
Toluene	21.07	1.0	20	0	105	85-125	21.21	0.662	30		
trans-1,2-Dichloroethene	25.3	1.0	20	0	126	80-140	25.23	0.277	30		
trans-1,3-Dichloropropene	19.89	1.0	20	0	99.4	81-123	20.31	2.09	30		
Trichloroethene	22.71	1.0	20	0	114	84-130	22.96	1.09	30		
Trichlorofluoromethane	22.93	1.0	20	0	115	60-140	23.17	1.04	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141659	Instrument ID VMS8			Method: SW8260					
Vinyl chloride	23.73	1.0	20	0	119	50-136	24.49	3.15	30
Xylenes, Total	62.86	3.0	60	0	105	80-126	63.14	0.444	30
Surr: 1,2-Dichloroethane-d4	19.43	0	20	0	97.2	75-120	19.57	0.718	30
Surr: 4-Bromofluorobenzene	19.98	0	20	0	99.9	80-110	19.97	0.0501	30
Surr: Dibromofluoromethane	19.81	0	20	0	99	85-115	19.87	0.302	30
Surr: Toluene-d8	19.87	0	20	0	99.4	85-110	19.96	0.452	30

The following samples were analyzed in this batch:

14051118-11A	14051118-12A

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141660** Instrument ID **VMS7** Method: **SW8260**

MBLK		Sample ID: VLKW2-140529-R141660				Units: µg/L		Analysis Date: 5/30/2014 12:32 PM		
Client ID:		Run ID: VMS7_140529B				SeqNo: 2787181		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	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	1.0								
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	1.0								
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	1.0								
Methylcyclohexane	U	1.0								
Methylene chloride	U	5.0								
Styrene	U	1.0								
Tetrachloroethene	U	1.0								
Toluene	U	1.0								

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141660	Instrument ID VMS7	Method: SW8260						
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>19.58</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.9</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.36</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.01</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.72</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.6</i>	<i>85-110</i>	<i>0</i>	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141660** Instrument ID **VMS7** Method: **SW8260**

LCS		Sample ID: VLCSW2-140529-R141660				Units: µg/L		Analysis Date: 5/29/2014 11:15 PM		
Client ID:		Run ID: VMS7_140529B				SeqNo: 2787160		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	22.33	1.0	20	0	112	75-130	0			
1,1,2,2-Tetrachloroethane	19.77	1.0	20	0	98.8	75-130	0			
1,1,2-Trichloroethane	20.19	1.0	20	0	101	75-125	0			
1,1-Dichloroethane	19.83	1.0	20	0	99.2	75-133	0			
1,1-Dichloroethene	22.24	1.0	20	0	111	70-145	0			
1,2,4-Trichlorobenzene	23.87	1.0	20	0	119	70-135	0			
1,2-Dibromo-3-chloropropane	21.48	1.0	20	0	107	60-130	0			
1,2-Dibromoethane	21.78	1.0	20	0	109	80-150	0			
1,2-Dichlorobenzene	22.47	1.0	20	0	112	70-130	0			
1,2-Dichloroethane	21.08	1.0	20	0	105	78-125	0			
1,2-Dichloropropane	19.44	1.0	20	0	97.2	75-125	0			
1,3-Dichlorobenzene	23.13	1.0	20	0	116	75-130	0			
1,4-Dichlorobenzene	22.73	1.0	20	0	114	75-130	0			
2-Butanone	20.58	5.0	20	0	103	55-150	0			
2-Hexanone	20.53	5.0	20	0	103	60-135	0			
4-Methyl-2-pentanone	26.1	1.0	20	0	130	77-178	0			
Acetone	21.02	10	20	0	105	60-160	0			
Benzene	20.9	1.0	20	0	104	85-125	0			
Bromodichloromethane	19.97	1.0	20	0	99.8	75-125	0			
Bromoform	20.71	1.0	20	0	104	60-125	0			
Bromomethane	25.95	1.0	20	0	130	30-185	0			
Carbon disulfide	23.35	1.0	20	0	117	60-165	0			
Carbon tetrachloride	23.21	1.0	20	0	116	65-140	0			
Chlorobenzene	21.33	1.0	20	0	107	80-120	0			
Chloroethane	17.55	1.0	20	0	87.8	50-140	0			
Chloroform	20.44	1.0	20	0	102	80-130	0			
Chloromethane	19.3	1.0	20	0	96.5	50-130	0			
cis-1,2-Dichloroethene	20.88	1.0	20	0	104	75-134	0			
cis-1,3-Dichloropropene	19.95	1.0	20	0	99.8	70-130	0			
Dibromochloromethane	19.51	1.0	20	0	97.6	60-115	0			
Dichlorodifluoromethane	19.73	1.0	20	0	98.6	20-120	0			
Ethylbenzene	20.77	1.0	20	0	104	85-125	0			
Isopropylbenzene	20.86	1.0	20	0	104	80-127	0			
Methyl tert-butyl ether	20.27	1.0	20	0	101	80-130	0			
Methylene chloride	21.28	5.0	20	0	106	75-140	0			
Styrene	20.71	1.0	20	0	104	85-125	0			
Tetrachloroethene	21.9	1.0	20	0	110	77-138	0			
Toluene	20.29	1.0	20	0	101	85-125	0			
trans-1,2-Dichloroethene	21.35	1.0	20	0	107	80-140	0			
trans-1,3-Dichloropropene	18.91	1.0	20	0	94.6	81-123	0			
Trichloroethene	22.5	1.0	20	0	112	84-130	0			
Trichlorofluoromethane	21.29	1.0	20	0	106	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141660	Instrument ID VMS7		Method: SW8260				
Vinyl chloride	19.5	1.0	20	0	97.5	50-136	0
Xylenes, Total	62.44	3.0	60	0	104	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.35</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.8</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.52</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.6</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.89</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.4</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.68</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>85-110</i>	<i>0</i>

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141660** Instrument ID **VMS7** Method: **SW8260**

MS				Sample ID: 14051254-03A MS			Units: µg/L		Analysis Date: 5/30/2014 08:54 AM	
Client ID:				Run ID: VMS7_140529B			SeqNo: 2787179		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	21.32	1.0	20	0	107	75-130	0			
1,1,2,2-Tetrachloroethane	16.46	1.0	20	0	82.3	75-130	0			
1,1,2-Trichloroethane	17.56	1.0	20	0	87.8	75-125	0			
1,1-Dichloroethane	18.3	1.0	20	0	91.5	75-133	0			
1,1-Dichloroethene	21.65	1.0	20	0	108	70-145	0			
1,2,4-Trichlorobenzene	17.55	1.0	20	0	87.8	70-135	0			
1,2-Dibromo-3-chloropropane	16.65	1.0	20	0	83.2	60-130	0			
1,2-Dibromoethane	18.63	1.0	20	0	93.2	80-150	0			
1,2-Dichlorobenzene	19.01	1.0	20	0	95	70-130	0			
1,2-Dichloroethane	19.04	1.0	20	0	95.2	78-125	0			
1,2-Dichloropropane	17.76	1.0	20	0	88.8	75-125	0			
1,3-Dichlorobenzene	19.27	1.0	20	0	96.4	75-130	0			
1,4-Dichlorobenzene	19.13	1.0	20	0	95.6	75-130	0			
2-Butanone	17.63	5.0	20	0	88.2	55-150	0			
2-Hexanone	16.96	5.0	20	0	84.8	60-135	0			
4-Methyl-2-pentanone	22.81	1.0	20	0	114	77-178	0			
Acetone	18.91	10	20	0	94.6	60-160	0			
Benzene	19.35	1.0	20	0	96.8	85-125	0			
Bromodichloromethane	17.86	1.0	20	0	89.3	75-125	0			
Bromoform	16.75	1.0	20	0	83.8	60-125	0			
Bromomethane	19.96	1.0	20	0	99.8	30-185	0			
Carbon disulfide	22.12	1.0	20	0	111	60-165	0			
Carbon tetrachloride	21.62	1.0	20	0	108	65-140	0			
Chlorobenzene	18.96	1.0	20	0	94.8	80-120	0			
Chloroethane	18.59	1.0	20	0	93	50-140	0			
Chloroform	18.79	1.0	20	0	94	80-130	0			
Chloromethane	18.29	1.0	20	0	91.4	50-130	0			
cis-1,2-Dichloroethene	18.52	1.0	20	0	92.6	75-134	0			
cis-1,3-Dichloropropene	17.12	1.0	20	0	85.6	70-130	0			
Dibromochloromethane	16.47	1.0	20	0	82.4	60-115	0			
Dichlorodifluoromethane	21.88	1.0	20	0	109	20-120	0			
Ethylbenzene	19.08	1.0	20	0	95.4	85-125	0			
Isopropylbenzene	19.22	1.0	20	0	96.1	80-127	0			
Methyl tert-butyl ether	18	1.0	20	0	90	80-130	0			
Methylene chloride	18.61	5.0	20	0	93	75-140	0			
Styrene	18.05	1.0	20	0	90.2	85-125	0			
Tetrachloroethene	20.49	1.0	20	0	102	77-138	0			
Toluene	18.31	1.0	20	0	91.6	85-125	0			
trans-1,2-Dichloroethene	19.8	1.0	20	0	99	80-140	0			
trans-1,3-Dichloropropene	15.31	1.0	20	0	76.6	81-123	0			S
Trichloroethene	21.39	1.0	20	0	107	84-130	0			
Trichlorofluoromethane	21.25	1.0	20	0	106	60-140	0			

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141660	Instrument ID VMS7		Method: SW8260				
Vinyl chloride	19.65	1.0	20	0	98.2	50-136	0
Xylenes, Total	56.34	3.0	60	0	93.9	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	19.11	0	20	0	95.6	75-120	0
<i>Surr: 4-Bromofluorobenzene</i>	19.58	0	20	0	97.9	80-110	0
<i>Surr: Dibromofluoromethane</i>	19.97	0	20	0	99.8	85-115	0
<i>Surr: Toluene-d8</i>	19.07	0	20	0	95.4	85-110	0

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **R141660** Instrument ID **VMS7** Method: **SW8260**

MSD					Sample ID: 14051254-03A MSD		Units: µg/L		Analysis Date: 5/30/2014 09:21 AM		
Client ID:			Run ID: VMS7_140529B			SeqNo: 2787180		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	21.32	1.0	20	0	107	75-130	21.32	0	30		
1,1,2,2-Tetrachloroethane	16.78	1.0	20	0	83.9	75-130	16.46	1.93	30		
1,1,2-Trichloroethane	18.05	1.0	20	0	90.2	75-125	17.56	2.75	30		
1,1-Dichloroethane	17.95	1.0	20	0	89.8	75-133	18.3	1.93	30		
1,1-Dichloroethene	21.5	1.0	20	0	108	70-145	21.65	0.695	30		
1,2,4-Trichlorobenzene	19.67	1.0	20	0	98.4	70-135	17.55	11.4	30		
1,2-Dibromo-3-chloropropane	17.2	1.0	20	0	86	60-130	16.65	3.25	30		
1,2-Dibromoethane	19.09	1.0	20	0	95.4	80-150	18.63	2.44	30		
1,2-Dichlorobenzene	19.43	1.0	20	0	97.2	70-130	19.01	2.19	30		
1,2-Dichloroethane	18.68	1.0	20	0	93.4	78-125	19.04	1.91	30		
1,2-Dichloropropane	17.43	1.0	20	0	87.2	75-125	17.76	1.88	30		
1,3-Dichlorobenzene	19.83	1.0	20	0	99.2	75-130	19.27	2.86	30		
1,4-Dichlorobenzene	19.74	1.0	20	0	98.7	75-130	19.13	3.14	30		
2-Butanone	17.87	5.0	20	0	89.4	55-150	17.63	1.35	30		
2-Hexanone	17.7	5.0	20	0	88.5	60-135	16.96	4.27	30		
4-Methyl-2-pentanone	23.72	1.0	20	0	119	77-178	22.81	3.91	30		
Acetone	19.41	10	20	0	97	60-160	18.91	2.61	30		
Benzene	19.29	1.0	20	0	96.4	85-125	19.35	0.311	30		
Bromodichloromethane	17.77	1.0	20	0	88.8	75-125	17.86	0.505	30		
Bromoform	17.13	1.0	20	0	85.6	60-125	16.75	2.24	30		
Bromomethane	21.63	1.0	20	0	108	30-185	19.96	8.03	30		
Carbon disulfide	21.96	1.0	20	0	110	60-165	22.12	0.726	30		
Carbon tetrachloride	21.42	1.0	20	0	107	65-140	21.62	0.929	30		
Chlorobenzene	19.38	1.0	20	0	96.9	80-120	18.96	2.19	30		
Chloroethane	18.26	1.0	20	0	91.3	50-140	18.59	1.79	30		
Chloroform	18.78	1.0	20	0	93.9	80-130	18.79	0.0532	30		
Chloromethane	18.47	1.0	20	0	92.4	50-130	18.29	0.979	30		
cis-1,2-Dichloroethene	18.47	1.0	20	0	92.4	75-134	18.52	0.27	30		
cis-1,3-Dichloropropene	17.18	1.0	20	0	85.9	70-130	17.12	0.35	30		
Dibromochloromethane	16.74	1.0	20	0	83.7	60-115	16.47	1.63	30		
Dichlorodifluoromethane	21.17	1.0	20	0	106	20-120	21.88	3.3	30		
Ethylbenzene	19.24	1.0	20	0	96.2	85-125	19.08	0.835	30		
Isopropylbenzene	19.52	1.0	20	0	97.6	80-127	19.22	1.55	30		
Methyl tert-butyl ether	17.91	1.0	20	0	89.6	80-130	18	0.501	30		
Methylene chloride	18.59	5.0	20	0	93	75-140	18.61	0.108	30		
Styrene	18.62	1.0	20	0	93.1	85-125	18.05	3.11	30		
Tetrachloroethene	20.86	1.0	20	0	104	77-138	20.49	1.79	30		
Toluene	18.59	1.0	20	0	93	85-125	18.31	1.52	30		
trans-1,2-Dichloroethene	19.93	1.0	20	0	99.6	80-140	19.8	0.654	30		
trans-1,3-Dichloropropene	15.84	1.0	20	0	79.2	81-123	15.31	3.4	30	S	
Trichloroethene	21	1.0	20	0	105	84-130	21.39	1.84	30		
Trichlorofluoromethane	21.07	1.0	20	0	105	60-140	21.25	0.851	30		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: R141660	Instrument ID VMS7			Method: SW8260					
Vinyl chloride	19.4	1.0	20	0	97	50-136	19.65	1.28	30
Xylenes, Total	56.93	3.0	60	0	94.9	80-126	56.34	1.04	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.2</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96</i>	<i>75-120</i>	<i>19.11</i>	<i>0.47</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.68</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>80-110</i>	<i>19.58</i>	<i>0.509</i>	<i>30</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>19.97</i>	<i>1.67</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>19.4</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97</i>	<i>85-110</i>	<i>19.07</i>	<i>1.72</i>	<i>30</i>

The following samples were analyzed in this batch:	14051118-07A	14051118-08A	14051118-09A
	14051118-10A	14051118-13A	

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **59141** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-59141-59141				Units: mg/L		Analysis Date: 5/29/2014 02:00 PM		
Client ID:		Run ID: LACHAT_140529C		SeqNo: 2785021		Prep Date: 5/29/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable U 0.0050

LCS		Sample ID: LCS-59141-59141				Units: mg/L		Analysis Date: 5/29/2014 02:00 PM		
Client ID:		Run ID: LACHAT_140529C		SeqNo: 2785022		Prep Date: 5/29/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2472 0.0050 0.25 0 98.9 83-120 0

MS		Sample ID: 14051118-01C MS				Units: mg/L		Analysis Date: 5/29/2014 02:00 PM		
Client ID: W-R2330012-051914-ACN-020		Run ID: LACHAT_140529C		SeqNo: 2785027		Prep Date: 5/29/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2527 0.0050 0.25 0.000999 101 70-130 0

MSD		Sample ID: 14051118-01C MSD				Units: mg/L		Analysis Date: 5/29/2014 02:00 PM		
Client ID: W-R2330012-051914-ACN-020		Run ID: LACHAT_140529C		SeqNo: 2785028		Prep Date: 5/29/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2353 0.0050 0.25 0.000999 93.7 70-130 0.2527 7.13 30

The following samples were analyzed in this batch:

14051118-01C	14051118-02C	14051118-03C
14051118-04C	14051118-05C	14051118-06C
14051118-07C		

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

Client: The Mannik & Smith Group, Inc.
Work Order: 14051118
Project: RACER - Van Buren Landfill (R2330012)

QC BATCH REPORT

Batch ID: **59175** Instrument ID **LACHAT** Method: **SW9012A**

MBLK		Sample ID: MBLK-59175-59175				Units: mg/L		Analysis Date: 5/30/2014 10:45 AM		
Client ID:		Run ID: LACHAT_140530B		SeqNo: 2786998		Prep Date: 5/30/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable U 0.0050

LCS		Sample ID: LCS-59175-59175				Units: mg/L		Analysis Date: 5/30/2014 10:45 AM		
Client ID:		Run ID: LACHAT_140530B		SeqNo: 2786999		Prep Date: 5/30/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2661 0.0050 0.25 0 106 83-120 0

MS		Sample ID: 14051118-08C MS				Units: mg/L		Analysis Date: 5/30/2014 10:45 AM		
Client ID: W-R2330012-052014-ACN-027		Run ID: LACHAT_140530B		SeqNo: 2787001		Prep Date: 5/30/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2621 0.0050 0.25 0.001191 104 70-130 0

MSD		Sample ID: 14051118-08C MSD				Units: mg/L		Analysis Date: 5/30/2014 10:45 AM		
Client ID: W-R2330012-052014-ACN-027		Run ID: LACHAT_140530B		SeqNo: 2787002		Prep Date: 5/30/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Cyanide, Amenable 0.2407 0.0050 0.25 0.001191 95.8 70-130 0.2621 8.51 30

The following samples were analyzed in this batch:

14051118-08C	14051118-09C	14051118-10C
14051118-11C	14051118-12C	

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



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Chain of Custody Form

Page 1 of 2

COC ID: 94674

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: TJB

ALS Work Order #: 14051118

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number	R2330012	B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs											
Send Report To	Mike Frickhoff	Invoice Attn	Accounts Payable	D	Cyanide - total											
Address	2365 Haggerty Road South Suite 100	Address	2830 Ecorse Rd	E	Cyanide - amenable											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	F	Metals (Including Hg) - total											
Phone	(734) 397-3100	Phone		G	Moisture											
Fax	(734) 397-3131	Fax		H	Metals (Including Hg) - dissolved <u>Field Filtered</u>											
e-Mail Address		e-Mail Address		I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	W-R2330012-051914-ACN-020	5-19-14	0945	AL	12.4	8	X	X			X	X		X			
2	W-R2330012-051914-ACN-021		1055														
3	W-R2330012-051914-ACN-022		1155														
4	W-R2330012-051914-ACN-023		1255														
5	W-R2330012-051914-ACN-024		1300														
6	W-R2330012-051914-ACN-025		1410														
7	W-R2330012-052014-ACN-026	5-20-14	0910														
8	W-R2330012-052014-ACN-027		1005														
9	W-R2330012-052014-ACN-028		1045														
10	W-R2330012-052014-ACN-029		1155														

Sampler(s) Please Print & Sign <u>Adam New</u>		Shipment Method <u>Co-Order</u>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ Other ☐ 2 WK Days ☐ 24 Hour				Results Due Date: <u>5/22/14</u>	
Relinquished by: <u>[Signature]</u>	Date: <u>5/20/14</u>	Time: <u>1600</u>	Received by: <u>msk Frickhoff</u>		Notes: <u>Rec'd 5/22/14 0800 R2.2 ll</u>				
Relinquished by: <u>[Signature]</u>	Date: <u>5/20/14</u>	Time: <u>1145</u>	Received by (Laboratory): <u>[Signature]</u>		Cooler ID: _____				
Logged by (Laboratory): <u>[Signature]</u>	Date: <u>5/22/14</u>	Time: <u>1000</u>	Checked by (Laboratory): <u>[Signature]</u>		Cooler Temp.: <u>26°C</u>				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					QC Package: (Check One Box Below) ☒ Level II Std QC ☐ Level III Std QC/Row Data ☐ Level IV BWA/CLP ☐ Other				

24°C

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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.



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Chain of Custody Form

Page 2 of 2

COC ID: 104995

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: 1003

ALS Work Order #: 14051118

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Van Buren Landfill	A	VOCs
Work Order		Project Number	R2330012	B	SVOCs
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	PCBs
Send Report To	Mike Friedhoff	Invoice Attn	Accounts Payable	D	Cyanide - total
Address	2385 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	Cyanide - amenable
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48199	F	Metals (Including Hg) - total
Phone	(734) 397-3100	Phone		G	Moisture
Fax	(734) 397-3131	Fax		H	Metals (Including Hg) - dissolved <u>Field Filtered</u>
e-Mail Address		e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	W-R2330012-052014-ACN-030	5-20-14	1315	Ar	1,2,4	8	X	X			X	X		X			
2	W-R2330012-052014-ACN-031	5-20-14	1430	Ar	1,2,4	8	X	X			X	X		X			
3	Trip Blank		0000	Ar	1	1	X										
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Adam New</u>		Shipment Method <u>Carrier</u>		Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour		Results Due Date: <u>5/22/14</u>	
Relinquished by: <u>MSH</u>	Date: <u>5/20/14</u>	Time: <u>1600</u>	Received by: <u>MSH Friedhoff</u>	Notes: <u>Roc'd 5/22/14 0800 D. J. Shu</u>			
Relinquished by: <u>MSH</u>	Date: <u>5-21-14</u>	Time: <u>11:45</u>	Received by (Laboratory): <u>MSH</u>	Cooler ID:	Cooler Temp:	QC Package: (Check One Box Below)	
Logged by (Laboratory): <u>DFS</u>	Date: <u>5/22/14</u>	Time: <u>1000</u>	Checked by (Laboratory): <u>MSH</u>		2.6°C	☒ Level II Std QC	☐ TRRP Checklist
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₈ 6-NaHSO ₄ 7-Other 8-4°C 9-5035					2.4°C	☐ Level III Std QC/Raw Data	☐ TRRP Level IV
					3.4°C	☐ Level IV BWS48/CLP	
						☐ Other	

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 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>5-21</u> Name: <u>[Signature]</u> Company: _____	Time: <u>1600</u>	Date: _____

Date: _____ Seal Broken By: _____	CUSTODY SEAL <u>5-21</u> <u>1600</u>	ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185		
		Date: _____ Name: _____ Company: _____	Time: _____	

 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>5-21</u> Name: <u>[Signature]</u> Company: _____	Time: <u>1600</u>	Date: _____

Date: _____ Seal Broken By: _____	CUSTODY SEAL <u>5-21</u> <u>1600</u>	ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185		
		Date: _____ Name: _____ Company: _____	Time: _____	

 ALS Environmental 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	CUSTODY SEAL		Seal Broken By:
	Date: <u>5-21</u> Name: <u>[Signature]</u> Company: _____	Time: <u>1600</u>	Date: _____

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **22-May-14 08:00**

Work Order: **14051118**

Received by: **DS**

Checklist completed by Diane Shaw 22-May-14
eSignature Date

Reviewed by: Tom Bramish 22-May-14
eSignature Date

Matrices: **Water**

Carrier name: **City Transfer**

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 ☐	
Sample(s) received on ice?	Yes ☒	No ☐	
Temperature(s)/Thermometer(s):	<u>2.6, 2.4, 3.4, 2.4 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>5/22/2014 10:42:04 AM</u>		
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: