

DRAFT

CORRECTIVE MEASURES STUDY

VAN BUREN TOWNSHIP LANDFILL
(MID 982 075 616)
VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN

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EXECUTIVE SUMMARY

This Resource Conservation Recovery Act (RCRA) Corrective Measures Study (CMS) has been prepared on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER) for the Van Buren Township Landfill (MID 982 075 616) located in Van Buren Township, Wayne County, Michigan (Site). The purpose of this CMS is to meet the requirements specified within the RCRA Corrective Action Performance-Based Voluntary Agreement between the United States Environmental Protection Agency (USEPA) and RACER, and thus to develop and evaluate corrective measures alternatives based on the findings of the multi-phase investigation effort (i.e. the "RCRA Facility Investigation or RFI") and to propose the corrective measure(s) to be implemented.

This CMS identifies and evaluates possible corrective measures alternative(s), and provides recommendations of corrective measure(s) to be implemented at the Site that meet the corrective action objectives and goals. This CMS has been developed in accordance with USEPA guidance (USEPA 2005) and Part 201 of the Michigan Natural Resources and Environmental Protection Act (NREPA Act 451, 1994, as amended). The corrective action objective is to manage, stabilize, and / or remediate hazardous wastes / constituents at or from the Site with the goal to meet Michigan Department of Environmental Quality (MDEQ) Part 201 Generic Cleanup Criteria and Screening Levels (Part 201 criteria) and an off-Site goal to meet Part 201 residential cleanup criteria. In addition, should RACER elect to sell the Site for use as a natural area, the results of the Site-specific Ecological Risk Assessment (ERA - July 2017) will be considered and addressed.

Corrective measures alternatives were identified based on Site characteristics, Site applicability, the ERA and Part 201 Criteria exceedances. Each corrective measures alternative was then screened against RCRA's threshold criteria, which are the protection of human health and the environment, the attainment of media cleanup objectives, and controlling the sources of releases (see Table 3). Following the screening process, each of the remaining corrective measures alternatives were then evaluated relative to RCRA's Balancing Criteria (see Table 4), which include: long-term effectiveness, toxicity, mobility, and volume reduction, short-term effectiveness, implementability, community acceptance, MDEQ acceptance, and cost. Table 4 includes the corrective measures alternative(s) evaluation for groundwater and soil.

Following the above described process for screening and evaluating the identified corrective measures alternatives, several corrective measures alternatives were combined to create the recommended comprehensive corrective measures alternative for the Site. This comprehensive corrective measures alternative is based on nonresidential use of the Site, but not as a natural area, and consists of the following and is presented in Table 5 with associated estimated costs:

- **Land Use Restrictions:** Limit land uses of the entire Site to nonresidential, which is understood to include passive recreational uses. Land use restrictions will prohibit uses of the Site that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential cleanup criteria established pursuant to MCL 324.20120a(1)(b) of NREPA in accordance with MDEQ.

Restrictions will also prohibit limit land uses of the entire Site to nonresidential, which is understood to include passive recreational uses. In order to address potential vapor intrusion exposure, prohibit constructing or occupying structures on the Site unless soil vapor intrusion is first properly assessed and/or engineering controls are incorporated to eliminate the potential for unacceptable vapors to migrate to indoor air and documentation of compliance is provided to USEPA.

- **Ground Water Use Restrictions:** Prohibit the construction and use of wells and other devices on the Site to extract ground water for any purpose, except as part of USEPA approved response activities for the purpose of ground water monitoring and or remedial activities so long as the construction of the wells or other devices complies with all applicable local, state, and federal laws and regulations and does not cause or result in a new

release or further release of existing contamination, or any other violation of local, state, and federal environmental laws and regulations. Short-term dewatering for construction purposes is permitted provided the dewatering includes management and disposal of ground water, is conducted in accordance with all applicable local, state, and federal laws and regulations and does not cause or result in a new release or further release of existing contamination, or any other violation of local, state, and federal environmental laws and regulations.

- **Off-Site Institutional Controls: Off-Site Groundwater Use Restriction:** Prohibit the construction and use of wells and other devices on certain surrounding properties to extract ground water for drinking water purposes. A reasonable attempt will be made to implement off-Site groundwater use restrictions. Such restrictions are not absolutely necessary given well permit requirements and the availability of municipal water supplies to the surrounding properties.
- **Surficial Waste Cleanup:** Surficial debris piles would be removed from the entire AOD and disposed off-Site. The purpose of this corrective measure is to prevent possible safety issues for any person(s) on-Site who could come into contact with surficial waste, and also eliminate possible ongoing sources to ground water and precipitation run-off. It is likely that during the removal of surficial debris, some clearing of vegetation and ground disturbance will occur and will need to be repaired. All cleanup efforts will be handled in a manner to reduce and / or repair ground disturbance.
- **Ground Water Monitoring:** Routine ground water monitoring will be implemented as part of the recommended Corrective Measures Alternative to provide data for assessing how final corrective measures are operating. Ground Water monitoring will include regular ground water monitoring and hydraulic to collect necessary data for evaluating trends and confirming the stability of ground water impacts. The monitoring will consist of developing a baseline and monitoring on a semiannual or annual basis. The analytical results will be evaluated and recommendations of any modifications to the monitoring plan or for other action will be provided to USEPA in an annual report.

Monitoring may also entail Site inspections on a regular basis to assess and document changes to the property including any surface disturbances, damage to wells, or maintenance needed to wells. Monitoring may also include inspections of any other corrective measure such as the ecological cover to ensure proper function and schedule any needed maintenance. Site inspections would be performed on an annual basis in conjunction with the semiannual groundwater sampling and analysis efforts.

The above recommended comprehensive Corrective Measures and associated estimated costs are based on continued nonresidential use of the Site, the most up to date and best available information as of the date of this report. The Corrective Measures will be implemented to achieve the corrective action objectives.

In the event the property is transferred and the AOD remains a natural area, an ecological soil cover is necessary and phytoremediation could be relied on for uptake of water to help reduce contaminant migration.

- **Ecological Cover:** Ecological Cover would require the placement of 6 inches of topsoil of two eco-zones (Zones 5 and 7) as discussed in the RACER Van Buren Landfill Ecological Risk Mitigation Evaluation Memorandum to meet corrective action objectives. Some clearing of small vegetation and proper maintenance of the ecological cover would be implemented to preserve the integrity and settlement of the 6 inches of topsoil.
- **Phytoremediation** would include the use of existing vegetation to hydraulically contain contaminants and limit migration. Phytoremediation is a long-term process and requires decades to be successful. However, phytoremediation as a hydraulic management tool is already in place and is working as many trees and other vegetation already exist and are likely providing some benefits.

1.0 INTRODUCTION

This Resource Conservation Recovery Act (RCRA) Corrective Measures Study (CMS) has been prepared on behalf of the Revitalizing Auto Communities Environmental Response Trust (RACER) for the Van Buren Township Landfill (MID 982 075 616) located in Van Buren Township, Wayne County, Michigan (Site). RACER was created to assume the rights, title, and interest of Motors Liquidation Company and to manage certain properties pursuant to an Environmental Response Trust Consent Decree and Settlement Agreement entered by the U.S. Bankruptcy Court for the Southern District of New York on March 29, 2011, in the case of *In re Motors Liquidation Company*, etc. et al., Debtors, Case No. 09-50026 (REG), among the Debtors, the United States of America, certain states including the State of Michigan, the Saint Regis Mohawk Tribe, and EPLET, LLC, (not individually but solely in its representative capacity as Administrative Trustee of the Trust). RACER's objectives are to complete remediation and reposition for redevelopment of the properties it owns with the goal that the properties will be put to beneficial use. It is noted that the future use of the Site is not known at this time and therefore an ERA has been completed to evaluate potential use of the Site as a natural area. If the future use of the Site is another nonresidential use it is anticipated that the current habitat will be substantially altered and rendered unsuitable. Figure 1 shows the location of the Site. Figure 2 shows the Site layout.

The purpose of this CMS is to identify and evaluate possible corrective measures alternative(s) and recommend the corrective measure(s) to be implemented at the Site that meet the corrective action objectives and goals. The corrective measures alternatives are based on the findings of the multi-phase investigation effort (i.e. the "RCRA Facility Investigation or RFI") and have been screened using RCRA's Threshold Criteria and evaluated against the RCRA Evaluation Criteria. This CMS has been developed in accordance with United States Environmental Protection Act (USEPA) guidance (USEPA 2005) and Part 201 of NREPA Act 451, 1994, as amended.

1.1 Corrective Action Background

A RCRA Corrective Action Performance-Based Voluntary Agreement (PVA) was established between the USEPA Region 5 and RACER for the Van Buren Township Landfill on September 29, 2011. The PVA sets forth the effort RACER will undertake to investigate, stabilize, and / or remediate releases of hazardous wastes or hazardous substances at or from the Van Buren Township Landfill. Section V.1 of the PVA states how RACER will further investigate the nature and extent of hazardous wastes and / or substances at or from the Site including the creation of a Current Conditions Report (CCR). Within the CCR, seven Areas of Interest (AOI) were identified based on historical information, environmental activities and Site inspections. A Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) detailed how each of the AOIs would be further investigated. After further investigation of the initial AOIs, it was found that buried wastes extended beyond the AOIs. Consequently, demarcating the Site into AOIs was discontinued, and all AOIs were grouped into a revised Area of Disturbance (AOD), encompassing all areas of disturbance at the Site, determined using previous reports, aerial photos and available information gathered from ongoing Site investigations. Figure 2 shows the AOD.

Investigation of the Site has consisted of the following:

- Phase I Environmental Site Assessment
- Geophysical Investigation
- Draft Current Conditions Report
- Phase 1B Site Investigation
- Phase II Site Investigation
- Phase III Site Investigation
- Phase IV Site Investigation
- Baseline Ecological Risk Assessment

Section V.2 of the PVA describes how RACER will stabilize and control human exposures to contamination at or from the Site. Section V.3 of the PVA instructs RACER about the necessary elements and evaluation of the Corrective Measures Proposal.

The Mannik & Smith Group, Inc. (MSG) has prepared this CMS on behalf of RACER to present the identification and evaluation of Corrective Measures Alternatives for the Van Buren Township Landfill. This CMS describes the recommended corrective measures for the Site for USEPA consideration.

1.2 Corrective Action Objectives

The corrective action objective is to manage, stabilize, and / or remediate releases of hazardous wastes or hazardous constituents at or from the Van Buren Township Landfill that may present an unacceptable risk to human health or the environment.

Part 201 Generic Cleanup Criteria and Screening levels, revised December 30, 2013 (Part 201 Criteria), were used as applicable criteria in accordance with the PVA. Corrective measures alternatives for the Site will be evaluated against nonresidential criteria and corrective measures alternatives for off-Site will be evaluated against residential criteria.

Corrective measures alternatives for the Site will consider the findings of the Ecological Risk Assessment (ERA). The ecological concerns identified in the ERA will be addressed if RACER transfers this property for use as a natural area but not if a transfer is for nonresidential use.

The recommended corrective measures will be implemented to attain the applicable Part 201 Criteria or until the activities associated with implementation become technically impractical or cost prohibitive.

2.0 SITE BACKGROUND

2.1 Site Location

The Van Buren Landfill Site is located northeast of the Ecorse Road / Michigan Avenue intersection in Van Buren Township, Wayne County, Michigan. The Site encompasses approximately 68 acres of heavily wooded land, and has been vacant since landfill operations ceased in 1969. Prior to landfill operations, the Site was cultivated for agricultural use as early as 1940 until approximately 1966. The Willow Run airport is located to the south of the Site, Michigan Avenue to the west, and railroad tracks to the north. Industrial property is located to the east of the Site.

2.2 Geology and Hydrogeology

The following subsections provide brief descriptions of the Site geologic and hydrogeologic setting. Additional details, including cross-sections and other pertinent figures (i.e., ground water flow map) are available as part of MSG's *Phase III Site Investigation Report*, dated September 2014.

2.2.1 Site Geology

Review of historical water supply wells logs within approximately one mile of the Site indicate 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 are in turn underlain by bedrock (Antrim Shale, of Upper Devonian age), encountered at approximately 90 to 97 feet below ground surface (bgs).

Local geologic conditions (characterized during Site investigation activities) consist of silty fine to coarse grained sand and gravel overlying a lacustrine clay deposit, which is encountered at depths ranging from approximately 10 to 20 feet bgs. Loose, brown to black silty fine to coarse 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 are encountered overlying the lacustrine clay deposit beneath the majority of the Site.

2.2.2 Site Hydrogeology

The water-bearing zone of interest at the Site is classified as an unconfined surficial aquifer (surficial aquifers are shallow aquifers typically encountered at depths of less than 50 feet bgs). Ground water is generally encountered at depths ranging from approximately 1 foot bgs (typically measured within off-Site monitoring wells located at areas of lower ground surface elevation) to approximately 10 feet bgs (typically measured within on-Site monitoring wells). The lacustrine clay deposit underlying the aquifer acts as a confining layer, preventing downward vertical migration of ground water. Ground water appears to flow radially from a local ground water high in the AOD in the central portion of the Site.

2.3 Land Use

Currently, most of the Site is heavily wooded, and is vacant and fenced. The Site is surrounded by industrial, mixed commercial, agricultural to the north, residential, and/or airport properties to the south. A former landfill is north-west of the Site on the north side of Michigan Avenue. The Site itself is zoned for general industrial use. The Site has been vacant since the closure of the Van Buren Development Company landfill in 1969 when it was purchased by the General Motors Corporation. Historical records indicate that various wastes were landfilled at the Site, including incinerator ash, demolition waste and domestic refuse, waste paper, crankcase oil sludge, and liquid waste stored in 55-gallon drums.

2.3.1 Local Zoning Ordinances

The Site, as well as the General Motors LLC Customer Care and Aftersales parts warehouse (GM) adjacent to the East of the Site, is zoned as General Industrial. The properties north of the Site are currently farmed and are zoned as Single Family Residential, and the property south of the Site is zoned as Airport. Parcels to the west and northwest of the Site are zoned as Light Industrial and Mobile Home Park. The future Land Use Plan of Van Buren Township keeps the Site zoned as General Industrial, and intends the adjacent properties to maintain similar zoning, which range from Light Industrial, low density residential and medium density residential. Figure 3 depicts zoning of the Site and adjacent / nearby properties.

In Van Buren Township or in Ypsilanti Township ground water can be utilized in accordance with either the Wayne County Environmental Health Department or the Washtenaw County Environmental Health Department ground water well rules. While there are no drinking water wells present on the surrounding properties (only a domestic garden irrigation well on the Smith Property north-northeast of the Site near the residence, approximately 0.5 miles away) numerous wells are currently in use in both Van Buren Township and Ypsilanti Township. According to a records search of MDEQ's Wellogis database, twelve wells are located within 1 mile of the Site, with the wells used for drinking water purposes considered "protected wells" as they are screened below a confining lacustrine clay layer (ranging in depths from 85' to 100' below ground surface, preventing downward migration of contaminants from the surficial aquifer).

2.4 Previous Investigation

Prior to RFI activities, Encore Environmental Consortium, LLC (EEC) conducted a geophysical investigation at the Site during July 2003 (subsequent to a limited Phase I Environmental Site Assessment (ESA) performed during August 2002). The geophysical investigation consisted of an electromagnetic (EM) survey in order to identify / define anomalous areas beneath the surface of the Site that could be associated with historic landfill operations. Results of the EM survey indicated that landfill waste may exist beneath 30 to 40 acres in the western, northern, and central portions of the Site. Seven of these anomalous areas were

identified and demarcated as Areas of Interest (AOI-1 through AOI-7) in the CCR. In 2007, EEC performed a Phase I ESA, indicating historic landfill operations at the Site as the primary Recognized Environmental Condition (REC).

2.5 Summary of Resource Conservation and Recovery Act Facility Investigation

MSG has been performing Site investigation activities at the Van Buren Landfill on behalf of RACER Trust. Investigation activities are conducted in accordance with a September 30, 2011 RCRA PVA, between USEPA and RACER trust, ensuring compliance with RCRA Correction Action Program requirements. The following subsections detail the investigation activities conducted at the Site to date. A Conceptual Site Model based on the RFI findings is illustrated in Figure 4 and is intended to provide a general depiction of environmental conditions in the area investigated. It is noted that within the AOD at the Site aqueous samples are considered to be leachate samples and subsurface solid samples are considered to be a mixture of soil and waste. All investigation analytical data was compared to Michigan Department of Environmental Quality (MDEQ) Part 201 Generic Cleanup Criteria and Screening Levels (Part 201 criteria).

2.5.1 Phase I – IV Investigations

Initial investigation activities at the Site, referred to as the “Phase IA Investigation”, occurred during the summer of 2012, and are discussed in detail in MSG's *Phase IA Site Investigation Report*, dated February 2013. The scope of work (based on previously identified AOIs) for the Phase IA Investigation included the advancement of soil borings, collection of soil / waste samples, installation of monitoring wells, collection of ground water / leachate samples, excavation of test pits to confirm the extents and types of disposed material and disposal cell construction details, and the inspection of the slope along the western perimeter of the Site to identify potential seep(s) for surface water sample collection. The Phase IA Investigation activities identified the following:

Solid Media

- Volatile organic compounds (VOCs) in soil / waste (ethylbenzene and xylenes) exceeding Part 201 Nonresidential Ground Water Surface Water Interface Protection (GSIP) criteria.
- Semi-volatile organic compounds (SVOCs) in soil / waste (naphthalene and phenanthrene) exceeding Part 201 Nonresidential GSIP criteria.
- Various metals in soil / waste exceeding Part 201 Nonresidential Drinking Water Protection (DWP) and / or GSIP criteria.
- Lead in a waste sample exceeding Part 201 Nonresidential Direct Contact (DC) criteria.

Aqueous Media

- Metals in ground water and or leachate (iron and manganese) exceeding Part 201 Nonresidential Drinking Water (DW) criteria.

Test Pits

- Test pits (and soil borings) revealed waste beyond the AOI boundaries (AOI were based on an electromagnetic geophysical survey conducted in 2003), and appeared to extend beyond the Site perimeter fence on the north, west, and southwest portion of the Site. Consequently, the approach of dividing the Site into AOIs was discontinued, as AOIs did not define the limit of buried wastes.

Slope Inspection

- Slope inspection identified a seep from the Site's western side slope, approximately several hundred feet to the north of the Ecorse Road / Michigan Avenue overpass.

Based on the Phase IA Investigation findings, additional characterization activities were conducted at the Site, referred to as the "Phase IB Investigation". The Phase IB Investigation was conducted during the spring of 2013. The findings of the Phase IB Investigation are discussed in MSG's *Phase IB Site Investigation Report*, dated October 2013. The scope of work for the Phase IB Investigation consisted of the following: advancement of soil borings around the Site perimeter in order to collect soil samples; installation of monitoring wells; collection of ground water samples from monitoring wells; and collection of surface water samples. The Phase IB Investigation activities identified the following:

Solid Media

- Various metals in soil / waste exceeding Part 201 Nonresidential DWP and/or GSIP criteria.

Aqueous Media

- Benzene (a VOC) in ground water / leachate exceeding Part 201 Nonresidential DW criteria, detected in a single monitoring well located at the northern Site perimeter.
- Chlorobenzene in ground water / leachate exceeding Part 201 Nonresidential GSI criteria, detected in a single monitoring well located at the northern Site perimeter.
- Metals in ground water / leachate exceeding Part 201 Nonresidential DW and/or Ground Water Surface Water Interface (GSI) criteria.

Surface Water/Seeps

- Metals (iron and manganese) in surface water/seep samples exceeding Part 201 Nonresidential DW criteria.

In order to further address/confirm the extent of ground water exceedances and existence (as well as competency/hydraulic conductivity) of the clay interval underlying the impacted surficial aquifer, as identified during the Phase IA and IB Investigations, a third phase of investigation (Phase II Investigation) was performed. Additionally, a benzene delineation scope of work was included in the investigation objectives. A detailed discussion and summary of the Phase II activities is provided in MSG's *Phase II Site Investigation Report*, dated March 2014.

The Phase II Investigation activities were conducted during the winter of 2013 and consisted of the following: the advancement of soil borings, subsequent installation of temporary monitoring wells, and collection of leachate samples at locations along the northern perimeter of the Site immediately inside the property line or within the Michigan Department of Transportation Right-of-Way (MDOT ROW) on either the west side of Michigan Avenue and on the north and south sides of Ecorse Road; and continuous soil sampling extending into the clay interval beneath the aquifer, with the collection of Shelby tube samples for geotechnical analysis (soil classification, grain size analysis, and hydraulic conductivity). The Phase II Investigation scope of work for the benzene delineation consisted of the advancement of soil borings and the associated collection of soil/waste samples, the installation of temporary monitoring wells, and the collection of leachate samples. One permanent monitoring well was also installed to obtain water level measurements in support of hydrogeologic assessment. The Phase II Investigation activities identified the following:

Solid Media

- VOCs in soil / waste (benzene, ethylbenzene, xylenes, tetrachloroethene, and 1,2-dichlorobenzene) exceeding Part 201 Nonresidential DWP, GSIP, and / or Soil Volatilization to Indoor Air (SVIA) criteria.

- SVOCs in soil / waste (fluoranthene, naphthalene, and phenanthrene) exceeding Part 201 Nonresidential DWP and / or GSIP criteria.
- Metals in soil / waste exceeding Part 201 Nonresidential DWP and / or GSIP criteria.

Aqueous Media

- Benzene and chlorobenzene in ground water / leachate exceeding Part 201 Nonresidential DW or GSI criteria in samples collected from temporary monitoring wells installed to address benzene detections identified in a permanent monitoring well located along the northern Site perimeter.
- Metals (barium, iron, and arsenic) and cyanide in ground water / leachate exceeding Part 201 Nonresidential health-based DW and / or GSI criteria in samples collected from temporary monitoring wells. Various metals and VOCs (benzene and chlorobenzene) in ground water exceeding Part 201 Nonresidential health-based DW and/or GSI criteria in samples collected from permanent monitoring wells.

Basal Clay Assessment

- Soil borings advanced into the clay interval beneath the surficial aquifer indicate a "lean clay" with a low hydraulic conductivity. No vertical fractures were present in Shelby tube samples.

Following the completion of Phase II investigation activities, an additional phase of work (Phase III Investigation) was completed in order to: confirm off-Site ground water exceedances of metals detected in samples collected from temporary monitoring wells during Phase II activities (via installation and sampling of permanent monitoring wells); further delineate metals and benzene in ground water along the north perimeter of the Site (and extending further off-Site to the north); install monitoring wells on-Site to further define ground water flow; and install an additional monitoring well along the eastern perimeter of the Site. The Phase III Investigation activities were conducted during the spring of 2014, and are summarized in MSG's *Phase III Site Investigation Report*, dated September 2014. The Phase III Investigation activities identified the following:

Solid Media

- VOCs in soil / waste (benzene, ethylbenzene, and xylenes) exceeding Part 201 Nonresidential DWP, GSIP, and/or SVIA criteria at northern perimeter of Site (in borings associated with benzene delineation activities). VOCs were not detected above applicable criteria within soil borings advanced to the north of the Site.
- Tetrachloroethene in soil / waste exceeding DPW criteria, within a soil boring advanced near the central portion of the Site.
- Metals in soil / waste exceeding Part 201 Nonresidential DWP and/or GSIP criteria.
- Lead in waste / soil samples exceeding Part 201 Nonresidential DC criteria.

Aqueous Media

- Ground water appears to flow radially from a local ground water high in the AOD in the central portion of the Site.
- VOC exceedances in ground water were not observed during off-Site benzene delineation activities however, benzene was detected during on-Site delineation activities exceeding Part 201 Nonresidential DW criteria. Benzene in ground water in the vicinity of the Site was delineated, and was found to be limited largely to within the Site property boundary.
- Metals in ground water exceeding Part 201 criteria north of the Site extend up to Michigan Avenue, and may migrate beneath the road way. Metals in ground water (primarily iron)

also exceed Part 201 criteria (DW) at off-Site monitoring well locations to the south of the Site (along Ecorse Road).

The extent of metals exceedances in ground water was not fully delineated during previous phases of investigation. In order to further and adequately delineate off-Site ground water impacts (and to support completion of the CA750 evaluation), an additional phase of investigation, referred to as the "Phase IV Investigation", was initiated in December 2014. The objectives of the Phase IV Investigation were as follows: installation of additional monitoring wells on the GM property to the east of the Site; installation of additional monitoring wells south of Ecorse Road on airport property; installation of additional monitoring wells along the ROW of westbound Michigan Avenue; installation of a single monitoring well northwest of the Town and Country Trailer Court Property; and installation of an additional monitoring well in the southeast portion of the Site in order to further delineate the extent of metals exceedances in ground water and define ground water flow.

The Phase IV Investigation activities were conducted in a step-wise fashion due to the variable time it took to obtain different access agreements. The Phase IV Investigation efforts were completed during between December 2014 and March 2015. In total, six (6) soil borings and six (6) permanent monitoring wells were installed at the soil boring locations, three of which were along Michigan Avenue and one installed northwest of the Town and Country Trailer Court Property (corner of Business Michigan 12 and Rawsonville Road). The last two soil borings and monitoring wells were installed south of Ecorse Road on the Willow Run Airport property in March of 2016. Two (2) rounds of semi-annual ground water sampling and analysis occurred in November/December 2014 and March 2015, before the wells on Willow Run Airport property were installed. The Phase IV Investigation (and subsequent monitoring well sampling, which did include the Willow Run Airport monitoring wells) revealed the following:

Aqueous Media

- Ground water south of the Site along Ecorse Road contains dissolved iron at concentrations above Part 201 Residential Health-Based DW criteria, though levels have generally remained steady through-out sampling events. However, ground water south of Ecorse Road (Willow Run Airport) contained iron concentrations below Part 201 Residential Health-Based DW criteria.
- Ground water north of the Site contains dissolved iron at concentrations above Part 201 Residential Health-Based DW criteria, and it appears dissolved iron is migrating beneath Michigan Avenue (as indicated by dissolved iron in MW-29). However, considering the regional flow of ground water (west to east) and adjacent property uses, the potential for alternative sources of iron is possible.
- Ground water east of the Site (western portion of the GM property) does not contain dissolved iron at concentrations exceeding Part 201 Nonresidential Health-Based DW criteria, but concentrations at MW-32 and MW-33 have exceeded Residential Health-Based DW criteria (as indicated in samples collected from MW-32 and MW-33).

Since 2013 semi-annual ground water sampling events have been completed to establish an adequate analytical data set.

In June of 2017, MDEQ rescinded both the Residential and Nonresidential Vapor Intrusion Screening Values of the 2013 DEQ VI Guidance. In August of 2017, MDEQ provided Media-Specific Volatilization to Indoor Air Interim Action Screening Levels. While these new interim action screening levels have yet to be promulgated, MDEQ believes that the levels represent the best available information regarding toxicity and volatilization to indoor air exposure risks posed by hazardous substances as required by Section 20120b of the Natural Resources and Environmental

Protection Act, 1994 PA 451, as amended. The complete gathered data was compared to the Media-Specific Volatilization to Indoor Air Interim Action Screening Levels if an Interim Action Screening Level was established; specifically the nonresidential Recommended Interim Action Screening Level (RIASL). The outcomes of comparing the data to media specific RIASL's are summarized below:

- VOCs in soil / waste (benzene, chlorobenzene, ethylbenzene, chloromethane xylenes, tetrachloroethene) are above the nonresidential RIASL for soil.

Lastly, a Well Records Search that searched well records within a 1 mile radius of the Site was completed and a report was submitted to the USEPA on November 6, 2016. The well records survey indicated that there were no domestic wells utilized for drinking water that were within 0.5 miles and were down gradient. Based on dissolved iron concentrations over time and (more importantly) within periphery monitoring wells located off-Site, in conjunction with the length of time the landfill has been closed, the contaminant plume related to the Site appears to be stable. Additional delineation was suspended due to the lack of ground water usage adjacent to the Site, and local ground water ordinances that prevent well installation for domestic use in the immediate vicinity. This approach was accepted by USEPA in an email correspondence dated January 11, 2017.

2.5.2 Ecological Risk Assessment

An ecological risk assessment (ERA) was completed for the Site as an adjunct to RFI activities to provide for consideration of possible future use of the Site as a natural area. The ERA was conducted in accordance with USEPA's eight-step ERA process. The first four steps were initiated on May 2014 by Anchor QEA, LLC (sub-contractor for MSG), involving a Site visit, toxicity evaluation, problem formulation, screening-level exposure estimate / risk calculation, and the establishment of the study design and data quality objectives. Steps 5 through 8 involving verification of the field sampling design, data analysis, risk characterization, and risk management were initiated in December 2014, with a draft report submitted to USEPA during June 2015, summarizing the ERA findings.

Potential risks to the representative receptors selected for the ERA (terrestrial plants and soil invertebrates, avian receptors and mammalian receptors) were determined to be below when considering the Site as a whole. No risks were found for aquatic life. Of the ten zones selected for study at the Site, four (zones 1, 4, 5, and 7) were considered to represent the potential highest risk to receptors (earthworms and plants), although it was concluded that the elevated level of metals detected in these zones represent an over-estimation due to the presence of metal slag in samples collected from these zones (slag is dissolved during the digestion process required for sample analysis, but it is not biologically available for use by plants and animals). The presence of a robust vegetative community at the Site is further support that estimated risk for these zones was falsely elevated. The risk estimate for mammalian and avian receptors is lower than that for earthworms and plants but still pose a potentially unacceptable risk.

After comments from USEPA and further investigation activities to address data gaps, the Draft Ecological Risk Assessment-Steps 3 to 8 of USEPA Ecological Risk Assessment Process, Van Buren Landfill was submitted in July of 2017. This report was accepted by USEPA on September 21, 2017. Furthermore, an Ecological Risk Mitigation Evaluation Memorandum (Appendix B) was prepared to further detail Site-wide potential risks and evaluates the effectiveness of implementing remedial actions to reduce ecological exposure and risk.

Overall, the risk mitigation evaluation considered a remedial action of placing 6 inches of topsoil in Ecological Zone(s), effectively reducing exposure and the resulting soil concentration for each

chemical. Utilizing the revised soil concentrations, Site-wide risks calculations were generated. Seven different Zone scenarios were evaluated. Of the seven scenarios, one scenario (Cleanup of Zones 5 and 7) provided the lowest overall risk for metals and organics, as measured by Hazard Indexes. Increasing the number of remediated zones from two zones to three zones does not substantially reduce the risk further. Therefore, Cleanup of Zones 5 and 7 provides the greatest cost/ benefit return. This cleanup measure would only be implemented if the future Site use is as a natural area.

Lastly, during the incremental sampling conducted as part of the ERA, lead was found in two replicate samples in two separate ecological zones (Zone 7 and Zone 8) above Part 201 Nonresidential Direct Contact Criteria. These replicate samples were from a depth of 0-2 feet below ground surface. Comparison of mean replicate data is an acceptable approach pursuant to the Interstate Technology Regulatory Council (ITRC) Guidance on Incremental Sampling Methodology, and a more accurate measure of the true mean of a decision unit (Zone) than the result of a single incremental sample. The mean concentration of lead in replicate samples within each zone was calculated and compared to Part 201 Nonresidential Direct Contact Criteria. The mean concentration of lead in Zone 7 and Zone 8 was below Part 201 Nonresidential Direct Contact Criteria.

The table below summarizes the incremental sampling within Zone 7 and Zone 8, the mean concentration for each zone. The table also displays the applicable Part 201 Nonresidential Clean up Criteria for Lead.

SOIL: Part 201/213 Generic Nonresidential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/kg					Lead (b)	
Statewide Default Background Levels					21,000	
Drinking Water Protection Criteria					7.00E+05	
Soil Vapor Intrusion Concentration Screening Levels					5.1E+06	
Particulate Soil Inhalation Criteria					4.4E+07	
Nonresidential Direct Contact Criteria					9.0E+05	
Eco Zone	Boring ID	Depth	Sample ID	Date	Replicate Concentration	Mean Concentration
Zone 7	SB-271 - SB-300	0'-2'	ISM-10-Z7	1/8/2015	1,000,000	686,667
	SB-301 - SB-330	0'-2'	ISM-11-Z7	1/8/2015	560,000	
	SB-331 - SB-360	0'-2'	ISM-12-Z7	1/8/2015	500,000	
Zone 8	SB-361 - SB-390	0'-2'	ISM-13-Z8	1/23/2015	960,000	536,667
	SB-391 - SB-420	0'-2'	ISM-14-Z8	1/23/2015	350,000	
	SB-421 - SB-450	0'-2'	ISM-15-Z8	1/23/2015	300,000	

2.5.3 Summary of Exceedances and Exposure Pathways

The Site consists of a few locations within the AOD where ground water / leachate and soil / waste exceed Part 201 Nonresidential Cleanup Criteria, including DW and GSI criteria for ground water, and SVIA, GSIP, DWP, and DC criteria for soil. Table 1, *Summary of Soil / Waste Sample Results*, and Table 2, *Summary of Ground Water / Leachate Samples Results Compared to Nonresidential Criteria*, shows the exceedances (as compared to nonresidential criteria) for each compound at each location. In addition, there are a few locations off Site (North, East and South)

where ground water exceeds Part 201 Residential Health Based DW criteria. Table 2, *Summary of Ground Water / Leachate Samples Results Compared to Residential Criteria* shows exceedances for groundwater samples that are off Site.

Impacts to soil / waste and ground water / leachate posing current or potential future risks to human health are summarized below.

- Direct Contact On Site
Lead in waste samples within portions of the AOD exceeds Part 201 Nonresidential DC Criteria. However, those exceedances are at depths greater than 10 feet below ground surface where an exposure pathway is incomplete. Incremental samples in waste exceed Part 201 Nonresidential Direct Contact in two zones (Zones 7 and Zone 8). However, the mean concentration of the incremental sampling was below the Part 201 Nonresidential DC Criteria and therefore no further action is necessary.
- Ground Water Surface Water Interface On Site and Off Site
Based on review of past monitoring events at suspected seep locations SW-1 and SW-3, typically there is not enough ground water present (or conditions are dry) to allow for sample collection. The pooling of surface water sporadically observed on Site at the SW-2 sample location most likely results from periods of heavy precipitation, and does not represent an area of ground water discharge. Furthermore, the nearest surface water body is Willow Run Creek, located approximately 1 mile south of the Site. Therefore, the GSI pathway at the Site appears to be incomplete and the cleanup criteria are not applicable.
- On Site Drinking Water
Leachate samples within the Site contain some VOCs, a few metals that exceed Part 201 Nonresidential Health Based Drinking Water Criteria. In addition, leachate samples within the Site contain some VOCs and metals above Part 201 Ground Water Surface Water Interface Criteria.
- Off Site Drinking Water
Ground water samples off Site contain concentrations of Iron above Part 201 Residential Health Based Drinking Water Criteria.
- Media Specific Volatilization to Indoor Air
Waste samples within portions of the Site are above Nonresidential RI/SL for soil. A potential exposure pathway may exist only if a building were to be constructed and occupied.

Impacts to soil / waste posing potential unacceptable ecological risks are summarized below.

- Ecological
Potential risks to avian and mammalian receptors, terrestrial plants and soil invertebrates are low and would only exist if the future use of the Site is as a natural area.. The potential risk is a result of metals in surface soil / waste.

3.0 SUMMARY OF CORRECTIVE MEASURES ALTERNATIVES

Corrective measures alternatives were developed based on the corrective action objectives, ground water / leachate and soil / waste exceedances identified during the Site investigation and the complete exposure pathways associated with the Site. The alternatives also consider the ecological risks that were identified in the ERA. Lastly, restriction of future uses at the Site to nonresidential or possibly as a nature area, were considered in identifying alternatives.

3.1 Identification of Corrective Measures Alternatives

The following section (3.2) describes corrective measures alternatives that have been determined to potentially be reasonably suitable for use at the Site based on Site characteristics, the nature of impacts, unacceptable ecological risks, and Part 201 Criteria exceedances. Each corrective measures alternative has been screened against RCRA's threshold criteria which are as follows:

- Protection of human health and the environment
- Attainment of media cleanup objectives
- Controlling the sources of releases

The screening is summarized in *Table 3, Corrective Measures Alternatives RCRA Threshold Screening Matrix*.

3.2 Site-wide Management Controls and Off-Site Institutional Controls

3.2.1 Land Use Restrictions

A Restrictive Covenant would be recorded on the deed to reduce the risk of potential exposures. The Restrictive Covenant would cover the following:

- Land use of the entire Site would be limited to nonresidential, which is understood to include passive recreational uses, and prohibit uses that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential cleanup criteria established pursuant to MCL 324.20120a(1)(b) of NREPA in accordance with MDEQ. Recreational uses such as nature hiking trails are compatible with the exposure assumptions for the nonresidential cleanup criteria.
- Prohibit the excavation of soils that would exacerbate the migration of contaminants, except for those excavation activities that are associated with remedial activities or other activities required by USEPA or are promptly repaired/restored.
- Prohibit the detrimental disturbance to, removal of, and any activity that would interfere with function of or access to potential corrective measures such as covers, berms, fences and wells.
- Prohibit constructing or occupying structures on the Site unless soil vapor intrusion is first properly assessed and/or engineering controls are incorporated to eliminate the potential for unacceptable vapors to migrate to indoor air and documentation of compliance is provided to USEPA.
- Require compliance with Due Care obligations.

3.2.2 Ground Water Use Restriction

The Restrictive Covenant would also include Site-wide ground water use restrictions. The ground water use restrictions may include the following:

- Prohibit the construction and use of wells and other devices on the Site to extract ground water for any use, except as part of USEPA approved response activities for the purpose of ground water monitoring and / or remedial activities so long as the construction of the wells or other devices complies with all applicable local, state, and federal laws and regulations and does not cause or result in a new release or further release of existing

contamination, or any other violation of local, state, and federal environmental laws and regulations.

- Short-term dewatering for construction purposes is permitted provided the dewatering, including management and disposal of ground water, is conducted in accordance with all applicable local, state, and federal laws and regulations and does not cause or result in a new release or further release of existing contamination, or any other violation of local, state, and federal environmental laws and regulations.

3.2.3 Off-Site Institutional Controls

The use of institutional controls on neighboring properties as a corrective measures alternative could help prevent the potential future risk of exposure to ground water. Restrictive covenants on neighboring properties to restrict the use of ground water could be proposed to those landowners. It is unknown at this point in time if neighboring landowners would be willing to establish such covenants.

An alternate approach is to attempt to have an ordinance adopted by the appropriate local unit(s) of government that would prohibit installation of wells and use of the ground water. It is unknown at this point in time if the appropriate local unit(s) of government would be willing to adopt such ordinance.

3.2.4 Low Permeability Cap/Cover

Localized cover where benzene exceedances (north-central portion of Site) or other localized exceedances exist, such as lead in relative close proximity to each other was considered as a possible corrective measure. Localized cover would consist of either placing clean cover (soil, clay) and establishing vegetation over time, or constructing an asphalt or concrete cap over the area to prevent surface water from infiltrating the waste, and in doing so, reducing the spread of contaminants. Some removal of vegetation would need to occur.

In addition, a low permeability cap of the entire AOD could limit surface water infiltration. A low permeability cap would consist of placing clean cover (topsoil, clay) over a low permeability membrane and establishing vegetation over time, or constructing an asphalt or concrete cap over the entire AOD. This alternative would require the removal of existing vegetation across the entire AOD, which is comprised of mostly trees and brush.

If localized cover and or capping were to be selected as the (or part of the) corrective measures alternative, a Restrictive Covenant would be filed with the deed to prevent removal, excavation and disturbing the cap, except for those activities to repair or maintain the cap or otherwise approved by USEPA. Proper maintenance of the cap would be required and may include monitoring the integrity of the cap, inspections for settlement and vegetative control.

3.2.5 Ecological Cover

In the event the property is transferred and the AOD remains a natural area, an Ecological Cover has been identified as a possible corrective measure and consists of placing 6 inches of topsoil over two eco-zones (Zones 5 and 7) as delineated in the RACER Van Buren Landfill Ecological Risk Mitigation Evaluation Memorandum. The purpose of an ecological cover would be to reduce avian, mammalian, soil invertebrate and plant risks due to exposure to metals and organic compounds. Some removal of vegetation would need to occur.

If an ecological cover were to be selected as the (or part of the) corrective measures alternative, a Restrictive Covenant would be filed with the deed to prevent removal, excavation and disturbing

the ecological cover, except for those activities to repair or maintain the ecological cover or otherwise approved by USEPA. Proper maintenance of the ecological cover would be required and may include monitoring the integrity, thickness and settlement of the ecological cover.

3.2.6 Targeted Excavation

Targeted excavation has been identified as a possible corrective measure. Targeted excavation would take place in locations within the AOD where impacted soils and/or waste with significant Part 201 exceedances are shallow. The purpose of targeted excavation would be to eliminate ongoing sources contributing to ground water exceedances. This corrective measure would consist of the excavation of contaminated soils / waste and replacing the area with backfill. Excavated material would be characterized and properly disposed of off-Site to meet landfill disposal requirements. Since soil exceedances of benzene and metals for DWPC are contiguous and not isolated enough, except for the location of benzene, targeted excavation could become excessive and be cost prohibitive.

3.2.7 Low Permeability Subsurface Enclosure

A low permeability subsurface enclosure has been evaluated as a potential corrective measure. This subsurface enclosure would be placed near the perimeter of the Site around the AOD to an adequate depth. The subsurface containment system would limit migration of contaminated leachate outward. It could also prevent regional ground water flowing into the Site by forcing the ground water to pass round the enclosure. In order to prevent unacceptable build-up of leachate within the low permeability subsurface enclosure, leachate would need to be captured (likely with an associated pump and treat system) and treated.

3.2.8 Ground Water Monitoring

Ground water monitoring and Site inspections have been identified as possible (or part of the) corrective measure. This corrective measure entails ongoing ground water monitoring to collect necessary data for evaluating trends and confirming the stability of ground water impacts. Monitoring is likely to be implemented in addition to any other corrective measure to assess the success of those applied corrective measures.

Data collected during ground water monitoring would be used to:

- Further evaluate concentration trends of select metals within the Site, near Site boundaries, and if possible on neighboring properties.
- Further evaluate concentration trends of limited VOC exceedances within the Site (near the northern Site boundary).
- Verify the stability of the horizontal extent of select metals in groundwater.

The analytical results would be evaluated and recommendations of any modifications to the monitoring plan or for other action would be provided to USEPA.

Monitoring would also entail Site inspections on a regular basis to assess and document changes to the property including any surface disturbances, damage to or maintenance needed to wells. If applicable, monitoring would also include inspections of any installed corrective measure to ensure proper function and schedule any needed maintenance.

3.2.9 Targeted Pump and Treat

Targeted Pump and treat has been considered as a possible corrective measures alternative to contain a portion of the contaminant plume (active hydraulic control). Pump and treat would consist of extraction, or pumping wells placed strategically within the AOD, and in the direction of migration to enhance the functionality of the pump and treat system. A pump and treat system

may require an above-grade treatment system. If treatment is located on-Site, the treatment effluent would be discharged on-Site in accordance with a National Pollutant Discharge Elimination System permit or to publicly owned treatment works in accordance with an industrial pre-treatment permit. Targeted pump and treat could become excessive and be cost prohibitive.

3.2.10 Leachate Collection System

A leachate collection system (passive hydraulic control) has been identified as a possible corrective measure alternative to collect and treat leachate arising from natural decomposition of the waste within and around the AOD. This system would consist of installing a layer of sand or gravel to allow for draining, a geotextile filter, and perforated (horizontally oriented) pipes that would collect and transport the waste to designated sumps and stored. The leachate collection pipes would be installed perpendicular to the direction of plume migration. The stored waste within the sumps could be pumped on a regular schedule or when needed. The waste could be pumped into a storage container on the property and transported off-Site for treatment, or be pumped into a container and hauled off immediately. A leachate collection system could be targeted and installed near a boundary of the Site (for example, the northern Site boundary). Targeted leachate collection could become excessive and be cost prohibitive.

3.2.11 Phytoremediation

In the event the property is transferred and the AOD remains a natural area, the use of vegetation to control, remove, and / or destroy contaminants within the leachate / ground water and remove significant quantities of ground water (phytoremediation) has been evaluated as a potential corrective measure. Several phytoremediation technologies exist and each technology uses different approaches to address contaminants. In general, phytoremediation does not degrade metals and has had little success in attempts to extract metals. In some cases, chelators can be added to the soil to increase the mobility and plant-availability of certain metals, but this can also result in higher bioavailability and increased leaching. In regard to the location where benzene is present, phytoremediation may work well as some trees such as poplars and willows can extract and degrade benzene. Phytoremediation is likely already occurring to some degree given the dense vegetation at the Site.

If phytoremediation were to be selected as the (or part of the) corrective measures alternative, phytosequestration could be used to stabilize certain metals within the root zone, limiting leaching and subsequent migration. No harvesting would be required with phytosequestration, however, plant health must be monitored. Phytoextraction is another option which involves contaminant uptake by the plant roots and accumulation in the plant tissue. Phytoextraction would require periodic harvesting of the plants and proper disposal. Lastly, Phytohydraulics could also be used as a means to remove leachate / ground water and limit both vertical and horizontal migration (acting as passive hydraulic control).

Phytoremediation could rely on the existing vegetation present at the Site, or as an adjunct, the current vegetation could be supplemented by the introduction of additional vegetation and / or select plant species within the AOD.

3.2.12 Surficial Waste Cleanup

Surficial waste cleanup has been identified as a possible corrective measure. Surficial waste cleanup would consist of removing significant surficial debris piles from the entire AOD and disposing off-Site. The purpose of this corrective measure is to prevent possible safety issues for any person(s) on-Site who could come into contact with surficial waste, and also eliminate possible ongoing sources to ground water and precipitation run-off. It is likely that during the removal of

superficial debris, some ground disturbance will occur. All cleanup efforts will be handled in a manner to reduce and / or repair ground disturbance.

3.2.13 No Action

A No Action corrective measure represents leaving the Site and associated AOD as is in its existing condition. Currently, there is a fence surrounding the Property. As a security measure this fence would be maintained to prevent trespassing and inspections completed to identify any security concerns. No Action as a potential corrective measure was evaluated to aid in providing a baseline for comparison of other alternatives.

4.0 EVALUATION OF CORRECTIVE MEASURES

Each of the Corrective Measures Alternatives in the above section was evaluated against RCRA's threshold criteria. Those Corrective Measures Alternatives that at a minimum achieved or provided for monitoring the protective of human health and the environment threshold criteria and the no action alternative were compared relative to RCRA's Balancing Criteria. *Table 4, Corrective Measures Alternatives Vs RCRA's Balancing Criteria* presents those Corrective Measures Alternatives that are compared to the RCRA Balancing Criteria. The discussion in Section 4.2 below provides a brief summary of the information included in Tables 3 and 4, and a brief assessment relative to key RCRA criteria and the corrective action objectives.

4.1 Corrective Measures Comparison to RCRA Balancing Criteria

The RCRA Balancing Criteria for evaluating corrective measures are as follows:

- Long-Term Effectiveness: Evaluate the degree of certainty that the alternative will remain protective of human health and the environment, including the long-term reliability of any containment systems or institutional controls. This should incorporate the magnitude of risks that will remain from the Site from untreated hazardous areas.
- Toxicity, Mobility and Volume Reduction: Evaluate the degree to which treatment reduces toxicity, mobility, and volume, while considering the treatment process, the amount of hazardous constituents, and any possible treatment residuals as a result from the alternative.
- Short-Term Effectiveness: Evaluate the alternative based on short-term risks including the potential of short-term increases in exposure and amount of time for the remedy design, construction, and implementation.
- Implementability: Evaluate the alternative based on the ease or difficulty of the implementation, including the technical feasibility of constructing, operating, and monitoring; administrative feasibility; and the availability of services, materials, and structures needed for the remedy.
- Cost: Evaluate the cost of implementing the alternative as designed. Evaluation should consider the capital costs, costs associated with maintenance and operation, and net present values of costs.
- Community Acceptance: Evaluate the alternative based on the degree to which the alternative is acceptable to the local community.
- State Acceptance: Evaluate the alternative based on the degree to which the alternative will be accepted by the State in which the regulated facility is located.

4.2 Comparative Analysis of Corrective Measures Alternatives

In the AOD all corrective measures in the above Section 3.0 were considered. Land Use and Ground Water Use Restrictions along with off-Site Institutional Controls can be effective in both the short-term and long-term to mitigate

risk. On-Site Land Use and Ground Water Use Restrictions are simple to implement and are very cost effective. While off-Site Institutional Controls are also cost effective, they require more work as the willingness or unwillingness of neighboring landowners to restrict use is unknown. Institutional controls alone would be sufficient to meet the corrective action objectives.

A Low Permeability Cap/Cover over the entire AOD would minimize surface water filtering down through the impacted waste / soil to ground water / leachate. However, it would not prevent ground water moving through the waste below the cap/cover and migrating off-Site. Installation of a Low Permeability Cap/Cover over the entire AOD may not be cost effective as it would require removing all vegetation from the AOD, placement of the cap/cover, then re-vegetating the cap. While caps and cover are usually highly accepted by the public and MDEQ, corrective action objectives could be met utilizing other alternatives that are more cost effective and also accepted by the public and MDEQ.

Similar to a Cap/Cover, Targeted Excavation may not be cost effective as excavation would require removing all vegetation within the selected area as well as clearing for road access, removing all impacted soils / waste down to a depth of close to 20 feet below ground surface, while managing all fluids encountered, and procuring and placing clean fill into the excavated area.

Targeted excavation would remove soils / wastes reducing the volume of waste at the Site continuing to be a source of ground water impacts. Implementation of an excavation alternative would be moderately difficult as vegetation would need to be cleared first followed by the complications and difficulties of removing waste materials and/or contaminated fluids. In addition, the known depth of waste is approximate and could be as deep as 15 to 20 feet below ground surface. While targeted excavation would meet the corrective measures objective, other alternative measures such as Low Permeability Cap/Cover or Targeted Pump and Treat, could be more cost effective. In addition, On-Site Land Use and Ground Water Use Restrictions would attain the corrective action objectives with even less cost and similar time frames.

In the event the property is transferred and the AOD remains a natural area Ecological Cover consisting of placing six inches topsoil over two ecological zones (zones 5 and 7) would reduce ecological risks as specified above but by itself would not attain the corrective action objectives. However, it would reduce toxicity relative to the environment and organisms existing within and around the Site. Implementation would be moderately easy and the cost would be reasonable compared to the Low Permeability Cap/Cover alternative. An ecological cover alternative would only be applied if the future use of the property is as a natural area. The community and MDEQ would likely accept this alternative as it would be protective of the environment, especially when pairing this alternative with others that are protective of the human health.

A Low Permeability Subsurface Enclosure would be effective in the short-term and long-term at preventing migration of contaminants and helping obtain corrective action objectives. The installation of a subsurface enclosure would be difficult and be especially costly as clearing the boundary of the AOD, excavation to depths close to 20 feet below ground surface, installing the subsurface enclosure, and fill activities would be required. Alternatively one-pass trenching technology does exist and reduce the difficulty but the cost would still be very high. In addition, this corrective measure would need to be paired with a pump and treat system to manage the leachate that would collect within the enclosed area, and leachate collection would be an on-going long term effort (at least 30 years). This alternative would also require ground water monitoring for the same period if not longer, and require long term maintenance of the system. The leachate would need to be treated and properly disposed. While this alternative would help attain corrective action objectives by reducing volume of the source and contaminant mobility. This alternative would likely be accepted by the community and MDEQ as further contaminant migration would be resolved completely. However, similar to excavation or low permeability cap/cover, the corrective action objectives could be met with a more cost effective alternative such as ground water use restrictions and land use restrictions both off the Site and on the Site.

The Monitoring alternative does not in itself attain corrective action objectives, ecological risks or result in decreasing toxicity, mobility or volume. However, monitoring is an essential task that provides the owner, managers, regulators and public with information on selected alternatives execution and potential success or failure. Monitoring is a tool that can be used to obtain data that can allow managers to make educated decisions regarding the Site. Monitoring could include, ground water monitoring, cap/cover inspections, hydraulic monitoring, and other corrective measures monitoring to ensure proper maintenance. It is easy to implement, and would be highly accepted by the community and MDEQ. Monitoring is essential for evaluating the effectiveness of the corrective measures and future decision making. Monitoring would occur in conjunction with any of the selected alternatives.

A Targeted Pump and Treat System and or a Leachate Collection System would collect impacted leachate from within the Site. A system could be set up near the perimeter of the Site or in the area of the AOD with highest contaminant concentrations. In either case, the leachate would need to be treated and disposed of, either on Site or off Site. Both options are difficult to implement and are costly. The short-term effectiveness of a Targeted Pump and Treat and a Leachate Collection System are moderate but in the long-term can result in decreasing the extent of ground water contamination. The toxicity and volume of impacted leachate would likely be reduced over the long-term and mobility would be reduced immediately. The community and MDEQ would likely accept either of these two alternatives.

In the event the property is transferred and the AOD remains a natural area Phytoremediation would include the use of existing vegetation to hydraulically contain contaminants and limit migration. Phytoremediation is a long-term process and requires decades to be successful. However, phytoremediation as a hydraulic management tool is already in place and is working as many trees and other vegetation already exist and are likely providing some benefits. Phytoremediation does not reduce toxicity, but can limit mobility. Further reduction of mobility, toxicity or volume of leachate / ground water is not expected as the process is already occurring. Only a small gain would be achieved through any phytoremediation activities, but none the less it is very helpful when paired with other alternative measures. Phytoremediation is generally accepted by the community and MDEQ as an acceptable method of remediation.

Surficial Waste Cleanup would removal would immediately improve the safety for any on-Site personnel and aesthetics This activity would likely be accepted by the public and MDEQ. Surficial Waste Cleanup is easy to implement and cost effective. However, surficial waste cleanup does not fully address corrective action objectives and toxicity, mobility and volume of contaminated soil / waste would mostly remain.

The No Action alternative would maintain the status quo at the Site and would not help meet corrective action objectives. Both long-term and short-term effectiveness would be inadequate. Implementing a No Action alternative would be very easy and inexpensive. However, the community and MDEQ would likely not accept it.

5.0 PROPOSED CORRECTIVE MEASURES ALTERNATIVE

Based on the information presented in Table 4 and the discussion in Section 4, several corrective measures alternatives were combined to create a recommended Corrective Measures Alternative. The recommended Corrective Measures Alternative is the final proposed corrective measures that will achieve the corrective action objectives. Table 5 summarizes the final Corrective Measures Alternative and presents costs associated with it. *Figure 4, Conceptual Site Model* presents a visual depiction of the environmental conditions associated with the Site and surrounding properties and lists the proposed corrective measures.

The Corrective Measures Alternative for the Site is comprised of the following:

- Land Use Restrictions
- Ground Water Restrictions
- Off-Site Institutional Controls
- Surficial Waste Cleanup

- Monitoring
- Ecological Cover to address ecological risks if Site use is as a natural area
- Phytoremediation if Site use is as a natural area

5.1 Land Use Restrictions

Land use restrictions will be implemented as part of the Corrective Measures Alternative to meet corrective action objectives. A Restrictive Covenant will be filed with the deed that covers the following:

- **Site-wide Land Use Restrictions:** Limit land uses of the entire Site to nonresidential, which is understood to include passive recreational uses. Land use restrictions will prohibit uses of the Site that are not compatible with or are inconsistent with the exposure assumptions for the nonresidential cleanup criteria established pursuant to MCL 324.20120a(1)(b) of NREPA in accordance with MDEQ.
- **Site-wide Soil Management Restrictions:** Prohibit the excavation of soils that would exacerbate the migration of contaminants, except for those excavation activities that are associated with remedial activities or other activities required by USEPA, and prohibit the detrimental disturbance to, removal of, and any activity that would interfere with function of or access to other corrective measures such as the ecological cover.
- **Site-wide Soil Vapor Management:** In order to address potential vapor intrusion exposure, prohibit constructing or occupying structures on the Site unless soil vapor intrusion is first properly assessed and/or engineering controls are incorporated to eliminate the potential for unacceptable vapors to migrate to indoor air and documentation of compliance is provided to USEPA.

5.2 Ground Water Use Restrictions

A restrictive covenant would also cover ground water use restrictions that are outlined below:

- **Site-wide Ground Water Use Restrictions:** Prohibit the construction and use of wells and other devices on the Site to extract ground water for any purpose, except as part of USEPA approved response activities for the purpose of ground water monitoring and or remedial activities so long as the construction of the wells or other devices complies with all applicable local, state, and federal laws and regulations and does not cause or result in a new release or further release of existing contamination, or any other violation of local, state, and federal environmental laws and regulations.
- **Short-term dewatering for construction purposes** is permitted provided the dewatering includes management and disposal of ground water, is conducted in accordance with all applicable local, state, and federal laws and regulations and does not cause or result in a new release or further release of existing contamination, or any other violation of local, state, and federal environmental laws and regulations.

5.3 Off-Site Institutional Controls

Off-Site institutional controls that will be implemented are outlined below:

Off-Site Groundwater Use Restriction: Prohibit the construction and use of wells and other devices on certain surrounding properties to extract ground water for drinking water purposes. A reasonable attempt will be made to implement off-Site groundwater use restrictions. Such restrictions are not absolutely necessary given well permit requirements and the availability of municipal water supplies to the surrounding properties.

5.4 Surficial Waste Cleanup

Surficial debris piles would be removed from the entire AOD and disposed off-Site. The purpose of this corrective measure is to prevent possible safety issues for any person(s) on-Site who could come into contact with surficial waste, and also eliminate possible ongoing sources to ground water and precipitation run-off. It is likely that during the removal of surficial debris, some clearing of vegetation and ground disturbance will occur and will need to be repaired. All cleanup efforts will be handled in a manner to reduce and / or repair ground disturbance.

5.5 Ground Water Monitoring

Routine ground water monitoring will be implemented as part of the recommended Corrective Measures Alternative to provide data for assessing how final corrective measures are operating. Ground Water monitoring will include regular ground water monitoring and hydraulic to collect necessary data for evaluating trends and confirming the stability of ground water impacts. The monitoring will consist of developing a baseline and monitoring for at least 30 years. Monitoring will be performed on a semiannual basis.

Data collected during ground water monitoring would be used to:

- Further evaluate concentration trends of select metals within the Site, near Site boundaries, and if possible on neighboring properties.
- Further evaluate concentration trends of limited VOC exceedances within the Site (near the northern Site boundary).
- Verify the stability of the horizontal extent of select metals in groundwater.
- Evaluate the hydraulic nature of the ground water over time.

The analytical results will be evaluated and recommendations of any modifications to the monitoring plan or for other action will be provided to USEPA in an annual report.

Monitoring may also entail Site inspections on a regular basis to assess and document changes to the property including any surface disturbances, damage to wells, or maintenance needed to wells. Monitoring may also include inspections of any other corrective measure such as the ecological cover to ensure proper function and schedule any needed maintenance. Site inspections would be performed on a semiannual basis in conjunction with the semiannual groundwater sampling and analysis efforts.

5.6 Ecological Cover

In the event the property is transferred and the AOD remains a natural area, Ecological Cover would require the placement of 6 inches of topsoil of two eco-zones (Zones 5 and 7) as delineated in the RACER Van Buren Landfill Ecological Risk Mitigation Evaluation Memorandum to meet corrective action objectives. Some clearing of small vegetation and proper maintenance of the ecological cover would be implemented to preserve the integrity and settlement of the 6 inches of topsoil.

5.7 Phytoremediation

In the event the property is transferred and the AOD remains a natural area, Phytoremediation will continue as part of the recommended Corrective Measures Alternative to meet corrective action objectives. The two subtypes of phytoremediation that are occurring are:

- Phytosequestration: The vegetation present on-Site will continue to stabilize metals within the root zones in order to limit migration to ground water. No harvesting will be required with phytosequestration.

- Phytohydraulics: The vegetation present on-Site will be relied upon for continued hydraulic control, both vertically and horizontally. Phytohydraulics also reduces precipitation infiltration to ground water / leachate.

6.0 SCHEDULE

Section V.3.f of the PVA describes that RACER will implement the selected corrective measures according to a schedule. A Corrective Measures Implementation Work Plan will be submitted to USEPA within 90 days of the approval of the corrective measure alternative. The Work Plan will include more details for the groundwater monitoring program, inspections, surficial waste cleanup, and land and ground water use restrictions, and associated schedules, as appropriate. In summary, the proposed Corrective Measures are already partially being implemented as part of the on-going groundwater monitoring and as part of administrative property management activities at the Site.

7.0 REFERENCES

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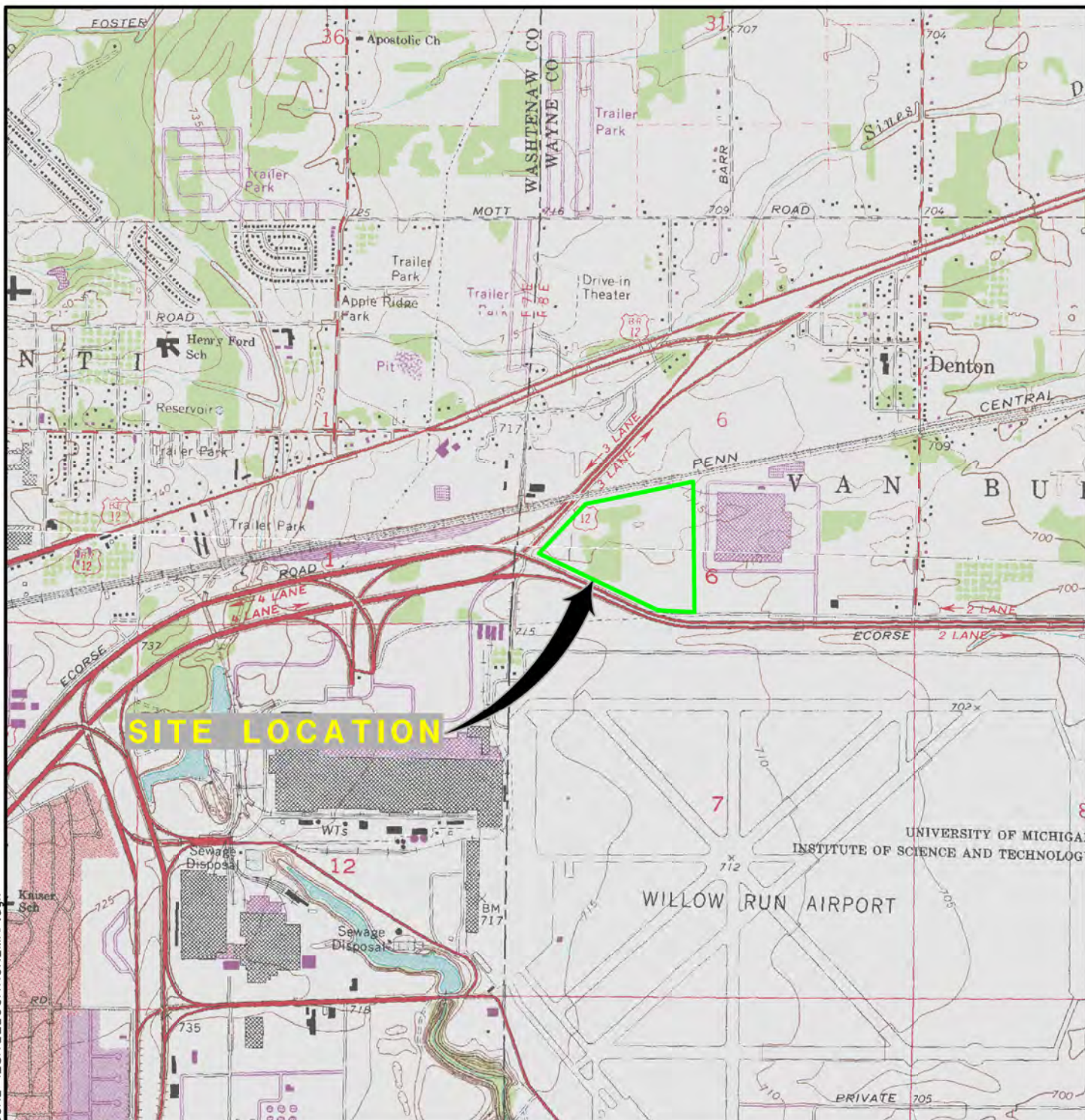
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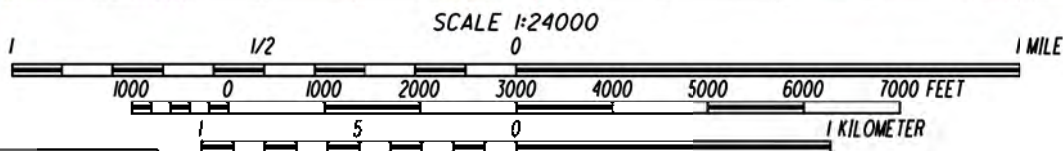
FIGURES



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)

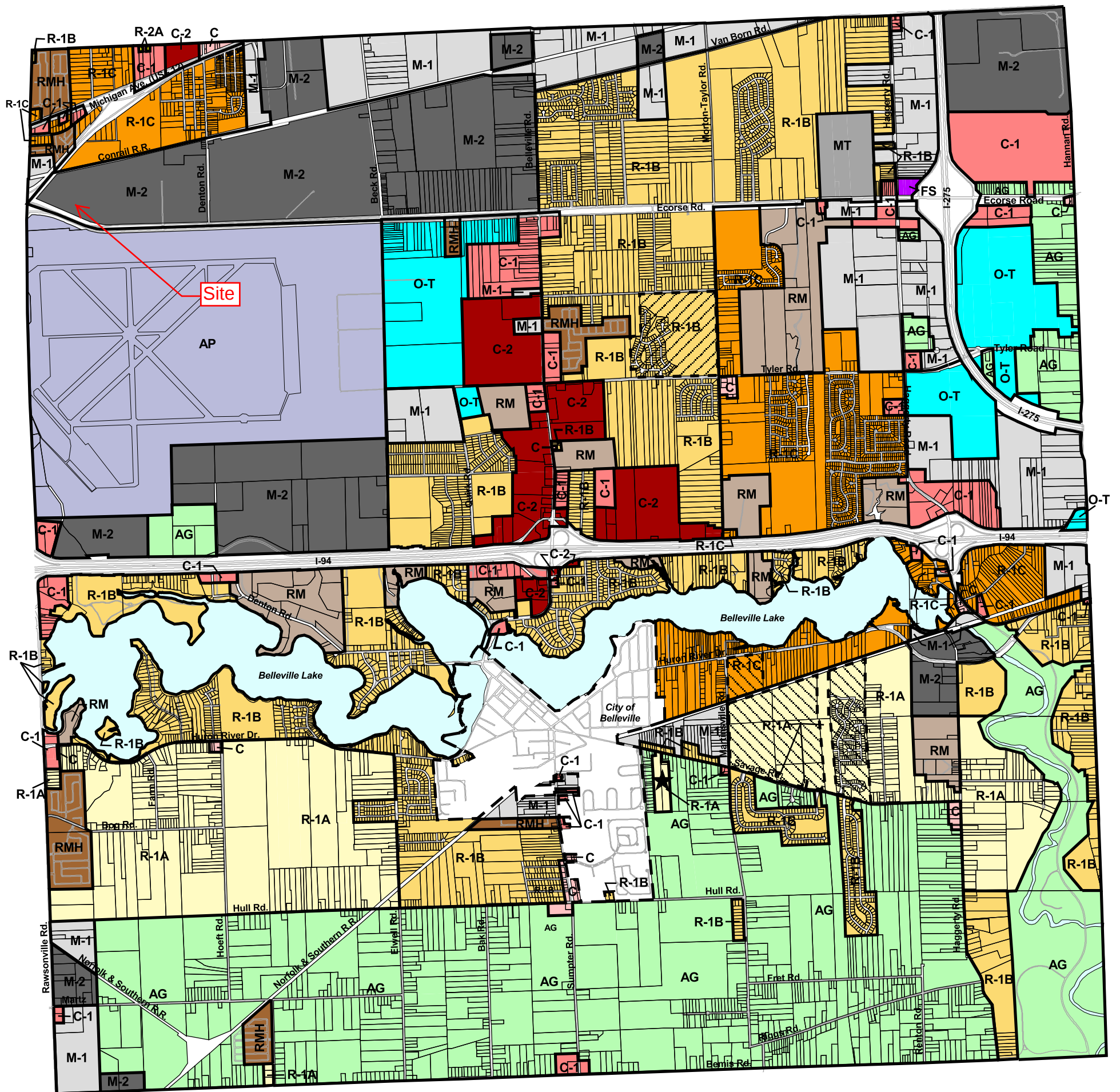


**FIGURE 1
SITE LOCATION MAP**

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
-----------------	-----------------	--------------------	-------------------------

Charter Township of Van Buren, Wayne County, Michigan



Zoning Districts

- | | | | |
|---|--|---|--|
|  | AG-A Agricultural and Estates - A |  | C-2 Extensive Highway Business |
|  | AG Agricultural and Estates |  | FS Freeway Service |
|  | R-1A Single Family Residential |  | O-T Office/Technology |
|  | R-2A Single Family Residential |  | M-1 Light Industrial |
|  | R-1B Single Family Residential |  | M-T Industrial Transportation |
|  | R-1C Single Family Residential |  | M-2 General Industrial |
|  | RM Multiple Family Residential |  | AP Airport |
|  | RMH Mobile Home Park |  | (Zoning is pursuant to a consent judgement) |
|  | C Local Business |  | (Land is subject to a Planned Residential Development (PRD) agreement) |
|  | C-1 General Business |  | (Land is subject to a Planned Unit Development (PUD) agreement) |

The parcel lines of this map are representational of the actual parcel lines and are not intended to be substituted for an official survey or used to resolve boundary or area discrepancies. Consult official Charter Township of Van Buren records for precise distances and areas of parcels, and boundaries.

REVISION DATES

July 1966	April 1979	March 1989	April 1994	May 1998	June 2003
August 1968	August 1980	April 1989	October 1994	June 1998	August 2003
January 1971	August 1982	October 1990	March 1996	July 1998	April 2004
August 1972	August 1984	January 1991	June 1997	July 1999	July 2004
December 1973	June 1986	February 1991	August 1997	September 1999	September 2004
March 1974	October 1986	April 1992	October 1997	June 2000	February 2005
August 1976	August 1987	July 1992	November 1997	June 2001	August 2005
March 1978	October 1987	November 1993	February 1998	January 2002	

I, JOANNIE D. PAYNE, CLERK OF THE CHARTER TOWNSHIP OF VAN BUREN,
DO HEREBY CERTIFY THAT THIS IS A TRUE COPY OF THE MAP ADOPTED BY THE TOWNSHIP
BOARD OF THE CHARTER TOWNSHIP OF VAN BUREN, WAYNE COUNTY, MICHIGAN IN
JUNE OF 1950, AS WELL AS THOSE AMENDMENTS MADE AS OF THE REVISED DATE.

JOANNIE D. PAYNE, TOWNSHIP CLERK

Figure 3 - Zoning Map

Basemap Source: Wade-Trim 11/97
Data Source: Charter Township of Van Buren, Wayne County

0 Ft. 3200 Ft.

1600 Ft.



Printed on:
01/24/2007

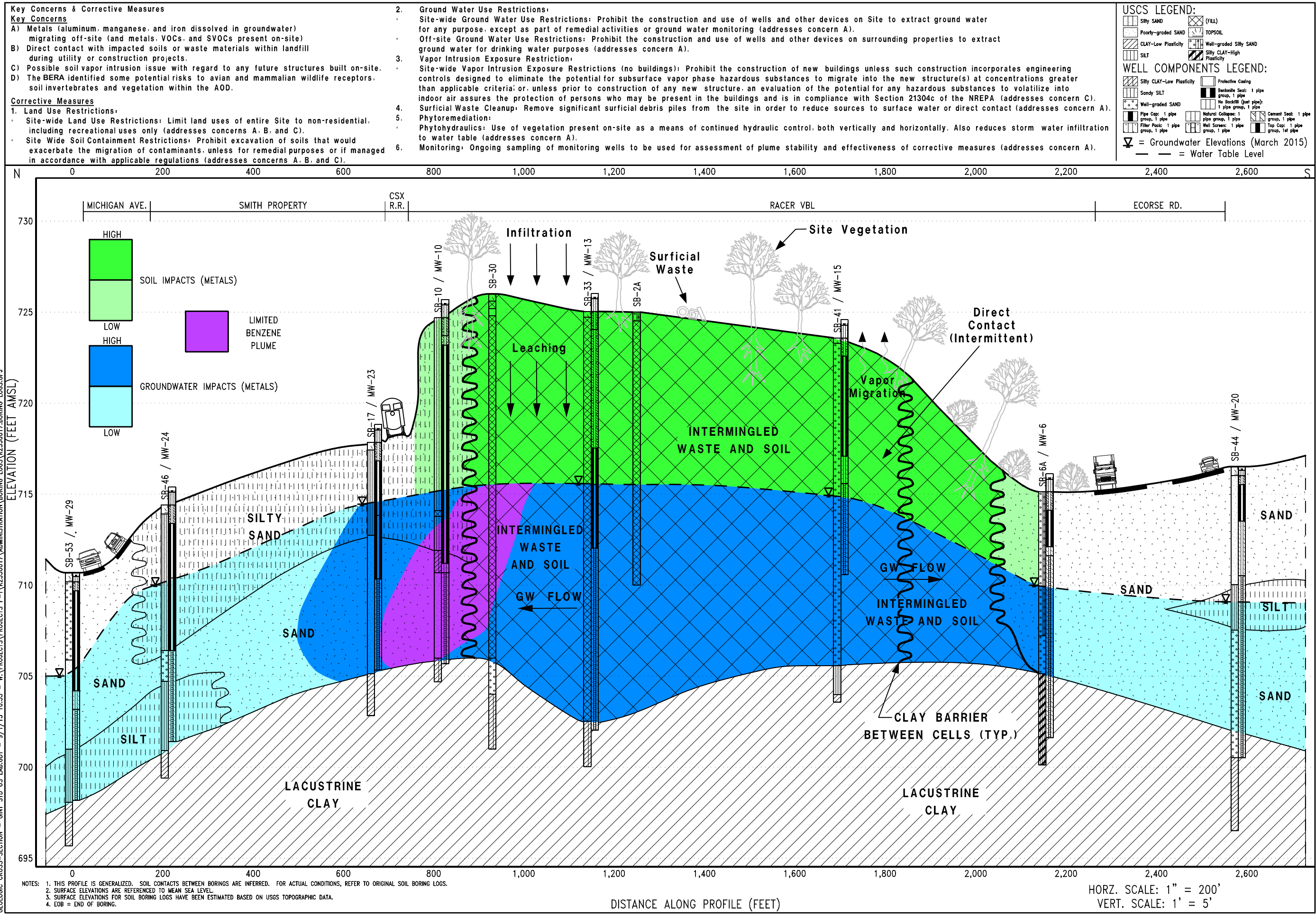


FIGURE 4
CONCEPTUAL SITE MODEL

TABLES



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

Table 2
Summary of Soil Sample
Analytical Results
Page 1 of 8

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				Volatile Organic Compounds (VOCs)																	
				Acetone	2-Butanone (MEK)	Benzene	Carbon Disulfide	Chlorobenzene	1,2-Dichloroethene	Chloroethane	Chlorobenzene	Cyclohexane	1,2-Dichlorobenzene	1,4-Dichlorobenzene	Ethylbenzene	Isopropylbenzene	Methylene Chloride	Methylcyclohexane	Methyl Acetate	Trichloroethene	Toluene
Statewide Default Background Levels (X)				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	2,000	1,400	22,000	2,000	NA	14,000	1,700	1,500	2.6E+05	100	NA	NA	100	16,000
Groundwater/Surface Water Interface Protection Criteria (XII)				34,000	44,000	4,000 (X)	ID	500	12,000	ID	500	NA	280	360	360	3,200	NA	NA	NA	1,200 (X)	5,400
Soil Vapor Intrusion Concentration Screening Levels (SVI-nr) (c)				5.23E+06	3.04E+06	50	3,800	220	165	323	5,850	642	96,900	1,420	3,990	304	1,540	NA	NA	1,030	1.69E+05
Soil Volatilization to Indoor Air Inhalation (XXII)				5.4E+8 (C)	9.9E+07 (C)	8,400	1.4E+05	2.2E+5 (C)	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)
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				1.6E+08	3.5E+07	45,000	1.6E+06	9E+05	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
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				1.6E+08	3.5E+07	99,000	8.0E+06	1E+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
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				2.0E+08	3.6E+07	230,000	1.9E+07	2E+06	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	3.6E+07
Particulate Soil Inhalation Criteria (XXVI)				1.7E+11	2.9E+10	4.7E+08	2.1E+10	2E+09	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
Non-Residential Direct Contact Criteria (XXVII)				7.3E+07	7.0E+08(C,DD)	8.4E+5 (C)	4.3E+07 (C,DD)	2.6E+5 (C)	8.0E+06 (C)	7.4E+06 (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)	1.9E+06	NA	9.3E+05 (C)	1.6E+08 (C)
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE	<170	<340	<51	<51	<51	<51	<57	41 J	<51	<51	67	<51	<51	130	<340	<51	78	
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	<170	<340	<51	<51	<51	<51	<57	<57	<51	<51	67	<51	<51	130	<340	<51	78	
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	<170	<350	<52	<52	<52	<52	<57	<57	<52	<52	25 J	<52	<52	<52	<350	<52	<52	
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	
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	
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	<140	<270	<41	<41	<41	<41	<57	<41	<41	<41	<41	<41	<41	<41	<270	<41	<41	
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	<110	<230	<34	<34	<34	<34	<57	<34	<34	<34	<34	<34	<34	<34	<230	<34	<34	
SB-2	10'-12'	S-R2330004-071212-MF-012	7/12/2012	<180	<360	<55	<55	<55	<55	<57	<55	<55	<55	<55	<55	<55	<55	<360	<55	<55	
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	
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	
SB-4	10'-11'	S-R2330004-071212-MF-009	7/12/2012	<160	<310	<47	<47	<47	<47	<57	<47	<47	<47	<47	<47	<47	<47	<310	<47	<47	
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	<250	<37	34 J	
SB-5	25'-27'	S-R2330004-071112-MF-002	7/11/2012	<120	<250	41	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<250	<37	22 J	
SB-5C	0'-2'	S-R2330009-040213-MJF-005	4/2/2013	<110	<230	<34	<34	<34	<34	<57	<34	<34	<34	<34	<34	<34	<34	<230	<34	<34	
SB-5C	17'-18'	S-R2330009-040213-MJF-006	4/2/2013	<120	<230	<35	<35	<35	<35	<57	<35	<35	<35	<35	<35	<35	<35	<230	<35	<35	
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	<190	NS	<56	<56	<56	<56	<57	<56	<56	<56	420	50 J	<56	<56	<370	<56	410	
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	NS	<370	NS	<56	NS	<56	<57	NS	<56	NS	NS	NS	NS	NS	NS	<370	NS	
SB-6	1.5'-3'	S-R2330004-071212-MF-017 (DUP)	7/12/2012	170 J	<370	<56	<56	<56	<56	<57	<56	<56	<56	190	<56	<56	<56	<370	<56	350	
SB-6	6'-7'	S-R2330004-071212-MF-014	7/12/2012	<130	<260	<39	<39	<39	<39	<57	<39	<39	<39	<39	<39	<39	<39	<260	<39	<39	
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	
SB-6A	2.5'-4.5'	S-R2330004-071612-MF-016	7/16/2012	<150	<290	<44	<44	<44	<44	<57	<44	<44	<44	<44	<44	<44	<44	<290	<44	<44	
SB-7	0'-2'	S-R2330004-071112-MF-003	7/11/2012	<130	<270	<40	<40	<40	<40	<57	<40	<40	<40	18 J	<40	<40	<40	<270	<40	23 J	
SB-7	10'-11'	S-R2330004-071112-MF-004	7/11/2012	230 B	<320	59	<48	69	<48	<57	<48	<48	<48	200	41 J	<48	<48	<320	<48	350	
SB-7E	0'-2'	S-R2330009-040213-MJF-009	4/2/2013	<110	<230	<34	<34	<34	<34	<57	<34	<34	<34	<34	<34	<34	<34	<230	<34	<34	
SB-7E	5'-6'	S-R2330009-040213-MJF-010	4/2/2013	<120	<230	<35	<35	<35	<35	<57	<35	<35	<35	<35	<35	<35	<35	<230	<35	<35	
SB-8	0'-2'	S-R2330009-032613-MJF-011	3/26/2013	<130	<260	<39	<39	<39	<39	<57	<39	<39	<39	<39	<39	<39	<39	<260	<39	<39	
SB-9	0'-2'	S-R2330009-032613-MJF-012	3/26/2013	<110	<230	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	<230	<33	<33	
SB-9	10'-11'	S-R2330009-032613-MJF-013	3/26/2013	<120	<230	<35	<35	<35	<35	<57	<35	<35	<35	<35	<35	<35	<35	<230	<35	<35	
SB-10	0'-2'	S-R2330009-032513-MJF-014	3/25/2013	<150	<300	<45	<45	<45	<45	<57	<45	<45	<45	<45	<45	<45	<45	<300	<45	<45	
SB-10	13'-14'	S-R2330009-032513-MJF-015	3/25/2013	<110	<220	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	<220	<33	<33	
SB-11	0'-2'	S-R2330009-032613-MJF-016	3/26/2013	<120	<240	<36	<36	<36	<36	<57	<36	<36	<36	<36	<36	<36	<36	<240	<36	<36	
SB-11	6.5'-7.5'	S-R2330009-032613-MJF-017	3/26/2013	<110	<230	<34	<34	<34	<34	<57	<34	<34	<34	<34	<34	<34	<34	<230	<34	<34	
SB-12	0'-2'	S-R2330009-032513-MJF-018	3/25/2013	<130	<260	78	<38	<38	<38	<57	<38	<38	<38	73	<38	<38	<38	<260	<38	320	
SB-12	8'-																				

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

				Volatile Organic Compounds (VOCs)																	
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	2-Butanone (MEK)	Benzene	Carbon Disulfide	Chlorobenzene	1,2-Dichloroethene	Chloroethane	Chlorobenzene	Cyclohexane	1,2-Dichlorobenzene	4-Dichlorobenzene	Ethylbenzene	Isopropylbenzene	Methylene Chloride	Methylcyclohexane	Methyl Acetate	Trichloroethene	Toluene
Statewide Default Background Levels (X)				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	2,000	1,400	22,000	2,000	NA	14,000	1,700	1,500	2.6E+05	100	NA	NA	100	16,000
Groundwater/Surface Water Interface Protection Criteria (XII)				34,000	44,000	4,000 (X)	ID	500	12,000	ID	500	NA	280	360	360	3,200	30,000 (X)	NA	NA	1,200 (X)	5,400
Soil Vapor Intrusion Concentration Screening Levels (SVI-nr) (c)				5.23E+06	3.04E+06	50	3,800	220	165	323	5,850	642	96,900	1,420	3,990	304	1,540	NA	NA	1,030	1.69E+05
Soil Volatilization to Indoor Air Inhalation (XXII)				5.4E+8 (C)	9.9E+07 (C)	8,400	1.4E+05	2.2E+5 (C)	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)
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				1.6E+08	3.5E+07	45,000	1.6E+06	9E+05	2.1E+05	1.2E+05	9.2E+05	NA	4.6E+07	2.6E+05	2.4E+06	2.0E+06	1.7E+06	NA	NA	2.1E+05	3.3E+06
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				1.6E+08	3.5E+07	99,000	8.0E+06	1E+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
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				2.0E+08	3.6E+07	230,000	1.9E+07	2E+06	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	3.6E+07
Particulate Soil Inhalation Criteria (XXVI)				1.7E+11	2.9E+10	4.7E+08	2.1E+10	2E+09	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
Non-Residential Direct Contact Criteria (XXVII)				7.3E+07	7.0E+08 (C,DD)	8.4E+5 (C)	4.3E+07 (C,DD)	2.6E+5 (C)	8.0E+06 (C)	7.4E+06 (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+08 (C)
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE																		
SB-41	9.5'	S-R2330012-040214-ACN-008	4/2/2014	<110	<220	<33	<33	<33	<33	100 J	<57	<33	<33	<33	73	<33	<33	<33	260 J	240	46 J
SB-42	9'	S-R2330012-040214-ACN-009	4/2/2014	<110	<220	<33	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	<220	<33	<33
SB-44	6'	S-R2330012-040214-ACN-010	4/2/2014	240 J	<220	<33	<33	<33	<33	<33	<57	<33	<33	<33	44	25 J	<33	57 J	180 J	<33	28 J
SB-46	2'	S-R2330012-041114-ACN-019	4/11/2014	<110	<220	<33	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	65 J	<33	<33
SB-47	9'	S-R2330012-041114-ACN-020	4/11/2014	<110	<220	<33	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	58 J	<33	<33
SB-48	1.5'	S-R2330012-040214-ACN-017	4/9/2014	<110	<220	<33	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	120 J	<33	<33
SB-49	4.5'	S-R2330012-040214-ACN-018	4/9/2014	<110	<220	<33	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	71 J	<33	<33
SB-50	1.5'	S-R2330012-040214-ACN-016	4/9/2014	<110	<220	<33	<33	<33	<33	<33	<57	<33	<33	<33	<33	<33	<33	<33	100 J	<33	<33
SB-1 - SB-30	0'-2'	ISM-1-Z3	1/6/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-31 - SB-60	0'-2'	ISM-2-Z3	1/6/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-61 - SB-90	0'-2'	ISM-3-Z3	1/6/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-91 - SB-120	0'-2'	ISM-4-Z5	1/6/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-121 - SB-150	0'-2'	ISM-5-Z5	1/7/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-151 - SB-180	0'-2'	ISM-6-Z5	1/7/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-181 - SB-210	0'-2'	ISM-7-Z6	1/7/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-211 - SB-240	0'-2'	ISM-8-Z6	1/7/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-241 - SB-270	0'-2'	ISM-9-Z6	1/7/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-271 - SB-300	0'-2'	ISM-10-Z7	1/8/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-301 - SB-330	0'-2'	ISM-11-Z7	1/8/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-331 - SB-360	0'-2'	ISM-12-Z7	1/8/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-361 - SB-390	0'-2'	ISM-13-Z8	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-391 - SB-420	0'-2'	ISM-14-Z8	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-421 - SB-450	0'-2'	ISM-15-Z8	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-451 - SB-480	0'-2'	ISM-16-Z9	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-481 - SB-510	0'-2'	ISM-17-Z9	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-511 - SB-540	0'-2'	ISM-18-Z9	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-541 - SB-570	0'-2'	ISM-19-Z2	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-571 - SB-600	0'-2'	ISM-20-Z2	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-601 - SB-630	0'-2'	ISM-21-Z2	1/23/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-631 - SB-660	0'-2'	ISM-25-Z10	1/26/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-661 - SB-690	0'-2'	ISM-26-Z10	1/26/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-691 - SB-720	0'-2'	ISM-27-Z10	1/26/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-721 - SB-750	0'-2'	ISM-22-Z1	1/26/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<38
SB-751 - SB-780	0'-2'	ISM-23-Z1	1/27/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	350
SB-781 - SB-810	0'-2'	ISM-24-Z1	1/27/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<38
SB-811 - SB-840	0'-2'	ISM-28-Z4	1/30/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<39
SB-841 - SB-870	0'-2'	ISM-29-Z4	1/30/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<39
SB-871 - SB-900	0'-2'	ISM-30-Z4	1/30/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<39

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number.
Exceeds Drinking Water Protection Criteria (XXI)
Exceeds Groundwater Surface Water Interface Protection Criteria (XII)
Exceeds Direct Contact Criteria (XXVII)
Exceeds Applicable Soil Vapor Inhalation Criteria/Screening Levels (XXII, c)
Exceeds Two or More DWP
NA = Not Available or Not Applicable
ND = Not Detected Above Method Detection Limits.
NS = Not Sampled or Not Analyzed.
J = Analyte detected below quantitation limit.
B = Analyte detected in the associated Method Blank above the Reporting Limit.
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 1
Summary of Soil / Waste Sample Results
Van Buren Landfill Site
Michigan Avenue and Ecorse Road
Van Buren Township, Wayne County, Michigan

				Semivolatile Organic Compounds (SVOCs)											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				Total Xylenes	Acenaphthene	Acenaphthylene	Acetophenone	Anthracene	1,1'-Biphenyl	Benzaldehyde	Benz[a]anthracene	Benz[b]fluoranthene	Benz[e]pyrene	Benz[k]fluoranthene	Benz[a]pyrene	Bis(2-ethylhexyl)phthalate	Di-tert-butyl Phthalate	Cyclohexan	Carbazole	Chrysene	2,4-Dinitrotoluene	Dibenz[a,h]anthracene	Di-n-butyl Phthalate	Di-n-octyl Phthalate	Fluoranthene	Fluorene	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	NA	NA	NA	NA	NA	NA	NA	NA	
Drinking Water Protection Criteria (XXI)				5,000	8.8E+05	17,000	NA	41,000	NA	NA	NLL	NLL	NLL	NLL	NLL	NLL	5.0E+06 (C)	3.4E+05	39,000	NLL	640	NLL	2.7E+06 (C)	2.9E+09 (C)	7.3E+05	8.9E+05	NA	1.0E+05	1.6E+05	2.6E+05	4.8E+05		
Groundwater/Surface Water Interface Protection Criteria (XII)				820	8,700	ID	NA	ID	NA	NA	NLL	NLL	NLL	NLL	NLL	NLL	1.2E+05 (X)	NA	1,100	NLL	NA	NLL	11,000	ID	5,500	5,300	NA	730	2,100	9,000	ID		
Soil Vapor Intrusion Concentration Screening Levels (SV-nf) (C)				4,890	7.26E+06	2.82E+06	NA	5.98E+08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.19E+07	NA	8,940	86,300	NA	1.09E+09		
Soil Volatilization to Indoor Air Inhalation (XXIII)				1.2E+07 (C)	3.5E+08	3.0E+06	NA	1.0E+09 (D)	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	NLV	NLV	NLV	NLV	NLV	1.0E+09 (D)	1.0E+9 (D)	NA	4.7E+05	5.1E+06	NLV	1.0E+09 (D)	
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				5.4E+07	9.7E+07	2.7E+06	NA	1.6E+09	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	NLV	NLV	NLV	NLV	NLV	8.9E+08	1.5E+08	NA	3.5E+05	1.9E+05	NLV	7.8E+08	
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				6.5E+07	9.7E+07	2.7E+06	NA	1.6E+09	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	NLV	NLV	NLV	NLV	NLV	8.8E+08	1.5E+08	NA	3.5E+05	1.9E+05	NLV	7.8E+08
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				1.3E+08	9.7E+07	2.7E+06	NA	1.6E+09	NA	NA	NLV	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	NLV	NLV	NLV	NLV	NLV	8.8E+08	1.5E+08	NA	3.5E+05	1.9E+05	NLV	7.8E+08
Particulate Soil Inhalation Criteria (XXVI)				1.3E+11	6.2E+09	1.0E+09	NA	2.9E+10	NA	NA	ID	ID	3.5E+08	ID	1.9E+06	8.9E+08	2.1E+10	2.9E+08	7.8E+07	ID	2.0E+06	ID	1.5E+09	1.4E+10	4.1E+09	4.1E+09	NA	8.8E+07	2.9E+06	1.8E+10	2.9E+09		
Non-Residential Direct Contact Criteria (XXVII)				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	1.2E+07 (C)	1.2E+08 (C)	3.1E+08 (D)	2.4E+06	8.0E+06	2.2E+05	8,000	17.6E+05 (C)	2.0E+07	1.3E+08	8.7E+07	NA	5.2E+07	3E+08 (C, D)	8.4E+07			
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE																														
SB-1	0'-2"	S-R2330004-071212-MF-006	7/12/2012	270	<320	<320	<3500	<320	<3500	<3500	210 J	350	<320	280 J	210 J	740 J	<1700	<3500	<1700	270 J	<1700	<320	200 J	<1700	410	<320	<1700	<320	<320	<1700	420		
SB-1	8'-9"	S-R2330004-071212-MF-007	7/12/2012	65 J	<32	<32	<360	<32	<360	<360	<32	18 J	<32	<32	<32	47 J	<170	<360	<170	22 J	<170	<32	32 J	<170	28 J	<32	<170	22 J	<32	<170	24 J		
SB-1A	0'-2"	S-R2330009-032613-MJF-001	3/26/2013	<99	<32	<32	<350	<32	<350	<350	26 J	43	<32	<32	21 J	78 J	<170	87 J	<170	44	<170	<32	29 J	33 J	51	<32	<170	43	77	<170	48		
SB-1A	10'-11"	S-R2330009-032613-MJF-002	3/26/2013	<99	<32	<32	<350	<32	<350	<350	<32	31 J	<32	<32	<32	20 J	<170	<350	<170	23 J	<170	<32	38 J	34 J	22 J	<32	<170	<32	<32	<170	20 J		
SB-2	0'-2"	S-R2330004-071212-MF-010	7/12/2012	<120	<30	<30	<330	<30	<330	16 J	35	49	<30	34	32	400	<160	35 J	<160	46	<160	<30	<330	<160	67	<30	<160	<30	44	<160	52		
SB-2	0'-2"	S-R2330004-071212-MF-011 (DUP)	7/12/2012	<100	<310	<310	<3400	<310	<3400	480 J	<310	<310	<310	<310	<310	390 J	<1600	<3400	<1600	<310	<1600	<310	<3400	<1600	<310	<310	<1600	<310	<1600	<310			
SB-2	10'-12"	S-R2330004-071212-MF-012	7/12/2012	<160	<32	<32	<350	<32	<350	<360	<32	<32	<32	<32	<32	94 J	<170	<350	<170	19 J	<170	<32	<350	<170	19 J	<32	<170	<32	<32	<170	19 J		
SB-3	0'-2"	S-R2330004-071112-MF-005	7/11/2012	<110	<32	<32	<350	<32	<350	<360	<32	<32	<32	<32	<32	48 J	<170	<350	<170	<32	<170	<32	<350	<170	<32	<32	<170	<32	<32	<170	<32		
SB-4	0'-2"	S-R2330004-071212-MF-008	7/12/2012	<110	<31	<31	<340	<31	<340	<340	17 J	31 J	<31	23 J	22 J	<340	<160	<340	<160	28 J	<160	<31	<340	<160	54	<31	<160	<31	<31	<160	38		
SB-4	10'-11"	S-R2330004-071212-MF-009	7/12/2012	<140	<33	<33	<360	<33	<360	<360	<33	<33	<33	<33	<33	<360	<180	<360	<180	<33	<180	<33	<360	<180	21 J	<33	<180	<33	<33	<180	<33		
SB-5	0'-2"	S-R2330004-071112-MF-001	7/11/2012	220	<310	<310	<3400	<310	<3400	<3400	230 J	700	<310	280 J	500	420 J	540 J	<3400	<1700	390	<1700	<310	<3400	<1700	230 J	<310	<1700	<310	<310	<1700	170 J		
SB-5	25'-27"	S-R2330004-071112-MF-002	7/11/2012	47 J	32 J	32 J	<400	50	<400	<400	130	190	80	110	140	130 J	70 J	<400	32 J	140	<190	21 J	<400	<190	210	73	32 J	81	190	<190	180		
SB-5C	0'-2"	S-R2330009-040213-MJF-005	4/2/2013	<100	<33	<33	<370	<33	<370	<370	30 J	42	<33	27 J	25 J	<370	<180	<370	<180	42	<180	<33	<370	<180	43	<33	<180	<33	<33	<180	41		
SB-5C	17'-18"	S-R2330009-040213-MJF-006	4/2/2013	<100	<380	<380	<380	54	<380	<380	170	230	65	120	160	190	<380	<380	<180	210	<1,900	<34	<380	<180	400	<340	53 J	62	230	<180	330		
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	1,500	NS	NS	<3600	NS	<3600	NS	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	NS	<330	<330	<3600	360	<3600	<3600	1,200	1,700	470	980	1,300	1,900 J	<1800	<3600	<1800	1,400	<1800	<330	<3600	<1800	2,700	<330	<1800	<330	1,700	<1800	1,900		
SB-6	1.5'-3'	S-R2330004-071212-MF-017 (DUP)	7/12/2012	620	<330	<330	<3600	500	<3600	<3600	2,000	2,500	570	1,400	1,800	520 J	290 J	<3600	<1800	2,100	<1800	<330	<3600	<1800	3,900	<330	<1800	<330	2,100	<1800	2,900		
SB-6	6'-7"	S-R2330004-071212-MF-014	7/12/2012	<120	<33	<33	<370	<33	<370	<370	<33	<33	<33	<33	<33	<370	<180	<370	<180	<33	<180	<33	<370	<180	18 J	<33	<180	<33	<33	<180	<33		
SB-6A	0'-2"	S-R2330004-071612-MF-015	7/16/2012	360	<310	<310	<3500	<310	<3500	<3500	<310	<310	<310	<310	<310	270 J	350 J	<3500	<1700	<310	<1700	<310	<3500	<1700	180 J	<310	<1700	<310	<310	<1700	<310		
SB-6A	2.5'-4.5'	S-R2330004-071612-MF-016	7/16/2012	<130	80	<36	<390	160	<390	<390	250	270	60	180	210	<390	<190	<390	<190	250	<190	21 J	<390	<190	650	97	<190	49	550	<190	490		
SB-7	0'-2"	S-R2330004-071112-MF-003	7/11/2012	140	<80	<320	<3500	180 J	<3500	<3500	620	940	290 J	520	750	7,400	590 J	<3500	<1700	610	<1700	<320	<3500	440 J	1,100	<320	<1700	<320	700	<1700	880		
SB-7	10'-11"	S-R2330004-071112-MF-004	7/11/2012	610	610	<350	<3800	640	<3800	<3800	1,100	1,500	410	760	1,100	2,300 J	750 J	<3800	<1900	1,100	440 J	<350	<3800										

Table 2
Summary of Soil Sample
Analytical Results

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Notes:

Bold indicates concentration above method detection limits.

Roman numerals indicate DEQ criterion number.

Exceeds Drinking Water Protection Criteria (XXI)

Exceeds Groundwater Surface Water Interface Protection Criteria (XII)

Exceeds Direct Contact Criteria (XXVII)

Exceeds Applicable Soil Vapor Inhalation Criteria/Screening Levels (XXII, c)

Exceeds Two or

NA = Not Available or Not Applicable

ND = Not Detected Above Method Detection Limits.

NS = Not Sampled or Not Analyzed.

J = Analyte detected below quantitation limit.

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Table 2
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Analytical Results
Page 5 of 8

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																				
				Aluminum (B)	Antimony	Arsenic (B)	Barium (B)	Beryllium	Cadmium (B)	Chromium	Cobalt	Copper (B)	Iron (B)	Lead (B)	Manganese (B)	Mercury (B,Z)	Nickel (B)	Selenium (B)	Silver (B)	Thallium (B)	Vanadium	Zinc (B)		
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+05	130	20,000	410	1,000	NA	NA	47,000		
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		
Groundwater/Surface Water Interface Protection Criteria (XII)				NA	94,000 (X)	4,600	4.4E+05 (G)	8.9E+04 (G)	3.6E+03 (G,X)	3,300	2,000	7.9E+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)		
Soil Vapor Intrusion Concentration Screening Levels (SVI-nr) (c)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Soil Volatilization to Indoor Air Inhalation (XXII)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	8.9E+04	NLV	NLV	NLV	NLV	NLV	NLV		
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV		
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV		
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV		
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		
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		
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		
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		
SB-1A	0'-2'	S-R2330009-032613-MJF-001	3/26/2013	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	9,600	19,000		
SB-1A	10'-11'	S-R2330009-032613-MJF-002	3/26/2013	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		
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		
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		
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		
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		
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		
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		
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		
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		
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	16,000	380,000	27	11,000	320 J	21 J	130 J	16,000	34,000		
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	46	19,000	<250	310 J	150 J	12,000	210,000		
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	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	500,000	240	90,000	570	1,300	100 J	15,000	990,000		
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		
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		
SB-6A	0'-2'	S-R2330004-071612-MF-015	7/16/2012	7,600,000	1,500	4,300	89,000	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		
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	8,800	7,300,000	5,700	130,000	18 J	7,900	340 J	14 J	84 J	12,000	41,000		
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		
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		
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		
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		
SB-8	0'-2'	S-R2330009-032613-MJF-011	3/26/2013	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	8,500	<1,700	29 J	68 J	14,000	43,000		
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		
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	8,800	4,200	14,000	12,000,000	23,000	250,000	23	12,000	<1,700	40 J	16 J	15,000	42,000		
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	9,900	<1,400	110 J	120 J	12,000	59,000		
SB-10	13'-14'	S-R2330009-032613-MJF-015	3/26/2013	5,700,000	72 J	5,600	21,000	320 J	120 J	11,000	3,900	14,000	13,000,000	6,400	180,000	30	14,000	<1,500	10 J	85 J	17,000	33,000		
SB-11	0'-2'	S-R2330009-032613-MJF-016	3/26/2013	4,800,000	28 J	1,800	24,000	220 J	95 J	7,100	1,700 J	2,900	8,200,000	5,000	86,000	25	4,900	<1,400	8 J	<1,800	11,000	18,000		
SB-11	6.5'-7.5'	S-R2330009-032613-MJF-017	3/26/2013	1,400,000	83 J	2,200	6,100	92 J	72 J	4,500	1,600 J	4,900	5,400,000	2,100	210,000	6.9 J	5,500	<1,500	<740	50 J	5,600	12,000		
SB-12	0'-2'	S-R2330009-032613-MJF-018	3/26/2013	14,000,000	4,500	8,000	460,000	240 J	9,900	34,000	6,700	240,000	44,000,000	860,000	460,000	120	41,000	<1,700	1,200	65 J	13,000	1,100,000		
SB-12	8'-9'	S-R2330009-032613-MJF-019	3/26/2013	3,100,000	88 J	1,800	21,000	120 J	170 J	7,300	1,900 J	4,700	6,100,000	12,000	87,000	14 J	5,300	<1,600	17 J	<2,000	9,400	21,000		

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

Table 2
Summary of Soil Sample
Analytical Results
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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																				
				Aluminum (B)	Antimony	Arsenic (B)	Barium (B)	Beryllium	Cadmium (B)	Chromium	Cobalt	Copper (B)	Iron (B)	Lead (B)	Manganese (B)	Mercury (B,2)	Nickel (B)	Selenium (B)	Silver (B)	Thallium (B)	Tin	Vanadium	Zinc (B)	
Statewide Default Background Levels (X)				6.9E+06	NA	5,800	75,000	NA	1,300	18,000	5,000	32,000	1.20E+07	21,000	4.40E+06	130	20,000	410	1,000	NA	NA	47,000		
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		
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)	4,000	100 (M); 27	4,200 (X)	4.30E+05	1.7E+05 (G)		
Soil Vapor Intrusion Concentration Screening Levels (SVI-nr) (c)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Soil Volatilization to Indoor Air Inhalation (XXII)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	8.9E+04	NLV	NLV	NLV	NLV	NLV	NLV		
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV		
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV		
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6.2E+04	NLV	NLV	NLV	NLV	NLV	NLV		
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		
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		
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE																					
SB-41	9.5'	S-R2330012-040214-ACN-008	4/2/2014	26,000,000	35,000	18,000	600,000	430 J	16,000	49,000	19,000	380,000	120,000,000	1,800,000	830,000	190	89,000	1,300	9,800	54 J	12,000	2,100,000		
SB-42	9'	S-R2330012-040214-ACN-009	4/2/2014	4,800,000	3,300	12,000	150,000	360 J	2,600	91,000	4,800	53,000	14,000,000	290,000	460,000	180	16,000	760 J	930	200 J	11,000	2,900,000		
SB-44	6'	S-R2330012-040214-ACN-010	4/2/2014	3,900,000	160 J	22,000	21,000	280 J	100	10,000	3,200	5,500	37,000,000	5,000	250,000	19	7,600	620 J	61 J	120 J	17,000	22,000		
SB-46	2'	S-R2330012-041114-ACN-019	4/11/2014	6,200,000	250 J	5,600	93,000	440 J	270 J	13,000	4,700	15,000	14,000,000	38,000	250,000	37	13,000	570 J	37 J	130 J	19,000	45,000		
SB-47	9'	S-R2330012-041114-ACN-020	4/11/2014	5,500,000	200 J	5,800	23,000	310 J	310 J	11,000	5,300	8,100	12,000,000	7,400	480,000	22	9,900	600 J	23 J	170 J	16,000	25,000		
SB-48	1.5'	S-R2330012-040214-ACN-017	4/9/2014	3,200,000	150 J	2,100	23,000	140 J	200 J	6,400	1,700 J	4,300	5,900,000	11,000	190,000	17	4,000	540	<830	<2,100	9,600	32,000		
SB-49	4.5'	S-R2330012-040214-ACN-018	4/9/2014	3,300,000	180 J	3,200	19,000	160 J	100 J	7,100	3,200	8,200	8,000,000	6,300	180,000	9.5 J	9,400	400 J	15 J	98 J	12,000	22,000		
SB-50	1.5'	S-R2330012-040214-ACN-016	4/9/2014	5,000,000	170 J	3,200	28,000	260 J	150 J	6,000	2,100	7,600	8,000,000	11,000	120,000	16	5,500	370	14 J	96 J	12,000	29,000		
SB-1 - SB-30	0'-2'	ISM-1-23	1/6/2015	3,400,000	1,400 J	3,900	44,000	190 J	1,400	8,900	3,300	36,000	11,000,000	74,000	190,000	49	11,000	620 J	320 J	<1,600	9,700	180,000		
SB-31 - SB-60	0'-2'	ISM-2-23	1/6/2015	2,900,000	2,100	3,700	59,000	<580	1,900	9,100	3,800	36,000	12,000,000	110,000	210,000	35	17,000	630 J	330 J	<1,500	8,400	190,000		
SB-61 - SB-90	0'-2'	ISM-3-23	1/6/2015	3,600,000	2,100	4,500	55,000	180 J	1,900	11,000	3,300	45,000	15,000,000	140,000	210,000	76	15,000	820 J	460 J	<1,300	9,400	180,000		
SB-91 - SB-120	0'-2'	ISM-4-25	1/6/2015	4,700,000	8,200	5,300	150,000	230 J	3,400	20,000	5,000	120,000	23,000,000	360,000	280,000	120	31,000	670 J	1,200	<1,400	9,000	640,000		
SB-121 - SB-150	0'-2'	ISM-5-25	1/7/2015	6,600,000	12,000	7,500	270,000	260 J	6,100	30,000	6,900	290,000	37,000,000	540,000	450,000	190	40,000	840 J	3,200	<1,400	10,000	880,000		
SB-151 - SB-180	0'-2'	ISM-6-25	1/7/2015	6,700,000	8,800	9,100	430,000	270 J	7,900	41,000	7,400	200,000	47,000,000	680,000	700,000	310	39,000	960 J	2,300	<1,600	19,000	920,000		
SB-181 - SB-210	0'-2'	ISM-7-26	1/7/2015	7,700,000	6,800	6,600	200,000	240 J	4,300	21,000	5,000	260,000	29,000,000	350,000	380,000	120	32,000	1,100 J	1,500	<1,500	11,000	530,000		
SB-211 - SB-240	0'-2'	ISM-8-26	1/7/2015	5,200,000	6,900	6,400	180,000	230 J	6,300	22,000	5,700	110,000	28,000,000	400,000	360,000	250	30,000	780 J	2,400	<1,400	10,000	580,000		
SB-241 - SB-270	0'-2'	ISM-9-26	1/7/2015	5,500,000	13,000	7,700	170,000	230 J	5,000	26,000	6,200	170,000	32,000,000	420,000	400,000	140	28,000	850 J	1,300	<1,400	9,300	740,000		
SB-271 - SB-300	0'-2'	ISM-10-27	1/8/2015	7,500,000	13,000	7,500	220,000	260 J	14,000	30,000	6,500	520,000	30,000,000	1,000,000	340,000	170	35,000	920 J	2,300	<1,600	11,000	960,000		
SB-301 - SB-330	0'-2'	ISM-11-27	1/8/2015	6,800,000	12,000	8,100	280,000	300 J	5,600	30,000	7,300	2,900,000	43,000,000	560,000	470,000	210	40,000	1,300	2,600	<1,500	13,000	1,500,000		
SB-331 - SB-360	0'-2'	ISM-12-27	1/8/2015	6,900,000	11,000	7,600	300,000	280 J	6,200	35,000	9,100	300,000	38,000,000	500,000	420,000	200	51,000	1,000 J	2,400	<1,400	8,700	1,100,000		
SB-361 - SB-390	0'-2'	ISM-13-28	1/23/2015	7,300,000	20,000	6,500	400,000	320 J	16,000	29,000	7,500	230,000	23,000,000	960,000	450,000	120	40,000	1,200 J	4,400	<1,600	14,000	810,000		
SB-391 - SB-420	0'-2'	ISM-14-28	1/23/2015	5,800,000	9,100	5,600	380,000	270 J	3,600	20,000	5,500	150,000	21,000,000	350,000	320,000	67	33,000	870 J	3,200	<1,300	14,000	510,000		
SB-421 - SB-450	0'-2'	ISM-15-28	1/23/2015	5,900,000	9,300	7,100	220,000	260 J	3,300	27,000	5,300	160,000	19,000,000	300,000	340,000	110	37,000	1,500	1,700	<1,300	13,000	560,000		
SB-451 - SB-480	0'-2'	ISM-16-29	1/23/2015	5,000,000	6,000	6,100	450,000	210 J	3,000	20,000	5,100	150,000	25,000,000	230,000	310,000	370	34,000	1,000 J	1,300 J	<1,300	13,000	440,000		
SB-481 - SB-510	0'-2'	ISM-17-29	1/23/2015	4,700,000	5,400	6,000	230,000	230 J	2,900	29,000	5,900	200,000	26,000,000	220,000	290,000	130	28,000	670 J	1,300 J	<1,500	13,000	440,000		
SB-511 - SB-540	0'-2'	ISM-18-29	1/23/2015	4,800,000	6,300	4,900	150,000	220 J	2,800	17,000	5,300	230,000	22,000,000	240,000	270,000	160	33,000	1,000 J	1,300 J	<1,300	13,000	410,000		
SB-541 - SB-570	0'-2'	ISM-19-22	1/23/2015	7,700,000	8,500	7,300	240,000	<650	7,800	31,000	5,900	230,000	40,000,000	460,000	400,000	100	42,000	1,100 J	4,100	<1,600	12,000	780,000		
SB-571 - SB-600	0'-2'	ISM-20-22	1/23/2015	7,100,000	6,700	6,700	250,000	<650	4,700	28,000	6,200	250,000	35,000,000	490,000	430,000	120	33,000	840 J	2,100	<1,600	12,000	690,000		
SB-601 - SB-630	0'-2'	ISM-21-22	1/23/2015	8,100,000	8,700	7,600	230,000	<630	5,400	29,000	6,000	200,000	41,000,000	420,000	390,000	830	52,000	850 J	2,500	<1,600	11,000	820,000		
SB-631 - SB-660	0'-2'	ISM-25-210	1/26/2015	4,600,000	<1,400	2,400	32,000	160 J	340 J	7,800	1,600	9,900	5,900,000	19,000	97,000	54	5,200	710 J	57 J	<1,400	9,400	36,000		
SB-661 - SB-690	0'-2'	ISM-26-210	1/26/2015	4,500,000	<1,400	4,700	26,000	<560	240 J	6,700	1,800	5,600	8,100,000	14,000	140,000	32	4,800	590 J	21 J	<1,400	11,000	25,000		
SB-691 - SB-720	0'-2'	ISM-27-210	1/26/2015	3,900,000	<1,500	3,300	22,000	<600	170 J	6,600	1,800	4,700	6,300,000	13,000	130,000	39	4,800	930 J	25 J	<1,500	10,000	22,000		
SB-721 - SB-750	0'-2'	ISM-22-21	1/26/2015	4,800,000	6,400	6,400	150,000	230 J	5,300	23,000	9,700	310,000	27,000,000	380,000	420,000	63	50,000	1,100 J	1,800	<1,400	11,000	590,000		
SB-751 - SB-780	0'-2'	ISM-23-21	1/27/2015	7,600,000	14,000	12,000	320,000	320	8,400	62,000	12,000	410,000	43,000,000	650,000	720,000	160	58,000	1,300 J	3,600	<1,400	16,000	950,000		
SB-781 - SB-810	0'-2'	ISM-24-21	1/27/2015	4,600,000	5,100	6,400	160,000	220 J	3,700	23,000	5,400	13												

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

SOIL: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/kg				PCBs							
				Acrodir 1216	Acrodir 1221	Acrodir 1232	Acrodir 1242	Acrodir 1248	Acrodir 1254	Acrodir 1260	Total PCBs
Statewide Default Background Levels (X)				NA				NA	NA	NA	NA
Drinking Water Protection Criteria (XXI)				NLL				NA	NA	NA	NLL
Groundwater/Surface Water Interface Protection Criteria (XII)				NLL				NA	NA	NA	NLL
Soil Vapor Intrusion Concentration Screening Levels (SV-nr) (c)								NA	NA	NA	39,100
Soil Volatilization to Indoor Air Inhalation (XXII)				1.6E+07				NA	NA	NA	1.6E+07
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				8.1E+05				NA	NA	NA	8.1E+05
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				2.8E+07				NA	NA	NA	2.8E+07
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				2.8E+07				NA	NA	NA	2.8E+07
Particulate Soil Inhalation Criteria (XXVI)				6.5E+06				NA	NA	NA	6.5E+06
Non-Residential Direct Contact Criteria (XXVII)				(T)				NA	NA	NA	(T)
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE								
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	<41	<41	<41	<41	340	840	<41	1,180
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	<42	<42	<42	<42	<42	75	<42	75
SB-1A	0'-2'	S-R2330009-032513-MJF-001	3/25/2013					<43	<43	<43	ND
SB-1A	10'-11'	S-R2330009-032513-MJF-002	3/25/2013					<43	<43	<43	ND
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	<40	<40	<40	<40	<40	140	<40	140
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	<39	<39	<39	<39	<39	160	<39	160
SB-2	10'-12'	S-R2330004-071212-MF-012	7/12/2012	<42	<42	<42	<42	<42	<42	<42	ND
SB-3	0'-2'	S-R2330004-071112-MF-005	7/11/2012	<42	<42	<42	<42	<42	<42	<42	ND
SB-4	0'-2'	S-R2330004-071212-MF-008	7/12/2012	<41	<41	<41	<41	<41	150	<41	150
SB-4	10'-11'	S-R2330004-071212-MF-009	7/12/2012	<42	<42	<42	<42	<42	<42	<42	ND
SB-5	0'-2'	S-R2330004-071112-MF-001	7/11/2012	<40	<40	<40	<40	250	110	<40	360
SB-5	25'-27'	S-R2330004-071112-MF-002	7/11/2012	<49	<49	<49	<49	<49	<49	<49	ND
SB-5C	0'-2'	S-R2330009-040213-MJF-005	4/2/2013					<44	<44	<43	ND
SB-5C	17'-18'	S-R2330009-040213-MJF-006	4/2/2013					<43	<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
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	<45	<45	<45	<45	620	750	<45	1,370
SB-6	1.5'-3'	S-R2330004-071212-MF-017 (DUP)	7/12/2012	<43	<43	<43	<43	640	790	<43	1,430
SB-6	6'-7'	S-R2330004-071212-MF-014	7/12/2012	<45	<45	<45	<45	<45	<45	<45	ND
SB-6A	0'-2'	S-R2330004-071612-MF-015	7/16/2012	<41	<41	<41	<41	280	410	<41	690
SB-6A	2.5'-4.5'	S-R2330004-071612-MF-016	7/16/2012	<47	<47	<47	<47	<47	<47	<47	ND
SB-7	0'-2'	S-R2330004-071112-MF-003	7/11/2012	<42	<42	<42	<42	240	270	<42	510
SB-7	10'-11'	S-R2330004-071112-MF-004	7/11/2012	<46	<46	<46	<46	390	280	<46	ND
SB-7E	0'-2'	S-R2330009-040213-MJF-009	4/2/2013					<43	<43	<43	ND
SB-7E	5'-6'	S-R2330009-040213-MJF-010	4/2/2013					<44	<44	<43	ND
SB-8	0'-2'	S-R2330009-032613-MJF-011	3/26/2013					<44	<44	<43	ND
SB-9	0'-2'	S-R2330009-032613-MJF-012	3/26/2013					<43	<43	<43	ND
SB-9	10'-11'	S-R2330009-032613-MJF-013	3/26/2013					<46	<46	<43	ND
SB-10	0'-2'	S-R2330009-032513-MJF-014	3/25/2013					<41	<41	<43	ND
SB-10	13'-14'	S-R2330009-032513-MJF-015	3/25/2013					<43	<43	<43	ND
SB-11	0'-2'	S-R2330009-032613-MJF-016	3/26/2013					<42	<42	<43	ND
SB-11	6.5'-7.5'	S-R2330009-032613-MJF-017	3/26/2013					<45	<45	<43	ND
SB-12	0'-2'	S-R2330009-032513-MJF-018	3/25/2013					<48	310	<43	310
SB-12	8'-9'	S-R2330009-032513-MJF-019	3/25/2013					<42	<42	<43	ND
SB-16	7.5'	S-R2330012-033114-ACN-001	3/31/2014					NS	NS	NS	NS
SB-17	4'	S-R2330012-033114-ACN-002	3/31/2014					NS	NS	NS	NS
SB-18	4.5'	S-R2330012-033114-ACN-003	3/31/2014					NS	NS	NS	NS
SB-19	5'	S-R2330012-040114-ACN-004	4/1/2014					NS	NS	NS	NS
SB-20	5'	S-R2330012-040114-ACN-005	4/1/2014					NS	NS	NS	NS
SB-21	10'-15'	S-R2330009-120413-RD-003	12/4/2013					NS	NS	NS	NS
SB-22	12'-13'	S-R2330009-120413-RD-004	12/4/2013					NS	NS	NS	NS
SB-23	10'-12'	S-R2330009-120513-RD-005	12/5/2013					NS	NS	NS	NS
SB-29	10'-15'	S-R2330009-120313-RD-001	12/3/2013					NS	NS	NS	NS
SB-30	2.5'	S-R2330009-121213-AJL-015	12/12/2013					NS	NS	NS	NS
SB-31	11'	S-R2330009-121313-AJL-017	12/13/2013					NS	NS	NS	NS
SB-32	10'-15'	S-R2330009-120313-RD-002	12/3/2013					NS	NS	NS	NS
SB-33	12'	S-R2330009-121213-AJL-016	12/12/2013					NS	NS	NS	NS
SB-34	6'	S-R2330009-121313-AJL-018	12/13/2013					NS	NS	NS	NS
SB-34 (DUP)	6'	S-R2330009-121313-AJL-019	12/13/2013	NS	NS	NS	NS	NS	NS	NS	NS
SB-35	12.5'	S-R2330012-040114-ACN-006	4/1/2014					NS	NS	NS	NS
SB-36	7'	S-R2330012-040314-ACN-011	4/3/2014					NS	NS	NS	NS
SB-36 (DUP)	7'	S-R2330012-040314-ACN-012	4/3/2014					NS	NS	NS	NS
SB-37	9'	S-R2330012-040314-ACN-013	4/3/2014					NS	NS	NS	NS
SB-38	13'	S-R2330012-040314-ACN-014	4/3/2014					NS	NS	NS	NS
SB-39	14'	S-R2330012-040314-ACN-015	4/3/2014					NS	NS	NS	NS
SB-40	12'	S-R2330012-040214-ACN-007	4/2/2014					NS	NS	NS	NS

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number.
Exceeds Drinking Water Protection Criteria (XXI)
Exceeds Groundwater/Surface Water Interface Protection Criteria (XII)
Exceeds Direct Contact Criteria (XXVII)
Exceeds Applicable Soil Vapor Inhalation Criteria/Screening Levels (XXII, c)
Exceeds Two or More DWP (XXI), GSP (XII) Criteria, Direct Contact (XXVII)
NA = Not Available or Not Applicable
ND = Not Detected Above Method Detection Limits.
NS = Not Sampled or Not Analyzed.
J = Analyte detected below quantitation limit.
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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 1
Summary of Soil / Waste Sample Results
Van Buren Landfill Site
Michigan Avenue and Ecorse Road
Van Buren Township, Wayne County, Michigan

SOIL: Part 201/213 Generic Non-Residential Cleanup Criteria Revised December 30, 2013 and Guidance Document for the Vapor Intrusion Pathway May 2013 Units: µg/kg				PCBs							
				Arodor 1016	Arodor 1221	Arodor 1232	Arodor 1242	Arodor 1248	Arodor 1254	Arodor 1260	Total PCBs
Statewide Default Background Levels (X)				NA				NA	NA	NA	NA
Drinking Water Protection Criteria (XXI)				NLL				NA	NA	NA	NLL
Groundwater/Surface Water Interface Protection Criteria (XII)				NLL				NA	NA	NA	NLL
Soil Vapor Intrusion Concentration Screening Levels (SV-nr) (c)								NA	NA	NA	39,100
Soil Volatilization to Indoor Air Inhalation (XXII)				1.6E+07				NA	NA	NA	1.6E+07
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				8.1E+05				NA	NA	NA	8.1E+05
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				2.8E+07				NA	NA	NA	2.8E+07
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				2.8E+07				NA	NA	NA	2.8E+07
Particulate Soil Inhalation Criteria (XXVI)				6.5E+06				NA	NA	NA	6.5E+06
Non-Residential Direct Contact Criteria (XXVII)				(T)				NA	NA	NA	(T)
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE								
SB-41	9'5"	S-R2330012-040214-ACN-008	4/2/2014					NS	NS	NS	NS
SB-42	9'	S-R2330012-040214-ACN-009	4/2/2014					NS	NS	NS	NS
SB-44	6'	S-R2330012-040214-ACN-010	4/2/2014					NS	NS	NS	NS
SB-46	2'	S-R2330012-041114-ACN-018	4/11/2014					NS	NS	NS	NS
SB-47	9'	S-R2330012-041114-ACN-020	4/11/2014					NS	NS	NS	NS
SB-48	1.5'	S-R2330012-040214-ACN-017	4/9/2014					NS	NS	NS	NS
SB-49	4.5'	S-R2330012-040214-ACN-018	4/9/2014					NS	NS	NS	NS
SB-50	1.5'	S-R2330012-040214-ACN-016	4/9/2014					NS	NS	NS	NS
SB-1 - SB-30	0'-2'	ISM-1-23	1/6/2015					<83	<83	<83	ND
SB-31 - SB-60	0'-2'	ISM-2-23	1/6/2015					<83	33 J	<83	33
SB-61 - SB-90	0'-2'	ISM-3-23	1/6/2015					<79	330	<79	330
SB-91 - SB-120	0'-2'	ISM-4-25	1/6/2015					1,100	<84	360	1,460
SB-121 - SB-150	0'-2'	ISM-5-25	1/7/2015					390	<83	180	570
SB-151 - SB-180	0'-2'	ISM-6-25	1/7/2015					<83	440	<83	440
SB-181 - SB-210	0'-2'	ISM-7-26	1/7/2015					<82	300	240	540
SB-211 - SB-240	0'-2'	ISM-8-26	1/7/2015					1,100	<82	<82	1,100
SB-241 - SB-270	0'-2'	ISM-9-26	1/7/2015					230	140	<79	370
SB-271 - SB-300	0'-2'	ISM-10-27	1/8/2015					230	240	<81	470
SB-301 - SB-330	0'-2'	ISM-11-27	1/8/2015					260	450	<81	710
SB-331 - SB-360	0'-2'	ISM-12-27	1/8/2015					290	250	<81	540
SB-361 - SB-390	0'-2'	ISM-13-28	1/23/2015					<81	110	<81	110
SB-391 - SB-420	0'-2'	ISM-14-28	1/23/2015					<81	120	<81	120
SB-421 - SB-450	0'-2'	ISM-15-28	1/23/2015					<80	120	<80	120
SB-451 - SB-480	0'-2'	ISM-16-29	1/23/2015					<83	230	<83	230
SB-481 - SB-510	0'-2'	ISM-17-29	1/23/2015					150	140	<83	290
SB-511 - SB-540	0'-2'	ISM-18-29	1/23/2015					<82	130	<82	130
SB-541 - SB-570	0'-2'	ISM-19-22	1/23/2015					<83	330	<83	330
SB-571 - SB-600	0'-2'	ISM-20-22	1/23/2015					<83	260	<83	260
SB-601 - SB-630	0'-2'	ISM-21-22	1/23/2015					<80	270	<80	270
SB-631 - SB-660	0'-2'	ISM-25-210	1/26/2015					<81	<81	<81	ND
SB-661 - SB-690	0'-2'	ISM-26-210	1/26/2015					<80	<80	<80	ND
SB-691 - SB-720	0'-2'	ISM-27-210	1/26/2015					<81	<81	<81	ND
SB-721 - SB-750	0'-2'	ISM-22-21	1/26/2015					<82	3,400	<82	3,400
SB-751 - SB-780	0'-2'	ISM-23-21	1/27/2015					<79	130	<79	130
SB-781 - SB-810	0'-2'	ISM-24-21	1/27/2015					<81	78 J	<81	78
SB-811 - SB-840	0'-2'	ISM-28-24	1/30/2015					<79	<79	470	470
SB-841 - SB-870	0'-2'	ISM-29-24	1/30/2015					<83	490	<83	490
SB-871 - SB-900	0'-2'	ISM-30-24	1/30/2015					<82	230	<82	230

Notes:
Bold indicates concentration above method detection limits.
Roman numerals indicate DEQ criterion number.
Exceeds Drinking Water Protection Criteria (XXI)
Exceeds Groundwater Surface Water Interface Protection Criteria (XII)
Exceeds Direct Contact Criteria (XXVII)
Exceeds Applicable Soil Vapor Inhalation Criteria/Screening Levels (XXII, c)
Exceeds Two or More DWP (XXI), GSP (XII) Criteria, Direct Contact (XXVII)
NA = Not Available or Not Applicable
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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 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene		
Non-residential Drinking Water Criteria (II)	38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)		
Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000		
Ground Water Surface Water Interface Criteria (GSI) (III)	2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270		
GSI Final Acute Value (FAV)	40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600		
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)		
Groundwater Concentration for Vapor Intrusion (GW _{VIRI}) (a)	18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000		
Water Solubility (VII)	2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05		
Flammability & Explosivity Screening Level (VIII)	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000		
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	<1.0	<5.0	<1.0	7.3	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	6.9	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	9.9	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	5.1	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-1 ^A	W-R2330012-122114-JCH-026	12/2/2014																		
MW-1	W-R2330012-122114-JCH-026	12/2/2014	<25	<1.0	<1.0	<50	<50	0.59 J	<1.0	<5.0	<1.0	3.5 J	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-1 ^A (DUP)	W-R2330012-122114-JCH-027	12/2/2014																		
MW-1 (DUP)	W-R2330012-122114-JCH-027	12/2/2014	<25	<1.0	<1.0	<50	<50	0.60 J	<1.0	<5.0	<1.0	3.2 J	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-1 ^A	W-R2330017-031915-ACN-021	3/19/2015																		
MW-1	W-R2330017-031915-ACN-021	3/19/2015	<25	<1.0	<1.0	<50	<50	0.35 J	<1.0	<5.0	<1.0	4.3 J	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-1 ^A	W-R2330017-111915-AEP-021	11/19/2015																		
MW-1	W-R2330017-111915-AEP-021	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330021-042116-AFB-022	4/21/2016																		
MW-1	W-R2330021-042116-AFB-022	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330021-110216-JPM-018	11/2/2016																		
MW-1	W-R2330021-110216-JPM-018	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330022-042617-DMS-019	4/26/2017																		
MW-1	W-R2330022-042617-DMS-019	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330022-102717-AFB-032	10/27/2017																		
MW-1	W-R2330022-102717-AFB-032	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330024-042418-JPM-017	4/24/2018																		
MW-1	W-R2330024-042418-JPM-017	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<25	<1.0	<1.0	<50	<50	0.66 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-3	W-R2330009-050213-MJF-009	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-3 ^A	W-R2330012-091514-ACN-001	9/15/2014																		
MW-3	W-R2330012-091514-ACN-001	9/15/2014	NS	NS	NS	NS	NS	NS	<1.0	NS	NS	NS	NS	<5.0	<5.0	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330012-121114-JCH-019	12/1/2014																		
MW-3	W-R2330012-121114-JCH-019	12/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-3 ^A	W-R2330017-031915-JCH-015	3/19/2015																		
MW-3	W-R2330017-031915-JCH-015	3/19/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-3 ^A	W-R2330017-111915-JPM-018	11/19/2015																		
MW-3	W-R2330017-111915-JPM-018	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330021-042216-AFB-030	4/22/2016																		
MW-3	W-R2330021-042216-AFB-030	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330021-110416-JPM-029	11/4/2016																		
MW-3	W-R2330021-110416-JPM-029	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330022-042817-AFB-029	4/28/2017																		

Table 2
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)																	
			Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	72	NA	ID	2,000	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VIRI}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NLV	NA	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-1	W-R2330009-043013-MJF-002	4/30/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	1.0 J	<5.0
MW-1 ^A	W-R2330009-080713-ZTR-007	8/7/2013																		
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	<3.0	<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
MW-1 ^A	W-R2330009-111413-ACN-013	11/14/2013																		
MW-1	W-R2330009-111413-ACN-013	11/14/2013	<3.0	<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
MW-1 ^A	W-R2330012-032814-ACN-009	3/28/2014																		
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<3.0	<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
MW-1 ^A	W-R2330012-122114-JCH-026	12/2/2014																		
MW-1	W-R2330012-122114-JCH-026	12/2/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	2.3 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0
MW-1 ^A (DUP)	W-R2330012-122114-JCH-027	12/2/2014																		
MW-1 (DUP)	W-R2330012-122114-JCH-027	12/2/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	2.5 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0
MW-1 ^A	W-R2330017-031915-ACN-021	3/19/2015																		
MW-1	W-R2330017-031915-ACN-021	3/19/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
MW-1 ^A	W-R2330017-111915-AEP-021	11/19/2015																		
MW-1	W-R2330017-111915-AEP-021	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330021-042116-AFB-022	4/21/2016																		
MW-1	W-R2330021-042116-AFB-022	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330021-110216-JPM-018	11/2/2016																		
MW-1	W-R2330021-110216-JPM-018	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330022-042617-DMS-019	4/26/2017																		
MW-1	W-R2330022-042617-DMS-019	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330022-102717-AFB-032	10/27/2017																		
MW-1	W-R2330022-102717-AFB-032	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330024-042418-JPM-017	4/24/2018																		
MW-1	W-R2330024-042418-JPM-017	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<3.0	<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
MW-3	W-R2330009-050213-MJF-009	5/2/2013	<3.0	<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
MW-3 ^A	W-R2330009-080713-ZTR-004	8/7/2013																		
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	<3.0	<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
MW-3 ^A	W-R2330009-111213-ACN-002	11/12/2013																		
MW-3	W-R2330009-111213-ACN-002	11/12/2013	<3.0	<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
MW-3 ^A	W-R2330012-032714-ACN-007	3/27/2014																		
MW-3	W-R2330012-032714-ACN-007	3/27/2014	<3.0	<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
MW-3 ^A	W-R2330012-091514-ACN-001	9/15/2014																		
MW-3	W-R2330012-091514-ACN-001	9/15/2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5.0	NS	NS
MW-3 ^A	W-R2330012-121114-JCH-019	12/1/2014																		
MW-3	W-R2330012-121114-JCH-019	12/1/2014	<3.0	<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
MW-3 ^A	W-R2330017-031915-JCH-015	3/19/2015																		
MW-3	W-R2330017-031915-JCH-015	3/19/2015	<3.0	<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
MW-3 ^A	W-R2330017-111915-JPM-018	11/19/2015																		
MW-3	W-R2330017-111915-JPM-018	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330021-042216-AFB-030	4/22/2016																		
MW-3	W-R2330021-042216-AFB-030	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330021-110416-JPM-029	11/4/2016																		
MW-3	W-R2330021-110416-JPM-029	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330022-042817-AFB-029	4/28/2017																		

Table 2
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														
	D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)				
Non-residential Drinking Water Criteria (II)	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)				
Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600				
Ground Water Surface Water Interface Criteria (GSI) (III)	9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA				
GSI Final Acute Value (FAV)	75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA				
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV				
Groundwater Concentration for Vapor Intrusion (GW _{v,m}) (a)	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV				
Water Solubility (VII)	11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
Flammability & Explosivity Screening Level (VIII)	NA	ID	ID	NA	ID	ID	NA	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	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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		
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		
MW-1	W-R2330009-080713-ZTR-007	8/7/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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		
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		
MW-1	W-R2330009-111413-ACN-013	11/14/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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		
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		
MW-1	W-R2330012-032814-ACN-009	3/28/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	<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		
MW-1 ^A	W-R2330012-122114-JCH-026	12/2/2014								120	0.23 J	26	1,700	<1.0	0.062 J	1.6 J	1.9 J	0.55 J		18,000		
MW-1	W-R2330012-122114-JCH-026	12/2/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	4.0 J	0.24 J	25	1,700	<1.0	<1.0	1.2 J	2.0 J	<4.0	3.9 J	17,000		
MW-1 ^A (DUP)	W-R2330012-122114-JCH-027	12/2/2014								74	0.19 J	25	1,800	<1.0	<1.0	1.4 J	2.0 J	0.17 J		18,000		
MW-1 (DUP)	W-R2330012-122114-JCH-027	12/2/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	3.3 J	0.18 J	25	1,700	<1.0	<1.0	1.4 J	1.8 J	<4.0	4.6 J	17,000		
MW-1 ^A	W-R2330017-031915-ACN-021	3/19/2015								30 J	0.26 J	27	1,900	<1.0	<1.0	1.3 J	2.3 J	1.1 J		21,000		
MW-1	W-R2330017-031915-ACN-021	3/19/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	18 J	0.31 J	27	2,000	<1.0	<1.0	1.3 J	2.2 J	0.50 J	<5.0	21,000		
MW-1 ^A	W-R2330017-111915-AEP-021	11/19/2015								210	NS	NS	NS	NS	NS	NS	NS	NS		23,000		
MW-1	W-R2330017-111915-AEP-021	11/19/2015	NS	NS	NS	NS	NS	NS	NS	5.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	23,000		
MW-1 ^A	W-R2330021-042116-AFB-022	4/21/2016								140	NS	NS	NS	NS	NS	NS	NS	NS		15,000		
MW-1	W-R2330021-042116-AFB-022	4/21/2016	NS	NS	NS	NS	NS	NS	NS	29 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	18,000		
MW-1 ^A	W-R2330021-110216-JPM-018	11/2/2016								420	NS	NS	NS	NS	NS	NS	NS	NS	NS	21,000		
MW-1	W-R2330021-110216-JPM-018	11/2/2016	NS	NS	NS	NS	NS	NS	NS	8.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	20,000		
MW-1 ^A	W-R2330022-042617-DMS-019	4/26/2017								29 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	16,000		
MW-1	W-R2330022-042617-DMS-019	4/26/2017	NS	NS	NS	NS	NS	NS	NS	9.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	16,000		
MW-1 ^A	W-R2330022-102717-AFB-032	10/27/2017								280	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000		
MW-1	W-R2330022-102717-AFB-032	10/27/2017	NS	NS	NS	NS	NS	NS	NS	5.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000		
MW-1 ^A	W-R2330024-042418-JPM-017	4/24/2018								16	NS	NS	NS	NS	NS	NS	NS	NS	NS	15,000		
MW-1	W-R2330024-042418-JPM-017	4/24/2018	NS	NS	NS	NS	NS	NS	NS	3.5 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000		
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	6.0 J	0.29 J	14	900	<1.0	<1.0	1.1 J	4.2 J	0.39 J		9,300		
MW-3	W-R2330009-050213-MJF-009	5/2/2013	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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		
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		
MW-3	W-R2330009-080713-ZTR-004	8/7/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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		
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		
MW-3	W-R2330009-111213-ACN-002	11/12/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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		
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		
MW-3	W-R2330012-032714-ACN-007	3/27/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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		
MW-3 ^A	W-R2330012-091514-ACN-001	9/15/2014								610	0.27 J	4.1 J	310	0.23 J	<1.0	0.97 J	1.5 J	3.0 J		4,900		
MW-3	W-R2330012-091514-ACN-001	9/15/2014	NS	NS	NS	NS	NS	NS	NS	6.4 J	0.30 J	3.4 J	370	<1.0	<1.0	0.35 J	1.9 J	2.4 J	NS	4,700		
MW-3 ^A	W-R2330012-121114-JCH-019	12/1/2014								820	0.24 J	2.7 J	340	<1.0	<1.0	1.5 J	1.5 J	3.5 J		5,200		
MW-3	W-R2330012-121114-JCH-019	12/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	10 J	0.21 J	2.2 J	350	<1.0	<1.0	0.32 J	1.3 J	2.2 J	<5.0	4,400		
MW-3 ^A	W-R2330017-031915-JCH-015	3/19/2015								260	0.28 J	2.8 J	290	<1.0	0.11 J	0.75 J	0.74 J	2.4 J		4,600		
MW-3	W-R2330017-031915-JCH-015	3/19/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	8.4 J	0.41 J	1.7 J	370	<1.0	0.11 J	0.48 J	1.3 J	2.1 J	<5.0	5,000		
MW-3 ^A	W-R2330017-111915-JPM-018	11/19/2015								240	NS	NS	NS	NS	NS	NS	NS	NS		11,000		
MW-3	W-R2330017-111915-JPM-018	11/19/2015	NS	NS	NS	NS																

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-PI}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-1	W-R2330009-043013-MJF-002	4/30/2013	<3.0	<50	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	0.25 J	<50	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	0.076 J	<50	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	0.17 J	<50	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	<3.0	<50	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	0.13 J	<50	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	<3.0	<50	65	<0.2	7.5 J	<5.0	<0.2	<2.0	1.6 J	1.4 J
MW-1 ^A	W-R2330012-122114-JCH-026	12/2/2014	<3.0	<50	83	<0.2	4.0 J	<5.0	<0.20	<2.0	2.1 J	3.6 J
MW-1	W-R2330012-122114-JCH-026	12/2/2014	<3.0	<50	80	<0.2	3.8 J	<5.0	<0.20	<2.0	1.5 J	<50
MW-1 ^A (DUP)	W-R2330012-122114-JCH-027	12/2/2014	<3.0	<50	81	<0.2	3.5 J	<5.0	<0.20	<2.0	2.1 J	3.2 J
MW-1 (DUP)	W-R2330012-122114-JCH-027	12/2/2014	<3.0	<50	78	<0.2	3.6 J	<5.0	<0.20	<2.0	1.8 J	<50
MW-1 ^A	W-R2330017-031915-ACN-021	3/19/2015	<3.0	<50	81	<0.2	5.1 J	<5.0	<0.20	<2.0	2.1 J	3.3 J
MW-1	W-R2330017-031915-ACN-021	3/19/2015	<3.0	<50	81	<0.2	5.0 J	<5.0	<0.20	<2.0	1.6 J	3.5 J
MW-1 ^A	W-R2330017-111915-AEP-021	11/19/2015	NS	160,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-1	W-R2330017-111915-AEP-021	11/19/2015	NS	160,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330021-042116-AFB-022	4/21/2016	NS	NS	59	NS	NS	NS	NS	NS	NS	NS
MW-1	W-R2330021-042116-AFB-022	4/21/2016	NS	NS	57	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330021-110216-JPM-018	11/2/2016	NS	NS	57	NS	NS	NS	NS	NS	NS	NS
MW-1	W-R2330021-110216-JPM-018	11/2/2016	NS	NS	42 J	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330022-042617-DMS-019	4/26/2017	NS	150,000	42 J	NS	NS	NS	NS	NS	NS	NS
MW-1	W-R2330022-042617-DMS-019	4/26/2017	NS	160,000	41 J	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330022-102717-AFB-032	10/27/2017	NS	NS	73	NS	NS	NS	NS	NS	NS	NS
MW-1	W-R2330022-102717-AFB-032	10/27/2017	NS	NS	60	NS	NS	NS	NS	NS	NS	NS
MW-1 ^A	W-R2330024-042418-JPM-017	4/24/2018	NS	NS	48	NS	NS	NS	NS	NS	NS	NS
MW-1	W-R2330024-042418-JPM-017	4/24/2018	NS	NS	48	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330004-090512-MJF-01	9/5/2012	0.12 J	<50	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	0.11 J	<50	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	0.24 J	<50	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	<3.0	<50	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	0.30 J	<50	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	<3.0	<50	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	0.79 J	<50	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	0.079 J	<50	23 J	<0.2	4.8 J	1.3 J	<0.20	<2.0	0.41 J	1.9 J
MW-3 ^A	W-R2330012-091514-ACN-001	9/15/2014	0.63 J	<50	130	0.057 J	8.9 J	0.76 J	<0.20	0.22 J	1.6 J	8.0 J
MW-3	W-R2330012-091514-ACN-001	9/15/2014	<3.0	<50	110	0.058 J	8.0 J	1.4 J	<0.20	<2.0	0.56 J	3.8 J
MW-3 ^A	W-R2330012-121114-JCH-019	12/1/2014	0.98 J	<50	74	<0.2	7.8 J	1.5 J	<0.20	<2.0	2.1 J	9.1 J
MW-3	W-R2330012-121114-JCH-019	12/1/2014	<3.0	<50	66	<0.2	7.0 J	1.6 J	<0.20	<2.0	0.56 J	4.2 J
MW-3 ^A	W-R2330017-031915-JCH-015	3/19/2015	<3.0	<50	37 J	<0.2	4.7 J	1.3 J	0.055 J	<2.0	0.65 J	4.5 J
MW-3	W-R2330017-031915-JCH-015	3/19/2015	<3.0	<50	39 J	<0.2	5.9 J	2.2 J	0.081 J	<2.0	<4.0	<50
MW-3 ^A	W-R2330017-111915-JPM-018	11/19/2015	NS	120,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330017-111915-JPM-018	11/19/2015	NS	120,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330021-042216-AFB-030	4/22/2016	NS	NS	13 J	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330021-042216-AFB-030	4/22/2016	NS	NS	14 J	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330021-110416-JPM-029	11/4/2016	ND	NS	140	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330021-110416-JPM-029	11/4/2016	NS	NS	140	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330022-042817-AFB-029	4/28/2017	NS	72,000	260	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-3	W-R2330022-042817-AFB-029	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A (DUP)	W-R2330022-042817-AFB-030	4/28/2017																		
MW-3 (DUP)	W-R2330022-042817-AFB-030	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330022-102417-DMS-008	10/23/2017																		
MW-3	W-R2330022-102417-DMS-008	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330024-042518-DMS-022	4/25/2018																		
MW-3	W-R2330024-042518-DMS-022	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<25	<1.0	<1.0	<50	12 J	0.39 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	<25	<1.0	<1.0	<50	8.5 J	0.43 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-4	W-R2330009-050213-MJF-010	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-4 ^A	W-R2330012-121114-JCH-020	12/1/2014																		
MW-4	W-R2330012-121114-JCH-020	12/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-4 ^A	W-R2330017-031715-ACN-010	3/17/2015																		
MW-4	W-R2330017-031715-ACN-010	3/17/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-4 ^A	W-R2330017-112015-JPM-033	11/20/2015																		
MW-4	W-R2330017-112015-JPM-033	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330021-042116-AFB-028	4/21/2016																		
MW-4	W-R2330021-042116-AFB-028	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330021-110416-JPM-036	11/4/2016																		
MW-4	W-R2330021-110416-JPM-036	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330022-042817-AFB-034	4/28/2017																		
MW-4	W-R2330022-042817-AFB-034	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330022-102417-DMS-012	10/24/2017																		
MW-4	W-R2330022-102417-DMS-012	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330024-042518-DMS-026	4/25/2018																		
MW-4	W-R2330024-042518-DMS-026	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330009-050113-MJF-004	5/1/2013	<25	<1.0	<1.0	<50	6.9 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-5 ^A	W-R2330012-122114-JCH-025	12/2/2014																		
MW-5	W-R2330012-122114-JCH-025	12/2/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-5 ^A	W-R2330017-031915-JCH-018	3/19/2015																		
MW-5	W-R2330012-031915-JCH-018	3/19/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-5 ^A	W-R2330017-112015-JPM-031	11/20/2015																		
MW-5	W-R2330017-112015-JPM-031	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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)																	
			Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	Bis(2-ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzy phthalate	Carbazole	Dibenzofuran	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-3	W-R2330022-042817-AFB-029	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A (DUP)	W-R2330022-042817-AFB-030	4/28/2017																		
MW-3 (DUP)	W-R2330022-042817-AFB-030	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330022-102417-DMS-008	10/23/2017																		
MW-3	W-R2330022-102417-DMS-008	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330024-042518-DMS-022	4/25/2018																		
MW-3	W-R2330024-042518-DMS-022	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<3.0	<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
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	<3.0	<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
MW-4	W-R2330009-050213-MJF-010	5/2/2013	<3.0	<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
MW-4 ^A	W-R2330009-080713-ZTR-005	8/7/2013																		
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	<3.0	<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
MW-4 ^A	W-R2330009-111213-ACN-003	11/12/2013																		
MW-4	W-R2330009-111213-ACN-003	11/12/2013	<3.0	<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
MW-4 ^A	W-R2330012-032714-ACN-006	3/27/2014																		
MW-4	W-R2330012-032714-ACN-006	3/27/2014	<3.0	<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
MW-4 ^A	W-R2330012-121114-JCH-020	12/1/2014																		
MW-4	W-R2330012-121114-JCH-020	12/1/2014	<3.0	<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
MW-4 ^A	W-R2330017-031715-ACN-010	3/17/2015																		
MW-4	W-R2330017-031715-ACN-010	3/17/2015	<3.0	<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
MW-4 ^A	W-R2330017-112015-JPM-033	11/20/2015																		
MW-4	W-R2330017-112015-JPM-033	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330021-042116-AFB-028	4/21/2016																		
MW-4	W-R2330021-042116-AFB-028	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330021-110416-JPM-036	11/4/2016																		
MW-4	W-R2330021-110416-JPM-036	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330022-042817-AFB-034	4/28/2017																		
MW-4	W-R2330022-042817-AFB-034	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330022-102417-DMS-012	10/24/2017																		
MW-4	W-R2330022-102417-DMS-012	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330024-042518-DMS-026	4/25/2018																		
MW-4	W-R2330024-042518-DMS-026	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330009-050113-MJF-004	5/1/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	1.3 J	<5.0	<5.0	<10	<5.0	1.2 J	<4.0	<5.0	0.99 J	<5.0
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	1.3 J	<5.0	<5.0	<10	<5.0	1.2 J	<4.0	<5.0	0.93 J	<5.0
MW-5 ^A	W-R2330009-080813-ZTR-009	8/8/2013																		
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	<3.0	<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
MW-5 ^A	W-R2330009-111213-ACN-004	11/12/2013																		
MW-5	W-R2330009-111213-ACN-004	11/12/2013	<3.0	<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
MW-5 ^A	W-R2330012-032814-ACN-008	3/28/2014																		
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<3.0	<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
MW-5 ^A	W-R2330012-122114-JCH-025	12/2/2014																		
MW-5	W-R2330012-122114-JCH-025	12/2/2014	<3.0	<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
MW-5 ^A	W-R2330017-031915-JCH-018	3/19/2015																		
MW-5	W-R2330012-031915-JCH-018	3/19/2015	<3.0	<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
MW-5 ^A	W-R2330017-112015-JPM-031	11/20/2015																		
MW-5	W-R2330017-112015-JPM-031	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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	
	D,n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)		
Non-residential Drinking Water Criteria (II)	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)		
Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600		
Ground Water Surface Water Interface Criteria (GSI) (III)	9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA		
GSI Final Acute Value (FAV)	75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA		
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV		
Groundwater Concentration for Vapor Intrusion (GW _{VIR}) (a)	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV		
Water Solubility (VII)	11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Flammability & Explosivity Screening Level (VIII)	NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID		
ID	SAMPLE ID		SAMPLE DATE																	
MW-3	W-R2330022-042817-AFB-029	4/28/2017	NS	NS	NS	NS	NS	NS	7.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,300	
MW-3 ^A (DUP)	W-R2330022-042817-AFB-030	4/28/2017							370	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,000	
MW-3 (DUP)	W-R2330022-042817-AFB-030	4/28/2017	NS	NS	NS	NS	NS	NS	7.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,300	
MW-3 ^A	W-R2330022-102417-DMS-008	10/23/2017							78	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000	
MW-3	W-R2330022-102417-DMS-008	10/23/2017	NS	NS	NS	NS	NS	NS	4.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000	
MW-3 ^A	W-R2330024-042518-DMS-022	4/25/2018							470	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,100	
MW-3	W-R2330024-042518-DMS-022	4/25/2018	NS	NS	NS	NS	NS	NS	28	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,100	
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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	
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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	
MW-4	W-R2330009-050213-MJF-010	5/2/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	13 J	0.21 J	<5.0	410	<1.0	<1.0	0.84 J	2.7 J	<4.0	<0.005	11,000	
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	
MW-4	W-R2330009-080713-ZTR-005	8/7/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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	
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	
MW-4	W-R2330009-111213-ACN-003	11/12/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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	
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	
MW-4	W-R2330012-032714-ACN-006	3/27/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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	
MW-4 ^A	W-R2330012-121114-JCH-020	12/1/2014							500	0.35 J	2.8 J	430	<1.0	<1.0	1.3 J	2.0 J	1.9 J		14,000	
MW-4	W-R2330012-121114-JCH-020	12/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	4.5 J	0.37 J	2.5 J	410	<1.0	<1.0	0.54 J	1.8 J	0.95 J	<5.0	12,000	
MW-4 ^A	W-R2330017-031715-ACN-010	3/17/2015							3,100	0.33 J	2.3 J	500	<1.0	<1.0	4.7 J	3.4 J	7.8		20,000	
MW-4	W-R2330017-031715-ACN-010	3/17/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	7.1 J	0.23 J	0.97 J	450	<1.0	<1.0	0.55 J	1.7 J	1.1 J	<5.0	16,000	
MW-4 ^A	W-R2330017-112015-JPM-033	11/20/2015							84	NS	NS	NS	NS	NS	NS	NS	NS		12,000	
MW-4	W-R2330017-112015-JPM-033	11/20/2015	NS	NS	NS	NS	NS	NS	2.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000	
MW-4 ^A	W-R2330021-042116-AFB-028	4/21/2016							81	NS	NS	NS	NS	NS	NS	NS	NS		15,000	
MW-4	W-R2330021-042116-AFB-028	4/21/2016	NS	NS	NS	NS	NS	NS	7.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	17,000	
MW-4 ^A	W-R2330021-110416-JPM-036	11/4/2016							210	NS	NS	NS	NS	NS	NS	NS	NS	NS	15,000	
MW-4	W-R2330021-110416-JPM-036	11/4/2016	NS	NS	NS	NS	NS	NS	10 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	15,000	
MW-4 ^A	W-R2330022-042817-AFB-034	4/28/2017							21 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	10,000	
MW-4	W-R2330022-042817-AFB-034	4/28/2017	NS	NS	NS	NS	NS	NS	7.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	9,600	
MW-4 ^A	W-R2330022-102417-DMS-012	10/24/2017							28	NS	NS	NS	NS	NS	NS	NS	NS	NS	16,000	
MW-4	W-R2330022-102417-DMS-012	10/24/2017	NS	NS	NS	NS	NS	NS	6.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	15,000	
MW-4 ^A	W-R2330024-042518-DMS-026	4/25/2018							33	NS	NS	NS	NS	NS	NS	NS	NS	NS	8,100	
MW-4	W-R2330024-042518-DMS-026	4/25/2018	NS	NS	NS	NS	NS	NS	8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	
MW-5	W-R2330009-050113-MJF-004	5/1/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	15 J	0.17 J	31	1,300	<1.0	<1.0	1.5 J	2.3 J	<4.0	<0.005	5,300	
MW-5 (DUP)	W-R2330009-050113-MJF-005	5/1/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	12 J	0.27 J	31	1,300	<1.0	<1.0	1.9 J	2.3 J	<4.0	<0.005	5,400	
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	
MW-5	W-R2330009-080813-ZTR-009	8/8/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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	
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	
MW-5	W-R2330009-111213-ACN-004	11/12/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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	
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	
MW-5	W-R2330012-032814-ACN-008	3/28/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<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	
MW-5 ^A	W-R2330012-122114-JCH-025	12/2/2014							280	0.20 J	33	1,400	<1.0	2.1	1.7 J	2.0 J	0.86 J		5,500	
MW-5	W-R2330012-122114-JCH-025	12/2/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	5.4 J	0.19 J	32	1,400	<1.0	0.026 J	1.7 J	1.9 J	<4.0	<5.0	5,000	
MW-5 ^A	W-R2330017-031915-JCH-018	3/19/2015							360	0.24 J	34	1,400	<1.0	5.3</						

Table 2
Summary Of Ground Water Sample Results

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

Table 2
Summary of Ground Water
Sample Results

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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-3	W-R2330022-042817-AFB-029	4/28/2017	NS	69,000	230	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A (DUP)	W-R2330022-042817-AFB-030	4/28/2017	NS	71,000	250	NS	NS	NS	NS	NS	NS	NS
MW-3 (DUP)	W-R2330022-042817-AFB-030	4/28/2017	NS	67,000	230	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330022-102417-DMS-008	10/23/2017	NS	NS	93	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330022-102417-DMS-008	10/23/2017	NS	NS	88	NS	NS	NS	NS	NS	NS	NS
MW-3 ^A	W-R2330024-042518-DMS-022	4/25/2018	NS	NS	240	NS	NS	NS	NS	NS	NS	NS
MW-3	W-R2330024-042518-DMS-022	4/25/2018	NS	NS	230	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330004-090512-MJF-02	9/5/2012	<3.0	<50	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	0.034 J	<50	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	<3.0	<50	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	<3.0	<50	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	0.30 J	<50	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	1.2 J	<50	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	<3.0	<50	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	7.5	<50	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	<3.0	<50	410	<0.2	8.4 J	<5.0	<0.20	<2.0	0.74 J	20 J
MW-4 ^A	W-R2330012-121114-JCH-020	12/1/2014	0.71 J	<50	110	<0.2	6.2 J	<5.0	<0.20	<2.0	2.2 J	6.5 J
MW-4	W-R2330012-121114-JCH-020	12/1/2014	<3.0	<50	100	<0.2	5.4 J	<5.0	<0.20	<2.0	1.0 J	3.1 J
MW-4 ^A	W-R2330017-031715-ACN-010	3/17/2015	4.4	<50	140	<0.2	11 J	<5.0	0.029 J	<2.0	6.6	23 J
MW-4	W-R2330017-031715-ACN-010	3/17/2015	<3.0	<50	69	<0.2	4.4 J	<5.0	<0.20	<2.0	0.71 J	<50
MW-4 ^A	W-R2330017-112015-JPM-033	11/20/2015	NS	140,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330017-112015-JPM-033	11/20/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330021-042116-AFB-028	4/21/2016	NS	NS	490	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330021-042116-AFB-028	4/21/2016	NS	NS	560	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330021-110416-JPM-036	11/4/2016	NS	NS	72	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330021-110416-JPM-036	11/4/2016	NS	NS	60	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330022-042817-AFB-034	4/28/2017	NS	150,000	760	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330022-042817-AFB-034	4/28/2017	NS	140,000	730	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330022-102417-DMS-012	10/24/2017	NS	NS	62	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330022-102417-DMS-012	10/24/2017	NS	NS	60	NS	NS	NS	NS	NS	NS	NS
MW-4 ^A	W-R2330024-042518-DMS-026	4/25/2018	NS	NS	680	NS	NS	NS	NS	NS	NS	NS
MW-4	W-R2330024-042518-DMS-026	4/25/2018	NS	NS	690	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330009-050113-MJF-004	5/1/2013	0.3 J	<50	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	0.061 J	<50	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	2.1 J	<50	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	0.069 J	<50	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	4.9 J	<50	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	<3.0	<50	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	12 J	<50	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	0.34	<50	57	<0.2	6.5 J	0.70 J	<0.20	<2.0	1.3 J	0.65 J
MW-5 ^A	W-R2330012-122114-JCH-025	12/2/2014	1.4 J	<50	79	<0.2	3.4 J	<5.0	0.029 J	<2.0	2.1 J	6.0 J
MW-5	W-R2330012-122114-JCH-025	12/2/2014	2.4 J	<50	73	<0.2	3.4 J	<5.0	<0.20	<2.0	1.5 J	<50
MW-5 ^A	W-R2330017-031915-JCH-018	3/19/2015	2.3 J	<50	81	<0.2	5.5 J	<5.0	<0.20	<2.0	2.2 J	9.3 J
MW-5	W-R2330012-031915-JCH-018	3/19/2015	<3.0	<50	73	<0.2	4.8 J	<5.0	<0.20	<2.0	1.5 J	<50
MW-5 ^A	W-R2330017-112015-JPM-031	11/20/2015	NS	150,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330017-112015-JPM-031	11/20/2015	NS	140,000	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-5 ^A	W-R2330021-042116-JPM-024	4/21/2016																		
MW-5	W-R2330021-042116-JPM-024	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330021-110216-AEM-013	11/2/2016																		
MW-5	W-R2330021-110216-AEM-013	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A (DUP)	W-R2330021-110216-AEM-014	11/2/2016																		
MW-5 (DUP)	W-R2330021-110216-AEM-014	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330022-042617-AFB-016	4/26/2017																		
MW-5	W-R2330022-042617-AFB-016	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330022-102717-AFB-029	10/27/2017																		
MW-5	W-R2330022-102717-AFB-029	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330024-042518-JPM-026	4/25/2018																		
MW-5	W-R2330024-042518-JPM-026	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330004-090512-MJF-04	9/5/2012	<25	<1.0	<1.0	<50	11 J	4.9	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-6	W-R2330009-050213-MJF-012	5/2/2013	<25	<1.0	<1.0	<50	<50	2.8	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-6 ^A	W-R2330012-12214-JCH-023	12/2/2014																		
MW-6	W-R2330012-12214-JCH-023	12/2/2014	<25	<1.0	<1.0	<50	<50	3.2	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	1.3 J	<1.0	<5.0	<1.0	<1.0
MW-6 ^A	W-R2330017-031715-ACN-012	3/17/2015																		
MW-6	W-R2330017-031715-ACN-012	3/17/2015	<25	<1.0	<1.0	<50	<50	2.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-6 ^A	W-R2330017-111915-JPM-023	11/19/2015																		
MW-6	W-R2330017-111915-JPM-023	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330021-042116-JPM-026	4/21/2016																		
MW-6	W-R2330021-042116-JPM-026	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330021-110416-JPM-037	11/4/2016																		
MW-6	W-R2330021-110416-JPM-037	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330022-042817-AFB-033	4/28/2017																		
MW-6	W-R2330022-042817-AFB-033	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330022-102817-AFB-035	10/28/2017																		
MW-6	W-R2330022-102817-AFB-035	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A DUP	W-R2330022-102817-AFB-036	10/28/2017																		
MW-6 DUP	W-R2330022-102817-AFB-036	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330024-042518-DMS-028	4/25/2018																		
MW-6	W-R2330024-042518-DMS-028	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330009-050213-MJF-008	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-7 ^A	W-R2330012-112614-JCH-015	11/26/2014																		

Table 2
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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)											
															Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol						
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05						
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA						
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA						
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV						
Groundwater Concentration for Vapor Intrusion (GW _{V-in}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA						
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06						
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA						
ID	SAMPLE ID	SAMPLE DATE																								
MW-5 ^A	W-R2330021-042116-JPM-024	4/21/2016																								
MW-5	W-R2330021-042116-JPM-024	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-5 ^A	W-R2330021-110216-AEM-013	11/2/2016																								
MW-5	W-R2330021-110216-AEM-013	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-5 ^A (DUP)	W-R2330021-110216-AEM-014	11/2/2016																								
MW-5 (DUP)	W-R2330021-110216-AEM-014	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-5 ^A	W-R2330022-042617-AFB-016	4/26/2017																								
MW-5	W-R2330022-042617-AFB-016	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-5 ^A	W-R2330022-102717-AFB-029	10/27/2017																								
MW-5	W-R2330022-102717-AFB-029	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-5 ^A	W-R2330024-042518-JPM-026	4/25/2018																								
MW-5	W-R2330024-042518-JPM-026	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-6	W-R2330004-090512-MJF-04	9/5/2012	<3.0	<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						
MW-6	W-R2330009-050213-MJF-012	5/2/2013	<3.0	<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						
MW-6 ^A	W-R2330009--080713-ZTR-002	8/7/2013																								
MW-6	W-R2330009--080713-ZTR-002	8/7/2013	<3.0	<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						
MW-6 ^A	W-R2330009-111313-ACN-011	11/13/2013																								
MW-6	W-R2330009-111313-ACN-011	11/13/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	0.47 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0						
MW-6 ^A	W-R2330012-032714-ACN-004	3/27/2014																								
MW-6	W-R2330012-032714-ACN-004	3/27/2014	<3.0	<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						
MW-6 ^A	W-R2330012-12214-JCH-023	12/2/2014																								
MW-6	W-R2330012-12214-JCH-023	12/2/2014	<3.0	<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						
MW-6 ^A	W-R2330017-031715-ACN-012	3/17/2015																								
MW-6	W-R2330017-031715-ACN-012	3/17/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	0.58 J	<5.0	<5.0						
MW-6 ^A	W-R2330017-111915-JPM-023	11/19/2015																								
MW-6	W-R2330017-111915-JPM-023	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-6 ^A	W-R2330021-042116-JPM-026	4/21/2016																								
MW-6	W-R2330021-042116-JPM-026	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-6 ^A	W-R2330021-110416-JPM-037	11/4/2016																								
MW-6	W-R2330021-110416-JPM-037	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-6 ^A	W-R2330022-042817-AFB-033	4/28/2017																								
MW-6	W-R2330022-042817-AFB-033	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-6 ^A	W-R2330022-102817-AFB-035	10/28/2017																								
MW-6	W-R2330022-102817-AFB-035	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-6 ^A DUP	W-R2330022-102817-AFB-036	10/28/2017																								
MW-6 DUP	W-R2330022-102817-AFB-036	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-6 ^A	W-R2330024-042518-DMS-028	4/25/2018																								
MW-6	W-R2330024-042518-DMS-028	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-7	W-R2330009-050213-MJF-008	5/2/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	0.95 J	<5.0						
MW-7 ^A	W-R2330009-080613-ZTR-001	8/6/2013																								
MW-7	W-R2330009-080613-ZTR-001	8/6/2013	<3.0	<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						
MW-7 ^A	W-R2330009-111313-ACN-006	11/13/2013																								
MW-7	W-R2330009-111313-ACN-006	11/13/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	0.18 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0						
MW-7 ^A	W-R2330012-032614-ACN-001	3/26/2014																								
MW-7	W-R2330012-032614-ACN-001	3/26/2014	<3.0	<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						
MW-7 ^A	W-R2330012-112614-JCH-015	11/26/2014																								

Table 2
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										
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{v,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																		
MW-5 ^A	W-R2330021-042116-JPM-024	4/21/2016								2,800	NS	NS	NS	NS	NS	NS	NS	NS		12,000
MW-5	W-R2330021-042116-JPM-024	4/21/2016	NS	NS	NS	NS	NS	NS	NS	140	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,900
MW-5 ^A	W-R2330021-110216-AEM-013	11/2/2016								860	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,300
MW-5	W-R2330021-110216-AEM-013	11/2/2016	NS	NS	NS	NS	NS	NS	NS	30 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,500
MW-5 ^A (DUP)	W-R2330021-110216-AEM-014	11/2/2016								400	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,100
MW-5 (DUP)	W-R2330021-110216-AEM-014	11/2/2016	NS	NS	NS	NS	NS	NS	NS	12 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,400
MW-5 ^A	W-R2330022-042617-AFB-016	4/26/2017								30 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,500
MW-5	W-R2330022-042617-AFB-016	4/26/2017	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,300
MW-5 ^A	W-R2330022-102717-AFB-029	10/27/2017								890	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,600
MW-5	W-R2330022-102717-AFB-029	10/27/2017	NS	NS	NS	NS	NS	NS	NS	4.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,100
MW-5 ^A	W-R2330024-042518-JPM-026	4/25/2018								740	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,200
MW-5	W-R2330024-042518-JPM-026	4/25/2018	NS	NS	NS	NS	NS	NS	NS	61	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,200
MW-6	W-R2330004-090512-MJF-04	9/5/2012	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
MW-6	W-R2330009-050213-MJF-012	5/2/2013	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
MW-6	W-R2330009--080713-ZTR-002	8/7/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
MW-6	W-R2330009-111313-ACN-011	11/13/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	160	0.14 J	5.5 J	520	<1.0	0.43 J	2.2 J	1.7 J	1.3 J	<0.005	18,000
MW-6 ^A	W-R2330012-032714-ACN-004	3/27/2014								76	0.15 J	3.0 J	460	<1.0	<1.0	0.56 J	2.0 J	2.0 J		11,000
MW-6	W-R2330012-032714-ACN-004	3/27/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	8.6 J	0.17 J	3.4 J	460	<1.0	<1.0	0.37 J	1.4 J	1.9 J	1.3 J	10,000
MW-6 ^A	W-R2330012-12214-JCH-023	12/2/2014								320	0.17 J	4.5 J	570	<1.0	0.068 J	1.7 J	1.1 J	0.85 J		18,000
MW-6	W-R2330012-12214-JCH-023	12/2/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	5.6 J	0.17 J	4.8 J	540	<1.0	<1.0	0.53 J	1.0 J	<4.0	<5.0	17,000
MW-6 ^A	W-R2330017-031715-ACN-012	3/17/2015								300	0.35 J	3.1 J	430	<1.0	0.098 J	1.5 J	1.7 J	4.1		12,000
MW-6	W-R2330017-031715-ACN-012	3/17/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	3.3 J	0.41 J	1.9 J	360	<1.0	<1.0	0.42 J	1.5 J	2.0 J	<5.0	11,000
MW-6 ^A	W-R2330017-111915-JPM-023	11/19/2015								30 J	NS	NS	NS	NS	NS	NS	NS	NS		22,000
MW-6	W-R2330017-111915-JPM-023	11/19/2015	NS	NS	NS	NS	NS	NS	NS	7.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	22,000
MW-6 ^A	W-R2330021-042116-JPM-026	4/21/2016								100	NS	NS	NS	NS	NS	NS	NS	NS		5,800
MW-6	W-R2330021-042116-JPM-026	4/21/2016	NS	NS	NS	NS	NS	NS	NS	7.5 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,300
MW-6 ^A	W-R2330021-110416-JPM-037	11/4/2016								76	NS	NS	NS	NS	NS	NS	NS	NS	NS	25,000
MW-6	W-R2330021-110416-JPM-037	11/4/2016	NS	NS	NS	NS	NS	NS	NS	7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	25,000
MW-6 ^A	W-R2330022-042817-AFB-033	4/28/2017								83	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,600
MW-6	W-R2330022-042817-AFB-033	4/28/2017	NS	NS	NS	NS	NS	NS	NS	5.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,300
MW-6 ^A	W-R2330022-102817-AFB-035	10/28/2017								550	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000
MW-6	W-R2330022-102817-AFB-035	10/28/2017	NS	NS	NS	NS	NS	NS	NS	6.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	8,100
MW-6 ^A DUP	W-R2330022-102817-AFB-036	10/28/2017								140	NS	NS	NS	NS	NS	NS	NS	NS	NS	9,600
MW-6 DUP	W-R2330022-102817-AFB-036	10/28/2017	NS	NS	NS	NS	NS	NS	NS	4.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,900
MW-6 ^A	W-R2330024-042518-DMS-028	4/25/2018								32	NS	NS	NS	NS	NS	NS	NS	NS	NS	560
MW-6	W-R2330024-042518-DMS-028	4/25/2018	NS	NS	NS	NS	NS	NS	NS	4.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	250
MW-7	W-R2330009-050213-MJF-008	5/2/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	6.4 J	0.84 J	0.87 J	450	<1.0	<1.0	1.4 J	3.4 J	2.1 J	<0.005	3,400
MW-7 ^A	W-R2330009-080613-ZTR-001	8/6/2013								39 J	0.39 J	18	520	<1.0	0.43 J	1.4 J	3.8 J	2.2 J		8,100
MW-7	W-R2330009-080613-ZTR-001	8/6/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	5.3 J	0.48 J	17	520	<1.0	0.21 J	1.2 J	4.3 J	3.1 J	<0.005	7,700
MW-7 ^A	W-R2330009-111313-ACN-006	11/13/2013								21 J	0.58 J	7.0 J	370	<1.0	1.2 J	1.3 J	3.6 J	2.4 J		5,700
MW-7	W-R2330009-111313-ACN-006	11/13/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	6.9 J	0.57 J	6.4 J	380	<1.0	0.92 J	1.3 J	4.1 J	1.5 J	0.0037 J	5,600
MW-7 ^A	W-R2330012-032614-ACN-001	3/26/2014								11 J	0.18 J	3.5 J	330	<1.0	0.54 J	0.72 J	3.8 J	7.9		8,900
MW-7	W-R2330012-032614-ACN-001	3/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	3.6 J	0.16									

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-5 ^A	W-R2330021-042116-JPM-024	4/21/2016	NS	NS	150	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330021-042116-JPM-024	4/21/2016	NS	NS	58	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330021-110216-AEM-013	11/2/2016	NS	NS	79	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330021-110216-AEM-013	11/2/2016	NS	NS	52	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A (DUP)	W-R2330021-110216-AEM-014	11/2/2016	NS	NS	72	NS	NS	NS	NS	NS	NS	NS
MW-5 (DUP)	W-R2330021-110216-AEM-014	11/2/2016	NS	NS	50	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330022-042617-AFB-016	4/26/2017	NS	140,000	56	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330022-042617-AFB-016	4/26/2017	NS	140,000	50 J	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330022-102717-AFB-029	10/27/2017	NS	NS	76	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330022-102717-AFB-029	10/27/2017	NS	NS	62	NS	NS	NS	NS	NS	NS	NS
MW-5 ^A	W-R2330024-042518-JPM-026	4/25/2018	NS	NS	390	NS	NS	NS	NS	NS	NS	NS
MW-5	W-R2330024-042518-JPM-026	4/25/2018	NS	NS	380	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330004-090512-MJF-04	9/5/2012	0.057 J	<50	500	<0.2	3.8 J	0.051 J	<0.025	<2.0	1.2 J	1.5 J
MW-6	W-R2330009-050213-MJF-012	5/2/2013	0.31 J	<50	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	0.29 J	<50	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	0.063 J	<50	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	0.55 J	<50	430	<0.2	8.5 J	<5.0	<0.20	<2.0	1.6 J	3.7 J
MW-6	W-R2330009-111313-ACN-011	11/13/2013	0.41 J	<50	430	<0.2	8.5 J	<5.0	<0.20	<2.0	1.6 J	3.3 J
MW-6 ^A	W-R2330012-032714-ACN-004	3/27/2014	0.31 J	<50	410	<0.2	11 J	<5.0	<0.20	0.084 J	1.2 J	5.0 J
MW-6	W-R2330012-032714-ACN-004	3/27/2014	<3.0	<50	410	<0.2	12 J	<5.0	<0.20	<2.0	0.99 J	3.0 J
MW-6 ^A	W-R2330012-12214-JCH-023	12/2/2014	<3.0	<50	420	<0.2	4.9 J	<5.0	0.027 J	<2.0	2.2 J	14 J
MW-6	W-R2330012-12214-JCH-023	12/2/2014	<3.0	<50	410	<0.2	4.2 J	<5.0	0.020 J	<2.0	1.8 J	<50
MW-6 ^A	W-R2330017-031715-ACN-012	3/17/2015	1.1 J	<50	500	<0.2	15 J	<5.0	<0.20	<2.0	1.9 J	42 J
MW-6	W-R2330017-031715-ACN-012	3/17/2015	<3.0	<50	470	<0.2	14 J	<5.0	<0.20	<2.0	0.84 J	33 J
MW-6 ^A	W-R2330017-111915-JPM-023	11/19/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330017-111915-JPM-023	11/19/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330021-042116-JPM-026	4/21/2016	NS	NS	320	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330021-042116-JPM-026	4/21/2016	NS	NS	360	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330021-110416-JPM-037	11/4/2016	NS	NS	500	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330021-110416-JPM-037	11/4/2016	NS	NS	490	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330022-042817-AFB-033	4/28/2017	NS	52,000	960	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330022-042817-AFB-033	4/28/2017	NS	47,000	910	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330022-102817-AFB-035	10/28/2017	NS	NS	410	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330022-102817-AFB-035	10/28/2017	NS	NS	360	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A DUP	W-R2330022-102817-AFB-036	10/28/2017	NS	NS	370	NS	NS	NS	NS	NS	NS	NS
MW-6 DUP	W-R2330022-102817-AFB-036	10/28/2017	NS	NS	370	NS	NS	NS	NS	NS	NS	NS
MW-6 ^A	W-R2330024-042518-DMS-028	4/25/2018	NS	NS	260	NS	NS	NS	NS	NS	NS	NS
MW-6	W-R2330024-042518-DMS-028	4/25/2018	NS	NS	250	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330009-050213-MJF-008	5/2/2013	0.074 J	<50	530	<0.2	11 J	<5.0	<0.20	<2.0	1.2 J	40 J
MW-7 ^A	W-R2330009-080613-ZTR-001	8/6/2013	0.47 J	<50	910	<0.2	14 J	<5.0	<0.20	<2.0	1.4 J	44 J
MW-7	W-R2330009-080613-ZTR-001	8/6/2013	0.096 J	<50	880	<0.2	14 J	<5.0	<0.20	<2.0	1.2 J	39 J
MW-7 ^A	W-R2330009-111313-ACN-006	11/13/2013	0.31 J	<50	490	<0.2	14 J	<5.0	<0.20	<2.0	2.2 J	22 J
MW-7	W-R2330009-111313-ACN-006	11/13/2013	<3.0	<50	480	<0.2	14 J	<5.0	<0.20	<2.0	2.3 J	6.6 J
MW-7 ^A	W-R2330012-032614-ACN-001	3/26/2014	0.39 J	<50	560	<0.2	18 J	0.84 J	<0.20	0.22 J	1.2 J	15 J
MW-7	W-R2330012-032614-ACN-001	3/26/2014	<3.0	<50	530	<0.2	16 J	<5.0	<0.20	<2.0	1.0 J	8.2 J
MW-7 ^A	W-R2330012-112614-JCH-015	11/26/2014	<3.0	<50	690	<0.2	8.4 J	<5.0	0.022 J	<2.0	2.1 J	6.3 J

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-7	W-R2330012-112614-JCH-015	11/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-7 ^A	W-R2330017-031715-JCH-013	3/17/2015																		
MW-7	W-R2330017-031715-JCH-013	3/17/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-7 ^A	W-R2330017-111615-AEP-005	11/16/2015																		
MW-7	W-R2330017-111615-AEP-005	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330021-041916-JPM-007	4/19/2016																		
MW-7	W-R2330021-041916-JPM-007	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330021-110116-AEM-007	11/1/2016																		
MW-7	W-R2330021-110116-AEM-007	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330022-042517-DMS-013	4/25/2017																		
MW-7	W-R2330022-042517-DMS-013	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330022-102717-DMS-028	10/27/2017																		
MW-7	W-R2330022-102717-DMS-028	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330024-042318-DMS-006	4/23/2018																		
MW-7	W-R2330024-042318-DMS-006	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8	W-R2330009-050313-MJF-013	5/3/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-8 ^A	W-R2330012-112614-JCH-014	11/26/2014																		
MW-8	W-R2330012-112614-JCH-014	11/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-8 ^A	W-R2330017-032015-JCH-029	3/20/2015																		
MW-8	W-R2330017-032015-JCH-029	3/20/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-8 ^A	W-R2330017-111615-AEP-004	11/16/2015																		
MW-8	W-R2330017-111615-AEP-004	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330021-041916-JPM-008	4/19/2016																		
MW-8	W-R2330021-041916-JPM-008	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330021-110116-AEM-008	11/1/2016																		
MW-8	W-R2330021-110116-AEM-008	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330022-102617-AFB-024	10/26/2017																		
MW-8	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330009-050113-MJF-007	5/1/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-9 ^A	W-R2330012-12214-JCH-024	12/2/2014																		
MW-9	W-R2330012-12214-JCH-024	12/2/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-9 ^A	W-R2330017-031915-JCH-017	3/19/2015																		
MW-9	W-R2330012-031915-JCH-017	3/19/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-9 ^A	W-R2330017-112015-AFB-030	11/20/2015																		
MW-9	W-R2330017-112015-AFB-030	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330021-042116-AFB-025	4/21/2016																		

Table 2
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)																	
			Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-7	W-R2330012-112614-JCH-015	11/26/2014	<3.0	<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
MW-7 ^A	W-R2330017-031715-JCH-013	3/17/2015																		
MW-7	W-R2330017-031715-JCH-013	3/17/2015	<3.0	<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
MW-7 ^A	W-R2330017-111615-AEP-005	11/16/2015																		
MW-7	W-R2330017-111615-AEP-005	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330021-041916-JPM-007	4/19/2016																		
MW-7	W-R2330021-041916-JPM-007	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330021-110116-AEM-007	11/1/2016																		
MW-7	W-R2330021-110116-AEM-007	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330022-042517-DMS-013	4/25/2017																		
MW-7	W-R2330022-042517-DMS-013	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330022-102717-DMS-028	10/27/2017																		
MW-7	W-R2330022-102717-DMS-028	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330024-042318-DMS-006	4/23/2018																		
MW-7	W-R2330024-042318-DMS-006	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8	W-R2330009-050313-MJF-013	5/3/2013	<3.0	<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
MW-8 ^A	W-R2330009-080713-ZTR-008	8/7/2013																		
MW-8	W-R2330009-080713-ZTR-008	8/7/2013	<3.0	<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
MW-8 ^A	W-R2330009-111213-ACN-005	11/12/2013																		
MW-8	W-R2330009-111213-ACN-005	11/12/2013	<3.0	<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
MW-8 ^A	W-R2330012-112614-JCH-014	11/26/2014																		
MW-8	W-R2330012-112614-JCH-014	11/26/2014	<3.0	<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
MW-8 ^A	W-R2330017-032015-JCH-029	3/20/2015																		
MW-8	W-R2330017-032015-JCH-029	3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
MW-8 ^A	W-R2330017-111615-AEP-004	11/16/2015																		
MW-8	W-R2330017-111615-AEP-004	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330021-041916-JPM-008	4/19/2016																		
MW-8	W-R2330021-041916-JPM-008	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330021-110116-AEM-008	11/1/2016																		
MW-8	W-R2330021-110116-AEM-008	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330022-102617-AFB-024	10/26/2017																		
MW-8	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330009-050113-MJF-007	5/1/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	0.91 J	0.92 J
MW-9 ^A	W-R2330009-080813-ZTR-013	8/8/2013																		
MW-9	W-R2330009-080813-ZTR-013	8/8/2013	<3.0	<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
MW-9 ^A	W-R2330009-111413-ACN-012	11/14/2013																		
MW-9	W-R2330009-111413-ACN-012	11/14/2013	<3.0	<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
MW-9 ^A	W-R2330012-12214-JCH-024	12/2/2014																		
MW-9	W-R2330012-12214-JCH-024	12/2/2014	<3.0	<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
MW-9 ^A	W-R2330012-032614-ACN-003	3/26/2014																		
MW-9	W-R2330012-032614-ACN-003	3/26/2014	<3.0	<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
MW-9 ^A	W-R2330017-031915-JCH-017	3/19/2015																		
MW-9	W-R2330012-031915-JCH-017	3/19/2015	<3.0	<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
MW-9 ^A	W-R2330017-112015-AFB-030	11/20/2015																		
MW-9	W-R2330017-112015-AFB-030	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330021-042116-AFB-025	4/21/2016																		

Table 2
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	
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P.R)	Iron (B)	
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)	
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
Groundwater Concentration for Vapor Intrusion (GW _{VI-in}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	
ID	SAMPLE ID	SAMPLE DATE																			
MW-7	W-R2330012-112614-JCH-015	11/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	4.4 J	0.18 J	3.2 J	420	<1.0	<1.0	0.81 J	2.5 J	<4.0	<5.0	9,400	
MW-7 ^A	W-R2330017-031715-JCH-013	3/17/2015								130	0.21 J	2.9 J	320	<1.0	0.39 J	1.1 J	3.1 J	2.9 J		8,500	
MW-7	W-R2330017-031715-JCH-013	3/17/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	3.1 J	0.26 J	2.4 J	330	<1.0	<1.0	0.87 J	3.2 J	1.6 J	<5.0	8,600	
MW-7 ^A	W-R2330017-111615-AEP-005	11/16/2015								69	NS	NS	NS	NS	NS	NS	NS	NS		7,500	
MW-7	W-R2330017-111615-AEP-005	11/16/2015	NS	NS	NS	NS	NS	NS	NS	35 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,600	
MW-7 ^A	W-R2330021-041916-JPM-007	4/19/2016								6.6 J	NS	NS	NS	NS	NS	NS	NS	NS		11,000	
MW-7	W-R2330021-041916-JPM-007	4/19/2016	NS	NS	NS	NS	NS	NS	NS	2.0 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000	
MW-7 ^A	W-R2330021-110116-AEM-007	11/1/2016								23 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,900	
MW-7	W-R2330021-110116-AEM-007	11/1/2016	NS	NS	NS	NS	NS	NS	NS	7.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,600	
MW-7 ^A	W-R2330022-042517-DMS-013	4/25/2017								66	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,300	
MW-7	W-R2330022-042517-DMS-013	4/25/2017	NS	NS	NS	NS	NS	NS	NS	4.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,900	
MW-7 ^A	W-R2330022-102717-DMS-028	10/27/2017								17	NS	NS	NS	NS	NS	NS	NS	NS	NS	8,000	
MW-7	W-R2330022-102717-DMS-028	10/27/2017	NS	NS	NS	NS	NS	NS	NS	4.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,800	
MW-7	W-R2330024-042318-DMS-006	4/23/2018								30	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,200	
MW-7	W-R2330024-042318-DMS-006	4/23/2018	NS	NS	NS	NS	NS	NS	NS	4.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,000	
MW-8	W-R2330009-050313-MJF-013	5/3/2013	1.4 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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	
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	
MW-8	W-R2330009-080713-ZTR-008	8/7/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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	
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	
MW-8	W-R2330009-111213-ACN-005	11/12/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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	
MW-8 ^A	W-R2330012-112614-JCH-014	11/26/2014								1,200	0.11 J	4.7 J	370	<1.0	2.1	2.7 J	2.4 J	4.7		8,000	
MW-8	W-R2330012-112614-JCH-014	11/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	10 J	<2.0	3.3 J	350	<1.0	<1.0	0.34 J	1.3 J	0.50 J	<5.0	4,900	
MW-8 ^A	W-R2330017-032015-JCH-029	3/20/2015								440	<2.0	2.0 J	330	<1.0	0.73 J	3.2 J	1.2 J	2.7 J		7,100	
MW-8	W-R2330017-032015-JCH-029	3/20/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	13 J	0.18 J	1.3 J	330	<1.0	<1.0	0.47 J	1.3 J	1.5 J	<5.0	5,900	
MW-8 ^A	W-R2330017-111615-AEP-004	11/16/2015								540	NS	NS	NS	NS	NS	NS	NS	NS		3,300	
MW-8	W-R2330017-111615-AEP-004	11/16/2015	NS	NS	NS	NS	NS	NS	NS	15 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,300	
MW-8 ^A	W-R2330021-041916-JPM-008	4/19/2016								140	NS	NS	NS	NS	NS	NS	NS	NS		6,500	
MW-8	W-R2330021-041916-JPM-008	4/19/2016	NS	NS	NS	NS	NS	NS	NS	3.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,900	
MW-8 ^A	W-R2330021-110116-AEM-008	11/1/2016								50 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,200	
MW-8	W-R2330021-110116-AEM-008	11/1/2016	NS	NS	NS	NS	NS	NS	NS	8.70	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,900	
MW-8 ^A	W-R2330022-102617-AFB-024	10/26/2017								23	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,000	
MW-8	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,600	
MW-9	W-R2330009-050113-MJF-007	5/1/2013	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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	
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	
MW-9	W-R2330009-080813-ZTR-013	8/8/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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	
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	
MW-9	W-R2330009-111413-ACN-012	11/14/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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	
MW-9 ^A	W-R2330012-12214-JCH-024	12/2/2014								42 J	0.18 J	59	1,800	<1.0	0.050 J	1.0 J	1.2 J	<4.0		31,000	
MW-9	W-R2330012-12214-JCH-024	12/2/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	5.9 J	0.25 J	62	1,900	<1.0	<1.0	1.0 J	1.4 J	<4.0	<5.0	30,000	
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	
MW-9	W-R2330012-032614-ACN-003	3/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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	
MW-9 ^A	W-R2330017-031915-JCH-017	3/19/2015								260	0.19 J	49	1,700	<1.0	0.094 J	1.4 J	2.0 J	3.9 J		34,000	
MW-9	W-R2330012-031915-JCH-017	3/19/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0													

Table 2
Summary Of Ground Water Sample Results

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

Table 2
Summary of Ground Water
Sample Results

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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-7	W-R2330012-112614-JCH-015	11/26/2014	<3.0	<50	670	<0.2	7.6 J	<5.0	<0.20	<2.0	1.6 J	<50
MW-7 ^A	W-R2330017-031715-JCH-013	3/17/2015	0.42 J	<50	440	<0.2	12 J	<5.0	<0.20	<2.0	1.4 J	19 J
MW-7	W-R2330017-031715-JCH-013	3/17/2015	<3.0	<50	450	<0.2	12 J	<5.0	<0.20	<2.0	1.2 J	4.4 J
MW-7 ^A	W-R2330017-111615-AEP-005	11/16/2015	NS	150,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330017-111615-AEP-005	11/16/2015	NS	150,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330021-041916-JPM-007	4/19/2016	NS	NS	500	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330021-041916-JPM-007	4/19/2016	NS	NS	470	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330021-110116-AEM-007	11/1/2016	NS	NS	340	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330021-110116-AEM-007	11/1/2016	NS	NS	320	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330022-042517-DMS-013	4/25/2017	NS	170,000	490	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330022-042517-DMS-013	4/25/2017	NS	160,000	470	NS	NS	NS	NS	NS	NS	NS
MW-7 ^A	W-R2330022-102717-DMS-028	10/27/2017	NS	NS	760	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330022-102717-DMS-028	10/27/2017	NS	NS	740	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330024-042318-DMS-006	4/23/2018	NS	NS	610	NS	NS	NS	NS	NS	NS	NS
MW-7	W-R2330024-042318-DMS-006	4/23/2018	NS	NS	600	NS	NS	NS	NS	NS	NS	NS
MW-8	W-R2330009-050313-MJF-013	5/3/2013	<3.0	<50	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	0.80 J	<50	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	0.074 J	<50	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	0.34 J	<50	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	<3.0	<50	210	<0.2	7.9 J	<5.0	<0.20	<2.0	0.89 J	2.4 J
MW-8 ^A	W-R2330012-112614-JCH-014	11/26/2014	4.7	<50	400	<0.2	19 J	<5.0	<0.20	<2.0	5.2	18 J
MW-8	W-R2330012-112614-JCH-014	11/26/2014	<3.0	<50	330	<0.2	10 J	<5.0	<0.20	<2.0	0.85 J	5.8 J
MW-8 ^A	W-R2330017-032015-JCH-029	3/20/2015	1.9 J	<50	210	<0.2	6.7 J	<5.0	<0.20	<2.0	2.0 J	11 J
MW-8	W-R2330017-032015-JCH-029	3/20/2015	<3.0	<50	200	<0.2	5.6 J	<5.0	<0.20	<2.0	0.74 J	<50
MW-8 ^A	W-R2330017-111615-AEP-004	11/16/2015	NS	92,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-8	W-R2330017-111615-AEP-004	11/16/2015	NS	91,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330021-041916-JPM-008	4/19/2016	NS	NS	200	NS	NS	NS	NS	NS	NS	NS
MW-8	W-R2330021-041916-JPM-008	4/19/2016	NS	NS	200	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330021-110116-AEM-008	11/1/2016	NS	NS	2,800	NS	NS	NS	NS	NS	NS	NS
MW-8	W-R2330021-110116-AEM-008	11/1/2016	NS	NS	290	NS	NS	NS	NS	NS	NS	NS
MW-8 ^A	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	310	NS	NS	NS	NS	NS	NS	NS
MW-8	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	320	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330009-050113-MJF-007	5/1/2013	0.053 J	<50	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	0.17 J	<50	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	0.068 J	<50	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	0.30 J	<50	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	0.083 J	<50	340	<0.2	6.3 J	<5.0	<0.20	<2.0	1.5 J	2.5 J
MW-9 ^A	W-R2330012-12214-JCH-024	12/2/2014	<3.0	<50	330	<0.2	3.2 J	<5.0	0.024 J	<2.0	1.9 J	3.7 J
MW-9	W-R2330012-12214-JCH-024	12/2/2014	<3.0	<50	300	<0.2	3.5 J	<5.0	<0.20	<2.0	1.6 J	<50
MW-9 ^A	W-R2330012-032614-ACN-003	3/26/2014	0.99 J	<50	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	0.21 J	<50	570	<0.2	7.9 J	<5.0	<0.20	<2.0	1.3 J	2.1 J
MW-9 ^A	W-R2330017-031915-JCH-017	3/19/2015	1.1 J	<50	390	<0.2	7.0 J	<5.0	<0.20	<2.0	2.1 J	11 J
MW-9	W-R2330012-031915-JCH-017	3/19/2015	<3.0	<50	370	<0.2	6.3 J	<5.0	<0.20	<2.0	1.2 J	3.9 J
MW-9 ^A	W-R2330017-112015-AFB-030	11/20/2015	NS	120,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330017-112015-AFB-030	11/20/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330021-042116-AFB-025	4/21/2016	NS	NS	500	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene		
Non-residential Drinking Water Criteria (II)	38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)		
Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000		
Ground Water Surface Water Interface Criteria (GSI) (III)	2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270		
GSI Final Acute Value (FAV)	40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600		
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)		
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)	18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000		
Water Solubility (VII)	2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05		
Flammability & Explosivity Screening Level (VIII)	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000		
ID	SAMPLE ID	SAMPLE DATE																		
MW-9	W-R2330021-042116-AFB-025	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-9 ^A	W-R2330021-110216-AEM-012	11/2/2016																		
MW-9	W-R2330021-110216-AEM-012	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-9 ^A	W-R2330022-042617-DMS-015	4/26/2017																		
MW-9	W-R2330022-042617-DMS-015	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-9 ^A	W-R2330022-102717-DMS-030	10/27/2017																		
MW-9	W-R2330022-102717-DMS-030	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-9 ^A	W-R2330024-042618-DMS-033	4/26/2018																		
MW-9	W-R2330024-042618-DMS-033	4/26/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-10	W-R2330009-050113-MJF-003	5/1/2013	<25	<1.0	<1.0	<50	4.3 J	8.6	<1.0	<5.0	25	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	24	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	23	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	36	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	35	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	24	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	25	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-10 ^A	W-R2330012-122114-JCH-028	12/2/2014																		
MW-10	W-R2330012-122114-JCH-028	12/2/2014	<25	<1.0	<1.0	<50	<50	7.8	<1.0	<5.0	38	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-10 ^A	W-R2330017-031915-ACN-019	3/19/2015																		
MW-10	W-R2330017-031915-ACN-019	3/19/2015	<25	<1.0	<1.0	<50	<50	10	<1.0	<5.0	28	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-10 ^A (DUP)	W-R2330017-031915-ACN-020	3/19/2015																		
MW-10 (DUP)	W-R2330012-031915-ACN-020	3/19/2015	<25	<1.0	<1.0	<50	<50	10	<1.0	<5.0	27	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-10 ^A	W-R2330017-111915-AEP-022	11/19/2015																		
MW-10	W-R2330017-111915-AEP-022	11/19/2015	<25	<1.0	0.48 J	<50	<50	12	<1.0	<5.0	44	<5.0	<1.0	<10	<5.0	<5.0	<1.0	0.29 J	<1.0	<1.0
MW-10 ^A	W-R2330021-042116-JPM-023	4/21/2016																		
MW-10	W-R2330021-042116-JPM-023	4/21/2016	<25	<1.0	<1.0	<50	5.5 J	7.4	<1.0	<5.0	24	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-10 ^A	W-R2330021-110216-JPM-019	11/2/2016																		
MW-10	W-R2330021-110216-JPM-019	11/2/2016	<25	<1.0	.41 J	<50	1.8 J	11.0	<1.0	<5.0	41	<5.0	<1.0	.49 J	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-10 ^A	W-R2330022-042617-DMS-017	4/26/2017																		
MW-10	W-R2330022-042617-DMS-017	4/26/2017	<25	<1.0	<1.0	<50	7.4 J	7.2	<1.0	<5.0	32	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-10 ^A	W-R2330022-102717-DMS-031	10/27/2017																		
MW-10	W-R2330022-102717-DMS-031	10/27/2017	<25	<1.0	<1.0	<50	3.5 J	9.8	<1.0	<5.0	34	<5.0	<1.0	<10	<5.0	<5.0	<1.0	0.22 J	<1.0	<1.0
MW-10 ^A	W-R2330024-042418-DMS-016	4/24/2018																		
MW-10	W-R2330024-042418-DMS-016	4/24/2018	<25	<1.0	<1.0	<50	3.5 J	6.4	<1.0	<5.0	30	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-11	W-R2330009-043013-MJF-001	4/30/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-11 ^A	W-R2330012-032614-ACN-002	3/26/2014																		

Table 2
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)																	
			Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-9	W-R2330021-042116-AFB-025	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330021-110216-AEM-012	11/2/2016																		
MW-9	W-R2330021-110216-AEM-012	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330022-042617-DMS-015	4/26/2017																		
MW-9	W-R2330022-042617-DMS-015	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330022-102717-DMS-030	10/27/2017																		
MW-9	W-R2330022-102717-DMS-030	10/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330024-042618-DMS-033	4/26/2018																		
MW-9	W-R2330024-042618-DMS-033	4/26/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330009-050113-MJF-003	5/1/2013	<3.0	<10	<10	<5.0	<10	<10	0.86 J	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	1.0 J	<5.0
MW-10 ^A	W-R2330009-080813-ZTR-010	8/8/2013																		
MW-10	W-R2330009-080813-ZTR-010	8/8/2013	<3.0	<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
MW-10 ^A (DUP)	W-R2330009-080813-ZTR-011	8/8/2013																		
MW-10 (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	<3.0	<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
MW-10 ^A	W-R2330009-111313-ACN-008	11/13/2013																		
MW-10	W-R2330009-111313-ACN-008	11/13/2013	<3.0	<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
MW-10 ^A (DUP)	W-R2330009-111313-ACN-009	11/13/2013																		
MW-10 (DUP)	W-R2330009-111313-ACN-009	11/13/2013	<3.0	<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
MW-10 ^A	W-R2330012-032814-ACN-010	3/28/2014																		
MW-10	W-R2330012-032814-ACN-010	3/28/2014	<3.0	<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
MW-10 ^A (DUP)	W-R2330012-032814-ACN-011	3/28/2014																		
MW-10 (DUP)	W-R2330012-032814-ACN-011	3/28/2014	<3.0	<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
MW-10 ^A	W-R2330012-122114-JCH-028	12/2/2014																		
MW-10	W-R2330012-122114-JCH-028	12/2/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	2.1 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0
MW-10 ^A	W-R2330017-031915-ACN-019	3/19/2015																		
MW-10	W-R2330017-031915-ACN-019	3/19/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
MW-10 ^A (DUP)	W-R2330017-031915-ACN-020	3/19/2015																		
MW-10 (DUP)	W-R2330012-031915-ACN-020	3/19/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	1.8 J	<5.0	<10	<10	<4.0	<5.0	<5.0
MW-10 ^A	W-R2330017-111915-AEP-022	11/19/2015																		
MW-10	W-R2330017-111915-AEP-022	11/19/2015	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330021-042116-JPM-023	4/21/2016																		
MW-10	W-R2330021-042116-JPM-023	4/21/2016	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330021-110216-JPM-019	11/2/2016																		
MW-10	W-R2330021-110216-JPM-019	11/2/2016	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330022-042617-DMS-017	4/26/2017																		
MW-10	W-R2330022-042617-DMS-017	4/26/2017	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330022-102717-DMS-031	10/27/2017																		
MW-10	W-R2330022-102717-DMS-031	10/27/2017	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330024-042418-DMS-016	4/24/2018																		
MW-10	W-R2330024-042418-DMS-016	4/24/2018	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330009-043013-MJF-001	4/30/2013	<3.0	0.56 J	<10	<5.0	<10	<10	<5.0	<10	1.1 J	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	0.92 J	<5.0
MW-11 ^A	W-R2330009-080713-ZTR-006	8/7/2013																		
MW-11	W-R2330009-080713-ZTR-006	8/7/2013	<3.0	<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
MW-11 ^A	W-R2330009-111213-ACN-001	11/12/2013																		
MW-11	W-R2330009-111213-ACN-001	11/12/2013	<3.0	<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
MW-11 ^A	W-R2330012-032614-ACN-002	3/26/2014																		

Table 2
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										
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																		
MW-9	W-R2330021-042116-AFB-025	4/21/2016	NS	NS	NS	NS	NS	NS	NS	8.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	33,000
MW-9 ^A	W-R2330021-110216-AEM-012	11/2/2016								270	NS	NS	NS	NS	NS	NS	NS	NS	NS	29,000
MW-9	W-R2330021-110216-AEM-012	11/2/2016	NS	NS	NS	NS	NS	NS	NS	7.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	29,000
MW-9 ^A	W-R2330022-042617-DMS-015	4/26/2017								<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	26,000
MW-9	W-R2330022-042617-DMS-015	4/26/2017	NS	NS	NS	NS	NS	NS	NS	18 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	29,000
MW-9 ^A	W-R2330022-102717-DMS-030	10/27/2017								55	NS	NS	NS	NS	NS	NS	NS	NS	NS	26,000
MW-9	W-R2330022-102717-DMS-030	10/27/2017	NS	NS	NS	NS	NS	NS	NS	5.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	26,000
MW-9 ^A	W-R2330024-042618-DMS-033	4/26/2018								12	NS	NS	NS	NS	NS	NS	NS	NS	NS	30,000
MW-9	W-R2330024-042618-DMS-033	4/26/2018	NS	NS	NS	NS	NS	NS	NS	5.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	29,000
MW-10	W-R2330009-050113-MJF-003	5/1/2013	1.7 J	<1.0	1.1 J	<5.0	<2.0	<5.0	<5.0	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
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
MW-10	W-R2330009-080813-ZTR-010	8/8/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
MW-10 ^A (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
MW-10 (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
MW-10	W-R2330009-111313-ACN-008	11/13/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
MW-10 ^A (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
MW-10 (DUP)	W-R2330009-111313-ACN-009	11/13/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
MW-10	W-R2330012-032814-ACN-010	3/28/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
MW-10 ^A (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
MW-10 (DUP)	W-R2330012-032814-ACN-011	3/28/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	4.7 J	0.21 J	6.8 J	1,700	<1.0	<1.0	<10	3.0 J	1.1 J	4.1 J	23,000
MW-10 ^A	W-R2330012-122114-JCH-028	12/2/2014								21 J	0.23 J	7.1	2,100	<1.0	0.034 J	2.3 J	2.2 J	<4.0		22,000
MW-10	W-R2330012-122114-JCH-028	12/2/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	8.2 J	0.22 J	8.4	2,100	<1.0	<1.0	2.3 J	2.4 J	<4.0	<5.0	23,000
MW-10 ^A	W-R2330017-031915-ACN-019	3/19/2015								24 J	0.29 J	7.3	2,500	<1.0	0.028 J	2.5 J	2.3 J	0.51 J		23,000
MW-10	W-R2330017-031915-ACN-019	3/19/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	7.8 J	0.26 J	7.0	2,300	<1.0	<1.0	2.2 J	2.3 J	0.40 J	<5.0	22,000
MW-10 ^A (DUP)	W-R2330017-031915-ACN-020	3/19/2015								26 J	0.21 J	6.6	2,300	<1.0	<1.0	2.2 J	2.3 J	0.65 J		21,000
MW-10 (DUP)	W-R2330012-031915-ACN-020	3/19/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	10 J	0.24 J	7.2	2,400	<1.0	<1.0	2.6 J	2.7 J	0.27 J	<5.0	23,000
MW-10 ^A	W-R2330017-111915-AEP-022	11/19/2015								31 J	NS	NS	NS	NS	NS	NS	NS	NS		22,000
MW-10	W-R2330017-111915-AEP-022	11/19/2015	NS	NS	NS	NS	NS	NS	NS	7.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	22,000
MW-10 ^A	W-R2330021-042116-JPM-023	4/21/2016								190	NS	NS	NS	NS	NS	NS	NS	NS		22,000
MW-10	W-R2330021-042116-JPM-023	4/21/2016	NS	NS	NS	NS	NS	NS	NS	19 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	27,000
MW-10 ^A	W-R2330021-110216-JPM-019	11/2/2016								32 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	22,000
MW-10	W-R2330021-110216-JPM-019	11/2/2016	NS	NS	NS	NS	NS	NS	NS	6.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	22,000
MW-10 ^A	W-R2330022-042617-DMS-017	4/26/2017								110	NS	NS	NS	NS	NS	NS	NS	NS	NS	21,000
MW-10	W-R2330022-042617-DMS-017	4/26/2017	NS	NS	NS	NS	NS	NS	NS	4.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	20,000
MW-10 ^A	W-R2330022-102717-DMS-031	10/27/2017								37	NS	NS	NS	NS	NS	NS	NS	NS	NS	18,000
MW-10	W-R2330022-102717-DMS-031	10/27/2017	NS	NS	NS	NS	NS	NS	NS	7.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	17,000
MW-10 ^A	W-R2330024-042418-DMS-016	4/24/2018								75	NS	NS	NS	NS	NS	NS	NS	NS	NS	20,000
MW-10	W-R2330024-042418-DMS-016	4/24/2018	NS	NS	NS	NS	NS	NS	NS	7.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	20,000
MW-11	W-R2330009-043013-MJF-001	4/30/2013	1.7 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
MW-11 ^A																				

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-9	W-R2330021-042116-AFB-025	4/21/2016	NS	NS	540	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330021-110216-AEM-012	11/2/2016	NS	NS	260	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330021-110216-AEM-012	11/2/2016	NS	NS	240	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330022-042617-DMS-015	4/26/2017	NS	150,000	240	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330022-042617-DMS-015	4/26/2017	NS	140,000	230	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330022-102717-DMS-030	10/27/2017	NS	NS	220	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330022-102717-DMS-030	10/27/2017	NS	NS	220	NS	NS	NS	NS	NS	NS	NS
MW-9 ^A	W-R2330024-042618-DMS-033	4/26/2018	NS	NS	230	NS	NS	NS	NS	NS	NS	NS
MW-9	W-R2330024-042618-DMS-033	4/26/2018	NS	NS	230	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330009-050113-MJF-003	5/1/2013	0.054 J	<50	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	7.3	<50	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	2.4 J	<50	600	<0.2	7.6 J	<5.0	<0.20	<2.0	2.3 J	5.2 J
MW-10 ^A (DUP)	W-R2330009-080813-ZTR-011	8/8/2013	7.2	<50	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	2.7 J	<50	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	2.8 J	<50	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	0.16 J	<50	480	<0.2	8.1 J	<5.0	<0.20	<2.0	2.1 J	3.4 J
MW-10 ^A (DUP)	W-R2330009-111313-ACN-009	11/13/2013	2.8 J	<50	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	0.18 J	<50	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	1.6 J	<50	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	0.14 J	<50	540	<0.2	9.8 J	<5.0	<0.20	0.24 J	1.8 J	3.0 J
MW-10 ^A (DUP)	W-R2330012-032814-ACN-011	3/28/2014	1.7 J	<50	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	0.14 J	<50	530	<0.2	8.0 J	0.83 J	<0.20	<2.0	1.9 J	<50
MW-10 ^A	W-R2330012-122114-JCH-028	12/2/2014	2.2 J	<50	420	<0.2	2.8 J	<5.0	<0.20	<2.0	3.2 J	3.7 J
MW-10	W-R2330012-122114-JCH-028	12/2/2014	<3.0	<50	430	<0.2	2.8 J	<5.0	<0.20	<2.0	3.2 J	<50
MW-10 ^A	W-R2330017-031915-ACN-019	3/19/2015	2.5 J	<50	450	<0.2	3.9 J	<5.0	<0.20	<2.0	2.8 J	3.4 J
MW-10	W-R2330017-031915-ACN-019	3/19/2015	<3.0	<50	420	<0.2	3.7 J	<5.0	<0.20	<2.0	2.3 J	<50
MW-10 ^A (DUP)	W-R2330017-031915-ACN-020	3/19/2015	2.1 J	<50	420	<0.2	3.8 J	<5.0	<0.20	<2.0	2.1 J	3.8 J
MW-10 (DUP)	W-R2330012-031915-ACN-020	3/19/2015	0.36 J	<50	430	<0.2	3.7 J	<5.0	0.021 J	<2.0	2.7 J	3.3 J
MW-10 ^A	W-R2330017-111915-AEP-022	11/19/2015	NS	160,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330017-111915-AEP-022	11/19/2015	NS	160,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330021-042116-JPM-023	4/21/2016	NS	NS	420	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330021-042116-JPM-023	4/21/2016	NS	NS	470	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330021-110216-JPM-019	11/2/2016	NS	NS	420	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330021-110216-JPM-019	11/2/2016	NS	NS	430	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330022-042617-DMS-017	4/26/2017	NS	160,000	430	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330022-042617-DMS-017	4/26/2017	NS	150,000	410	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330022-102717-DMS-031	10/27/2017	NS	NS	470	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330022-102717-DMS-031	10/27/2017	NS	NS	470	NS	NS	NS	NS	NS	NS	NS
MW-10 ^A	W-R2330024-042418-DMS-016	4/24/2018	NS	NS	450	NS	NS	NS	NS	NS	NS	NS
MW-10	W-R2330024-042418-DMS-016	4/24/2018	NS	NS	450	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330009-043013-MJF-001	4/30/2013	0.0079 J	<50	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	<3.0	<50	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	<3.0	<50	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	1.3 J	<50	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	<3.0	<50	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	0.37 J	<50	52	<0.2	3.4 J	1.3 J	<0.20	<2.0	0.34 J	0.91 J

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene		
	Non-residential Drinking Water Criteria (II)	38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)	
	Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000	
	Ground Water Surface Water Interface Criteria (GSI) (III)	2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270	
	GSI Final Acute Value (FAV)	40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600	
	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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)	
	Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)	18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000	
	Water Solubility (VII)	2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05	
	Flammability & Explosivity Screening Level (VIII)	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000	
ID	SAMPLE ID	SAMPLE DATE	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
MW-11	W-R2330012-032614-ACN-002	3/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-11 ^A	W-R2330012-091514-ACN-003	9/15/2014																		
MW-11	W-R2330012-091514-ACN-003	9/15/2014	NS	NS	NS	NS	NS	NS	<1.0	NS	NS	NS	NS	NS	<5.0	<5.0	NS	NS	NS	NS
MW-11 ^A	W-R2330012-121114-JCH-017	12/1/2014																		
MW-11	W-R2330012-121114-JCH-017	12/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-11 ^A	W-R2330017-031715-ACN-009	3/17/2015																		
MW-11	W-R2330017-031715-ACN-009	3/17/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-11 ^A	W-R2330017-111915-AEP-019	11/19/2015																		
MW-11	W-R2330017-111915-AEP-019	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330021-042116-JPM-021	4/21/2016																		
MW-11	W-R2330021-042116-JPM-021	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330021-110116-JPM-010	11/1/2016																		
MW-11	W-R2330021-110116-JPM-010	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330022-042617-DMS-018	4/26/2017																		
MW-11	W-R2330022-042617-DMS-018	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330022-102717-AFB-034	10/28/2017																		
MW-11	W-R2330022-102717-AFB-034	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330024-042618-DMS-032	4/26/2018																		
MW-11	W-R2330024-042618-DMS-032	4/26/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330009-050213-MJF-011	5/2/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-12 ^A	W-R2330012-121114-JCH-021	12/1/2014																		
MW-12	W-R2330012-121114-JCH-021	12/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-12 ^A	W-R2330017-031715-ACN-011	3/17/2015																		
MW-12	W-R2330017-031715-ACN-011	3/17/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-12 ^A	W-R2330017-112015-AFB-032	11/20/2015																		
MW-12	W-R2330017-112015-AFB-032	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330017-112015-AFB-DUP2	11/20/2015																		
MW-12	W-R2330017-112015-AFB-DUP2	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330021-042116-AFB-027	4/21/2016																		
MW-12	W-R2330021-042116-AFB-027	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330021-110416-JPM-035	11/4/2016																		
MW-12	W-R2330021-110416-JPM-035	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330022-042817-AFB-032	4/28/2017																		
MW-12	W-R2330022-042817-AFB-032	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330022-102417-DMS-010	10/24/2017																		
MW-12	W-R2330022-102417-DMS-010	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A (DUP)	W-R2330022-102417-DMS-011	10/24/2017																		
MW-12 (DUP)	W-R2330022-102417-DMS-011	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330024-042518-DMS-020	4/25/2018																		
MW-12	W-R2330024-042518-DMS-020	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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)																	
			Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	Bis(2-ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzy phthalate	Carbazole	Dibenzofuran	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-in}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-11	W-R2330012-032614-ACN-002	3/26/2014	<3.0	<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
MW-11 ^A	W-R2330012-091514-ACN-003	9/15/2014																		
MW-11	W-R2330012-091514-ACN-003	9/15/2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5.0	NS	NS
MW-11 ^A	W-R2330012-121114-JCH-017	12/1/2014																		
MW-11	W-R2330012-121114-JCH-017	12/1/2014	<3.0	<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
MW-11 ^A	W-R2330017-031715-ACN-009	3/17/2015																		
MW-11	W-R2330017-031715-ACN-009	3/17/2015	<3.0	<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
MW-11 ^A	W-R2330017-111915-AEP-019	11/19/2015																		
MW-11	W-R2330017-111915-AEP-019	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330021-042116-JPM-021	4/21/2016																		
MW-11	W-R2330021-042116-JPM-021	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330021-110116-JPM-010	11/1/2016																		
MW-11	W-R2330021-110116-JPM-010	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330022-042617-DMS-018	4/26/2017																		
MW-11	W-R2330022-042617-DMS-018	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330022-102717-AFB-034	10/28/2017																		
MW-11	W-R2330022-102717-AFB-034	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330024-042618-DMS-032	4/26/2018																		
MW-11	W-R2330024-042618-DMS-032	4/26/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330009-050213-MJF-011	5/2/2013	<3.0	<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
MW-12 ^A	W-R2330009-080713-ZTR-003	8/7/2013																		
MW-12	W-R2330009-080713-ZTR-003	8/7/2013	<3.0	<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
MW-12 ^A	W-R2330009-111313-ACN-007	11/13/2013																		
MW-12	W-R2330009-111313-ACN-007	11/13/2013	<3.0	<10	<10	<5.0	<10	<10	<5.0	0.24 J	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0
MW-12 ^A	W-R2330012-032714-ACN-005	3/27/2014																		
MW-12	W-R2330012-032714-ACN-005	3/27/2014	<3.0	<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
MW-12 ^A	W-R2330012-121114-JCH-021	12/1/2014																		
MW-12	W-R2330012-121114-JCH-021	12/1/2014	<3.0	<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
MW-12 ^A	W-R2330017-031715-ACN-011	3/17/2015																		
MW-12	W-R2330017-031715-ACN-011	3/17/2015	<3.0	<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
MW-12 ^A	W-R2330017-112015-AFB-032	11/20/2015																		
MW-12	W-R2330017-112015-AFB-032	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330017-112015-AFB-DUP2	11/20/2015																		
MW-12	W-R2330017-112015-AFB-DUP2	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330021-042116-AFB-027	4/21/2016																		
MW-12	W-R2330021-042116-AFB-027	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330021-110416-JPM-035	11/4/2016																		
MW-12	W-R2330021-110416-JPM-035	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330022-042817-AFB-032	4/28/2017																		
MW-12	W-R2330022-042817-AFB-032	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330022-102417-DMS-010	10/24/2017																		
MW-12	W-R2330022-102417-DMS-010	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A (DUP)	W-R2330022-102417-DMS-011	10/24/2017																		
MW-12 (DUP)	W-R2330022-102417-DMS-011	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330024-042518-DMS-020	4/25/2018																		
MW-12	W-R2330024-042518-DMS-020	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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												
	Di-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P.R)	Iron (B)		
	Non-residential Drinking Water Criteria (II)	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)	
	Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	
	Ground Water Surface Water Interface Criteria (GSI) (III)	9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	
	GSI Final Acute Value (FAV)	75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	
	Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
	Groundwater Concentration for Vapor Intrusion (GW _{VI-in}) (a)	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
	Water Solubility (VII)	11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)	NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID		
ID	SAMPLE ID	SAMPLE DATE																		
MW-11	W-R2330012-032614-ACN-002	3/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	7.4 J	0.096 J	<5.0	47 J	<1.0	<1.0	<10	0.80 J	0.96 J	<0.005	110 J
MW-11 ^A	W-R2330012-091514-ACN-003	9/15/2014								26 J	0.10 J	1.2 J	72 J	<1.0	0.047 J	<10	0.57 J	0.76 J		500
MW-11	W-R2330012-091514-ACN-003	9/15/2014	NS	NS	NS	NS	NS	NS	NS	2.7 J	0.15 J	1.1 J	75 J	<1.0	<1.0	<10	1.1 J	1.4 J	NS	500
MW-11 ^A	W-R2330012-121114-JCH-017	12/1/2014								47 J	<2.0	<5.0	58 J	<1.0	0.087 J	0.23 J	0.67 J	4.3		220
MW-11	W-R2330012-121114-JCH-017	12/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	4.7 J	<2.0	0.65 J	69 J	<1.0	0.052 J	<10	0.67 J	1.1 J	<5.0	320
MW-11 ^A	W-R2330017-031715-ACN-009	3/17/2015								65	<2.0	<5.0	20 J	<1.0	0.39 J	2.5 J	0.30 J	1.2 J		110 J
MW-11	W-R2330017-031715-ACN-009	3/17/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	10 J	0.17 J	<5.0	20 J	<1.0	0.29 J	0.16 J	0.47 J	0.78 J	<5.0	<200
MW-11 ^A	W-R2330017-111915-AEP-019	11/19/2015								17 J	NS	NS	NS	NS	NS	NS	NS	NS		480
MW-11	W-R2330017-111915-AEP-019	11/19/2015	NS	NS	NS	NS	NS	NS	NS	2.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	470
MW-11 ^A	W-R2330021-042116-JPM-021	4/21/2016								390	NS	NS	NS	NS	NS	NS	NS	NS		700
MW-11	W-R2330021-042116-JPM-021	4/21/2016	NS	NS	NS	NS	NS	NS	NS	7.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	230
MW-11 ^A	W-R2330021-110116-JPM-010	11/1/2016								350	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,700
MW-11	W-R2330021-110116-JPM-010	11/1/2016	NS	NS	NS	NS	NS	NS	NS	7.8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,100
MW-11 ^A	W-R2330022-042617-DMS-018	4/26/2017								93	NS	NS	NS	NS	NS	NS	NS	NS	NS	350
MW-11	W-R2330022-042617-DMS-018	4/26/2017	NS	NS	NS	NS	NS	NS	NS	5.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	24 J
MW-11 ^A	W-R2330022-102717-AFB-034	10/28/2017								69	NS	NS	NS	NS	NS	NS	NS	NS	NS	310
MW-11	W-R2330022-102717-AFB-034	10/28/2017	NS	NS	NS	NS	NS	NS	NS	4.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	240
MW-11 ^A	W-R2330024-042618-DMS-032	4/26/2018								20	NS	NS	NS	NS	NS	NS	NS	NS	NS	150
MW-11	W-R2330024-042618-DMS-032	4/26/2018	NS	NS	NS	NS	NS	NS	NS	3.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	<80
MW-12	W-R2330009-050213-MJF-011	5/2/2013	1.2 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
MW-12	W-R2330009-080713-ZTR-003	8/7/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
MW-12 ^A	W-R2330009-111313-ACN-007	11/13/2013								89	0.16 J	0.79 J	1,600	0.13 J	0.33 J	1.0 J	1.5 J	1.5 J		12,000
MW-12	W-R2330009-111313-ACN-007	11/13/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	6.9 J	0.16 J	0.85 J	1,500	<1.0	0.68 J	0.99 J	1.9 J	1.3 J	<0.005	12,000
MW-12 ^A	W-R2330012-032714-ACN-005	3/27/2014								61	0.18 J	0.82 J	1,200	<1.0	<1.0	0.53 J	1.9 J	3.6 J		8,800
MW-12	W-R2330012-032714-ACN-005	3/27/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	4.9 J	0.19 J	<5.0	1,300	<1.0	<1.0	0.43 J	1.5 J	4.6	2.2 J	9,100
MW-12 ^A	W-R2330012-121114-JCH-021	12/1/2014								1,200	0.31 J	2.7 J	1,600	<1.0	0.090 J	2.6 J	1.3 J	3.9 J		14,000
MW-12	W-R2330012-121114-JCH-021	12/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	15 J	0.22 J	<5.0	1,600	<1.0	<1.0	0.55 J	0.86 J	<4.0	<5.0	12,000
MW-12 ^A	W-R2330017-031715-ACN-011	3/17/2015								1,000	0.31 J	1.4 J	1,800	<1.0	<1.0	2.2 J	1.9 J	7.6		14,000
MW-12	W-R2330017-031715-ACN-011	3/17/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	5.1 J	0.58 J	<5.0	1,500	<1.0	<1.0	0.58 J	1.4 J	1.3 J	<5.0	12,000
MW-12 ^A	W-R2330017-112015-AFB-032	11/20/2015								340	NS	NS	NS	NS	NS	NS	NS	NS		12,000
MW-12	W-R2330017-112015-AFB-032	11/20/2015	NS	NS	NS	NS	NS	NS	NS	7.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000
MW-12 ^A	W-R2330017-112015-AFB-DUP2	11/20/2015								380	NS	NS	NS	NS	NS	NS	NS	NS		12,000
MW-12	W-R2330017-112015-AFB-DUP2	11/20/2015	NS	NS	NS	NS	NS	NS	NS	7.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000
MW-12 ^A	W-R2330021-042116-AFB-027	4/21/2016								60	NS	NS	NS	NS	NS	NS	NS	NS		4,900
MW-12	W-R2330021-042116-AFB-027	4/21/2016	NS	NS	NS	NS	NS	NS	NS	13 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,100
MW-12 ^A	W-R2330021-110416-JPM-035	11/4/2016								150	NS	NS	NS	NS	NS	NS	NS	NS	NS	13,000
MW-12	W-R2330021-110416-JPM-035	11/4/2016	NS	NS	NS	NS	NS	NS	NS	27 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	12,000
MW-12 ^A	W-R2330022-042817-AFB-032	4/28/2017								36 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	9,400
MW-12	W-R2330022-042817-AFB-032	4/28/2017	NS	NS	NS	NS	NS	NS	NS	12 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	9,000
MW-12 ^A	W-R2330022-102417-DMS-010	10/24/2017								530	NS	NS	NS	NS	NS	NS	NS	NS	NS	13,000
MW-12	W-R2330022-102417-DMS-010	10/24/2017	NS	NS	NS	NS	NS	NS	NS	8.8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	12,000
MW-12 ^A (DUP)	W-R2330022-102417-DMS-011	10/24/2017								410	NS	NS	NS	NS	NS	NS	NS	NS	NS	12,000
MW-12 (DUP)	W-R2330022-102417-DMS-011	10/24/2017	NS	NS	NS	NS	NS	NS	NS	6.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	12,000
MW-12 ^A	W-R2330024-042518-DMS-020	4/25/																		

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-11	W-R2330012-032614-ACN-002	3/26/2014	<3.0	<50	54	<0.2	3.3 J	0.83 J	<0.20	0.098 J	0.28 J	<50.0
MW-11 ^A	W-R2330012-091514-ACN-003	9/15/2014	<3.0	<50	68	0.062 J	2.5 J	<5.0	<0.20	<2.0	0.28 J	2.8 J
MW-11	W-R2330012-091514-ACN-003	9/15/2014	<3.0	<50	68	0.064 J	2.6 J	<5.0	<0.20	<2.0	0.20 J	3.2 J
MW-11 ^A	W-R2330012-121114-JCH-017	12/1/2014	<3.0	<50	110	<0.2	3.3 J	<5.0	<0.20	<2.0	0.48 J	7.3 J
MW-11	W-R2330012-121114-JCH-017	12/1/2014	<3.0	<50	96	<0.2	2.9 J	0.93 J	<0.20	<2.0	<4.0	3.5 J
MW-11 ^A	W-R2330017-031715-ACN-009	3/17/2015	<3.0	<50	130	<0.2	3.5 J	0.92 J	<0.20	<2.0	<4.0	<50
MW-11	W-R2330017-031715-ACN-009	3/17/2015	<3.0	<50	4.8 J	<0.2	1.7 J	1.0 J	<0.20	<2.0	<4.0	<50
MW-11 ^A	W-R2330017-111915-AEP-019	11/19/2015	NS	29,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330017-111915-AEP-019	11/19/2015	NS	29,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330021-042116-JPM-021	4/21/2016	NS	NS	310	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330021-042116-JPM-021	4/21/2016	NS	NS	19 J	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330021-110116-JPM-010	11/1/2016	NS	NS	190	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330021-110116-JPM-010	11/1/2016	NS	NS	140	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330022-042617-DMS-018	4/26/2017	NS	29,000	95	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330022-042617-DMS-018	4/26/2017	NS	25,000	17 J	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330022-102717-AFB-034	10/28/2017	NS	NS	180	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330022-102717-AFB-034	10/28/2017	NS	NS	160	NS	NS	NS	NS	NS	NS	NS
MW-11 ^A	W-R2330024-042618-DMS-032	4/26/2018	NS	NS	85	NS	NS	NS	NS	NS	NS	NS
MW-11	W-R2330024-042618-DMS-032	4/26/2018	NS	NS	12	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330009-050213-MJF-011	5/2/2013	0.17 J	<50	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	0.36 J	<50	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	0.062 J	<50	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	0.26 J	<50	210	<0.2	4.5 J	<5.0	<0.20	0.12 J	1.3 J	3.4 J
MW-12	W-R2330009-111313-ACN-007	11/13/2013	<3.0	<50	190	<0.2	4.7 J	<5.0	<0.20	<2.0	0.97 J	2.2 J
MW-12 ^A	W-R2330012-032714-ACN-005	3/27/2014	0.24 J	<50	750	<0.2	7.0 J	<5.0	<0.20	<2.0	1.1 J	4.1 J
MW-12	W-R2330012-032714-ACN-005	3/27/2014	0.22 J	<50	660	<0.2	8.4 J	<5.0	<0.20	<2.0	1.1 J	5.8 J
MW-12 ^A	W-R2330012-121114-JCH-021	12/1/2014	1.3 J	<50	310	<0.2	3.5 J	<5.0	0.040 J	<2.0	4.5	8.1 J
MW-12	W-R2330012-121114-JCH-021	12/1/2014	<3.0	<50	340	<0.2	1.7 J	<5.0	0.064 J	<2.0	1.0 J	<50
MW-12 ^A	W-R2330017-031715-ACN-011	3/17/2015	2.2 J	<50	170	<0.2	6.5 J	<5.0	<0.20	<2.0	2.9 J	13 J
MW-12	W-R2330017-031715-ACN-011	3/17/2015	<3.0	<50	140	<0.2	4.4 J	<5.0	<0.20	<2.0	0.93 J	4.5 J
MW-12 ^A	W-R2330017-112015-AFB-032	11/20/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330017-112015-AFB-032	11/20/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330017-112015-AFB-DUP2	11/20/2015	NS	140,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330017-112015-AFB-DUP2	11/20/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330021-042116-AFB-027	4/21/2016	NS	NS	140	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330021-042116-AFB-027	4/21/2016	NS	NS	160	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330021-110416-JPM-035	11/4/2016	NS	NS	270	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330021-110416-JPM-035	11/4/2016	NS	NS	270	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330022-042817-AFB-032	4/28/2017	NS	66,000	740	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330022-042817-AFB-032	4/28/2017	NS	65,000	740	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330022-102417-DMS-010	10/24/2017	NS	NS	280	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330022-102417-DMS-010	10/24/2017	NS	NS	250	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A (DUP)	W-R2330022-102417-DMS-011	10/24/2017	NS	NS	280	NS	NS	NS	NS	NS	NS	NS
MW-12 (DUP)	W-R2330022-102417-DMS-011	10/24/2017	NS	NS	260	NS	NS	NS	NS	NS	NS	NS
MW-12 ^A	W-R2330024-042518-DMS-020	4/25/2018	NS	NS	400	NS	NS	NS	NS	NS	NS	NS
MW-12	W-R2330024-042518-DMS-020	4/25/2018	NS	NS	420	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-17 ^A	W-R2330012-091514-ACN-004	9/15/2014																		
MW-17	W-R2330012-091514-ACN-004	9/15/2014	NS	NS	NS	NS	NS	NS	<1.0	NS	NS	NS	NS	NS	<5.0	<5.0	NS	NS	NS	NS
MW-17 ^A (DUP)	W-R2330012-091514-ACN-005	9/15/2014																		
MW-17 (DUP)	W-R2330012-091514-ACN-005	9/15/2014	NS	NS	NS	NS	NS	NS	<1.0	NS	NS	NS	NS	NS	<5.0	<5.0	NS	NS	NS	NS
MW-17 ^A	W-R2330012-112414-MCW-004	11/24/2014																		
MW-17	W-R2330012-112414-MCW-004	11/24/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-17 ^A	W-R2330017-031615-ACN-007	3/16/2015																		
MW-17	W-R2330017-031615-ACN-007	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-17 ^A	W-R2330017-111715-AFB-009	11/17/2015																		
MW-17	W-R2330017-111715-AFB-009	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330021-041916-AEP-012	4/19/2016																		
MW-17	W-R2330021-041916-AEP-012	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330021-110116-AEM-009	11/1/2016																		
MW-17	W-R2330021-110116-AEM-009	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330022-042517-AFB-011	4/25/2017																		
MW-17	W-R2330022-042517-AFB-011	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330022-102617-AFB-023	10/26/2017																		
MW-17	W-R2330022-102617-AFB-023	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330024-042418-DMS-018	4/24/2018																		
MW-17	W-R2330024-042418-DMS-018	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-18 ^A	W-R2330012-112414-ACN-001	11/24/2014																		
MW-18	W-R2330012-112414-ACN-001	11/24/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-18 ^A	W-R2330017-031615-JCH-003	3/16/2015																		
MW-18	W-R2330017-031615-JCH-003	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.42 J
MW-18 ^A	W-R2330017-111715-JPM-007	11/17/2015																		
MW-18	W-R2330017-111715-JPM-007	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330021-041916-AEP-009	4/19/2016																		
MW-18	W-R2330021-041916-AEP-009	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330021-110316-AEM-025	11/3/2016																		
MW-18	W-R2330021-110316-AEM-025	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330022-042517-DMS-008	4/25/2017																		
MW-18	W-R2330022-042517-DMS-008	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330022-102517-AFB-018	10/25/2017																		
MW-18	W-R2330022-102517-AFB-018	10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330024-042518-JPM-027	4/25/2018																		
MW-18	W-R2330024-042518-JPM-027	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-19 ^A	W-R2330012-112414-ACN-002	11/24/2014																		
MW-19	W-R2330012-112414-ACN-002	11/24/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-19 ^A	W-R2330017-031615-JCH-004	3/16/2015																		
MW-19	W-R2330017-031615-JCH-004	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0

Table 2
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)																	
			Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NLV	NA	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-17 ^A	W-R2330012-052014-ACN-029	5/20/2014																		
MW-17	W-R2330012-052014-ACN-029	5/20/2014	<3.0	<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
MW-17 ^A	W-R2330012-091514-ACN-004	9/15/2014																		
MW-17	W-R2330012-091514-ACN-004	9/15/2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5.0	NS	NS
MW-17 ^A (DUP)	W-R2330012-091514-ACN-005	9/15/2014																		
MW-17 (DUP)	W-R2330012-091514-ACN-005	9/15/2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5.0	NS	NS
MW-17 ^A	W-R2330012-112414-MCW-004	11/24/2014																		
MW-17	W-R2330012-112414-MCW-004	11/24/2014	<3.0	<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
MW-17 ^A	W-R2330017-031615-ACN-007	3/16/2015																		
MW-17	W-R2330017-031615-ACN-007	3/16/2015	<3.0	<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
MW-17 ^A	W-R2330017-111715-AFB-009	11/17/2015																		
MW-17	W-R2330017-111715-AFB-009	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330021-041916-AEP-012	4/19/2016																		
MW-17	W-R2330021-041916-AEP-012	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330021-110116-AEM-009	11/1/2016																		
MW-17	W-R2330021-110116-AEM-009	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330022-042517-AFB-011	4/25/2017																		
MW-17	W-R2330022-042517-AFB-011	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330022-102617-AFB-023	10/26/2017																		
MW-17	W-R2330022-102617-AFB-023	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330024-042418-DMS-018	4/24/2018																		
MW-17	W-R2330024-042418-DMS-018	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330012-052014-ACN-026	5/20/2014																		
MW-18	W-R2330012-052014-ACN-026	5/20/2014	<3.0	<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
MW-18 ^A	W-R2330012-112414-ACN-001	11/24/2014																		
MW-18	W-R2330012-112414-ACN-001	11/24/2014	<3.0	<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
MW-18 ^A	W-R2330017-031615-JCH-003	3/16/2015																		
MW-18	W-R2330017-031615-JCH-003	3/16/2015	<3.0	<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
MW-18 ^A	W-R2330017-111715-JPM-007	11/17/2015																		
MW-18	W-R2330017-111715-JPM-007	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330021-041916-AEP-009	4/19/2016																		
MW-18	W-R2330021-041916-AEP-009	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330021-110316-AEM-025	11/3/2016																		
MW-18	W-R2330021-110316-AEM-025	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330022-042517-DMS-008	4/25/2017																		
MW-18	W-R2330022-042517-DMS-008	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330022-102517-AFB-018	10/25/2017																		
MW-18	W-R2330022-102517-AFB-018	10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330024-042518-JPM-027	4/25/2018																		
MW-18	W-R2330024-042518-JPM-027	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS					

Table 2
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												
	D,n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)		
	Non-residential Drinking Water Criteria (II)	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)	
	Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	
	Ground Water Surface Water Interface Criteria (GSI) (III)	9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	
	GSI Final Acute Value (FAV)	75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	
	Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
	Groundwater Concentration for Vapor Intrusion (GW _{VI-in}) (a)	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
	Water Solubility (VII)	11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)	NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID		
ID	SAMPLE ID	SAMPLE DATE																		
MW-17 ^A	W-R2330012-052014-ACN-029	5/20/2014						1,400	0.11 J	5.6	160	<1.0	<1.0	2.4 J	0.98 J	2.8 J		4,200		
MW-17	W-R2330012-052014-ACN-029	5/20/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	51	0.063 J	4.5 J	150	<1.0	<1.0	<10	0.23 J	<4.0	<0.005	2,100
MW-17 ^A	W-R2330012-091514-ACN-004	9/15/2014						980	0.063 J	5.8	150	<1.0	0.056 J	1.5 J	0.80 J	2.2 J		3,600		
MW-17	W-R2330012-091514-ACN-004	9/15/2014	NS	NS	NS	NS	NS	NS	NS	21 J	0.093 J	5.1	150	<1.0	<1.0	<10	0.65 J	0.96 J	NS	2,500
MW-17 ^A (DUP)	W-R2330012-091514-ACN-005	9/15/2014						1,200	0.071 J	6.0	150	<1.0	<1.0	2.2 J	0.85 J	3.2 J		3,800		
MW-17 (DUP)	W-R2330012-091514-ACN-005	9/15/2014	NS	NS	NS	NS	NS	NS	NS	19 J	0.042 J	5.3	140	<1.0	<1.0	0.50 J	0.50 J	0.94 J	NS	2,500
MW-17 ^A	W-R2330012-112414-MCW-004	11/24/2014						700	<2.0	6.3	190	<1.0	0.075 J	1.6 J	0.61 J	1.7 J		4,100		
MW-17	W-R2330012-112414-MCW-004	11/24/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	18 J	<2.0	5.8	190	<1.0	<1.0	<10	0.25 J	0.23 J	<5.0	3,000
MW-17 ^A	W-R2330017-031615-ACN-007	3/16/2015						2,000	<2.0	5.1	260	<1.0	0.45 J	2.9 J	1.4 J	4.2		5,300		
MW-17	W-R2330017-031615-ACN-007	3/16/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	9.8 J	<2.0	2.7 J	240	<1.0	0.050 J	0.14 J	0.62 J	1.0 J	<5.0	2,300
MW-17 ^A	W-R2330017-111715-AFB-009	11/17/2015						990	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		4,600
MW-17	W-R2330017-111715-AFB-009	11/17/2015	NS	NS	NS	NS	NS	NS	NS	8.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,600
MW-17 ^A	W-R2330021-041916-AEP-012	4/19/2016						310	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		3,600
MW-17	W-R2330021-041916-AEP-012	4/19/2016	NS	NS	NS	NS	NS	NS	NS	6.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,400
MW-17 ^A	W-R2330021-110116-AEM-009	11/1/2016						140	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,700
MW-17	W-R2330021-110116-AEM-009	11/1/2016	NS	NS	NS	NS	NS	NS	NS	7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,400
MW-17 ^A	W-R2330022-042517-AFB-011	4/25/2017						1,300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,500
MW-17	W-R2330022-042517-AFB-011	4/25/2017	NS	NS	NS	NS	NS	NS	NS	17 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,300
MW-17 ^A	W-R2330022-102617-AFB-023	10/26/2017						860	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,200
MW-17	W-R2330022-102617-AFB-023	10/26/2017	NS	NS	NS	NS	NS	NS	NS	11	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,200
MW-17 ^A	W-R2330024-042418-DMS-018	4/24/2018						400	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,500
MW-17	W-R2330024-042418-DMS-018	4/24/2018	NS	NS	NS	NS	NS	NS	NS	7.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,400
MW-18 ^A	W-R2330012-052014-ACN-026	5/20/2014						5,400	0.35 J	10	400	0.23 J	0.28 J	8.8 J	5.6 J	11		13,000		
MW-18	W-R2330012-052014-ACN-026	5/20/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	56	0.24 J	5.1	370	0.097 J	0.16 J	0.30 J	1.3 J	<4.0	<0.005	2,000
MW-18 ^A	W-R2330012-112414-ACN-001	11/24/2014						25,000	1.0 J	46	730	1.2	1.4	48	34	74		72,000		
MW-18	W-R2330012-112414-ACN-001	11/24/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	45 J	0.18 J	11	550	<1.0	0.088 J	<10	0.59 J	0.21 J	<5.0	3,600
MW-18 ^A	W-R2330017-031615-JCH-003	3/16/2015						28,000	1.3 J	51	740	0.77 J	1.4	35	25	60		60,000		
MW-18	W-R2330017-031615-JCH-003	3/16/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	23 J	0.16 J	6.7	450	<1.0	0.041 J	0.15 J	0.97 J	1.5 J	<5.0	2,800
MW-18 ^A	W-R2330017-111715-JPM-007	11/17/2015						2,200	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		7,200
MW-18	W-R2330017-111715-JPM-007	11/17/2015	NS	NS	NS	NS	NS	NS	NS	22 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,900
MW-18 ^A	W-R2330021-041916-AEP-009	4/19/2016						2,100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		4,400
MW-18	W-R2330021-041916-AEP-009	4/19/2016	NS	NS	NS	NS	NS	NS	NS	29 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,300
MW-18 ^A	W-R2330021-110316-AEM-025	11/3/2016						96	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,100
MW-18	W-R2330021-110316-AEM-025	11/3/2016	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,800
MW-18 ^A	W-R2330022-042517-DMS-008	4/25/2017						2,300	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,900
MW-18	W-R2330022-042517-DMS-008	4/25/2017	NS	NS	NS	NS	NS	NS	NS	15 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,300
MW-18 ^A	W-R2330022-102517-AFB-018	10/25/2017						5,100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	17,000
MW-18	W-R2330022-102517-AFB-018	10/25/2017	NS	NS	NS	NS	NS	NS	NS	23	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600
MW-18 ^A	W-R2330024-042518-JPM-027	4/25/2018						7,500	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26,000
MW-18	W-R2330024-042518-JPM-027	4/25/2018	NS	NS	NS	NS	NS	NS	NS	64	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,100
MW-19 ^A	W-R2330012-052014-ACN-027	5/20/2014						1,900	0.089 J	6.2	350	<1.0	0.062 J	3.5 J	1.5 J	3.4 J		5,300		
MW-19	W-R2330012-052014-ACN-027	5/20/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	120	0.12 J	4.5 J	320	<1.0	<1.0	0.53 J	1.1 J	0.87 J	1.2 J	2,400
MW-19 ^A	W-R2330012-112414-ACN-002	11/24/2014						7,900	0.49 J	14	380	0.34 J	0.27 J	16	6.7 J	17		16,000		
MW-19	W-R2330012-112414-ACN-002	11/24/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	74	0.15 J	6.3	330	<1.0	0.054 J	0.30 J	0.93 J	0.18 J	<5.0	2,000
MW-19 ^A	W-R2330017-031615-JCH-004</																			

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-17 ^A	W-R2330012-052014-ACN-029	5/20/2014	2.2 J	<50	210	<0.2	3.6 J	<5.0	<0.20	<2.0	4.3	7.9 J
MW-17	W-R2330012-052014-ACN-029	5/20/2014	0.052 J	<50	180	<0.2	1.2 J	<5.0	<0.20	<2.0	0.65 J	1.7 J
MW-17 ^A	W-R2330012-091514-ACN-004	9/15/2014	1.8 J	<50	240	0.064 J	4.4 J	<5.0	<0.20	<2.0	2.8 J	7.9 J
MW-17	W-R2330012-091514-ACN-004	9/15/2014	<3.0	<50	220	0.064 J	3.0 J	<5.0	<0.20	<2.0	0.36 J	3.1 J
MW-17 ^A (DUP)	W-R2330012-091514-ACN-005	9/15/2014	1.8 J	<50	240	0.063 J	4.7 J	<5.0	<0.20	<2.0	2.9 J	7.7 J
MW-17 (DUP)	W-R2330012-091514-ACN-005	9/15/2014	<3.0	<50	230	0.058 J	3.0 J	<5.0	<0.20	<2.0	0.32 J	2.9 J
MW-17 ^A	W-R2330012-112414-MCW-004	11/24/2014	1.5 J	<50	300	<0.2	2.2 J	<5.0	<0.20	<2.0	2.4 J	9.6 J
MW-17	W-R2330012-112414-MCW-004	11/24/2014	<3.0	<50	280	<0.2	0.74 J	<5.0	<0.20	<2.0	<4.0	3.4 J
MW-17 ^A	W-R2330017-031615-ACN-007	3/16/2015	3.4	<50	330	<0.2	6.4 J	<5.0	<0.20	<2.0	3.7 J	11 J
MW-17	W-R2330017-031615-ACN-007	3/16/2015	<3.0	<50	320	<0.2	3.5 J	<5.0	<0.20	<2.0	<4.0	3.2 J
MW-17 ^A	W-R2330017-111715-AFB-009	11/17/2015	NS	22,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-17	W-R2330017-111715-AFB-009	11/17/2015	NS	21,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330021-041916-AEP-012	4/19/2016	NS	NS	400	NS	NS	NS	NS	NS	NS	NS
MW-17	W-R2330021-041916-AEP-012	4/19/2016	NS	NS	380	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330021-110116-AEM-009	11/1/2016	NS	NS	3,900	NS	NS	NS	NS	NS	NS	NS
MW-17	W-R2330021-110116-AEM-009	11/1/2016	NS	NS	410	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330022-042517-AFB-011	4/25/2017	NS	23,000	420	NS	NS	NS	NS	NS	NS	NS
MW-17	W-R2330022-042517-AFB-011	4/25/2017	NS	23,000	430	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330022-102617-AFB-023	10/26/2017	NS	NS	440	NS	NS	NS	NS	NS	NS	NS
MW-17	W-R2330022-102617-AFB-023	10/26/2017	NS	NS	440	NS	NS	NS	NS	NS	NS	NS
MW-17 ^A	W-R2330024-042418-DMS-018	4/24/2018	NS	NS	510	NS	NS	NS	NS	NS	NS	NS
MW-17	W-R2330024-042418-DMS-018	4/24/2018	NS	NS	500	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330012-052014-ACN-026	5/20/2014	6.9	<50	600	<0.2	15 J	1.6 J	0.047 J	0.18 J	16	27 J
MW-18	W-R2330012-052014-ACN-026	5/20/2014	0.20 J	<50	250	<0.2	3.1 J	<5.0	<0.20	0.21 J	0.61 J	2.9 J
MW-18 ^A	W-R2330012-112414-ACN-001	11/24/2014	52	<50	3,800	0.030 J	79	8.0	0.17 J	1.3 J	90	200
MW-18	W-R2330012-112414-ACN-001	11/24/2014	<3.0	<50	210	<0.2	1.9 J	<5.0	<0.20	<2.0	<4.0	3.6 J
MW-18 ^A	W-R2330017-031615-JCH-003	3/16/2015	45	<50	2700	<0.2	71	2.5 J	0.16 J	0.91 J	67	170
MW-18	W-R2330017-031615-JCH-003	3/16/2015	<3.0	<50	180	<0.2	5.3 J	<5.0	<0.20	<2.0	<4.0	4.6 J
MW-18 ^A	W-R2330017-111715-JPM-007	11/17/2015	NS	30,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	W-R2330017-111715-JPM-007	11/17/2015	NS	25,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330021-041916-AEP-009	4/19/2016	NS	NS	220	NS	NS	NS	NS	NS	NS	NS
MW-18	W-R2330021-041916-AEP-009	4/19/2016	NS	NS	140	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330021-110316-AEM-025	11/3/2016	NS	NS	180	NS	NS	NS	NS	NS	NS	NS
MW-18	W-R2330021-110316-AEM-025	11/3/2016	NS	NS	180	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330022-042517-DMS-008	4/25/2017	NS	44,000	420	NS	NS	NS	NS	NS	NS	NS
MW-18	W-R2330022-042517-DMS-008	4/25/2017	NS	18,000	150	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330022-102517-AFB-018	10/25/2017	NS	NS	880	NS	NS	NS	NS	NS	NS	NS
MW-18	W-R2330022-102517-AFB-018	10/25/2017	NS	NS	160	NS	NS	NS	NS	NS	NS	NS
MW-18 ^A	W-R2330024-042518-JPM-027	4/25/2018	NS	NS	1700	NS	NS	NS	NS	NS	NS	NS
MW-18	W-R2330024-042518-JPM-027	4/25/2018	NS	NS	130	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330012-052014-ACN-027	5/20/2014	1.6 J	<50	350	<0.2	5.3 J	<5.0	<0.20	<2.0	6.3	9.2 J
MW-19	W-R2330012-052014-ACN-027	5/20/2014	0.088 J	<50	300	<0.2	1.9 J	<5.0	<0.20	<2.0	1.3 J	2.5 J
MW-19 ^A	W-R2330012-112414-ACN-002	11/24/2014	9.7	<50	560	<0.2	21	1.7 J	0.080 J	<2.0	24	53
MW-19	W-R2330012-112414-ACN-002	11/24/2014	<3.0	<50	350	<0.2	1.8 J	<5.0	<0.20	<2.0	0.48 J	3.9 J
MW-19 ^A	W-R2330017-031615-JCH-004	3/16/2015	1.7 J	<50	520	<0.2	9.4 J	0.82 J	<0.20	<2.0	4.2	11 J
MW-19	W-R2330017-031615-JCH-004	3/16/2015	<3.0	<50	460	<0.2	5.6 J	<5.0	<0.20	<2.0	0.53 J	3.7 J

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{V-in}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-19 ^A	W-R2330017-111715-AFB-008	11/17/2015																		
MW-19	W-R2330017-111715-AFB-008	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330021-041916-JPM-010	4/19/2016																		
MW-19	W-R2330021-041916-JPM-010	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	DUP 1	4/19/2016																		
MW-19	DUP 1	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330021-110316-AEM-027	11/3/2016																		
MW-19	W-R2330021-110316-AEM-027	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330022-042517-AFB-009	4/25/2017																		
MW-19	W-R2330022-042517-AFB-009	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330022-102517-DMS-019	10/25/2017																		
MW-19	W-R2330022-102517-DMS-019	10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330024-042518-JPM-029	4/25/2018																		
MW-19	W-R2330024-042518-JPM-029	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-20 ^A	W-R2330012-112414-ACN-003	11/24/2014																		
MW-20	W-R2330012-112414-ACN-003	11/24/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-20 ^A	W-R2330017-031615-ACN-005	3/16/2015																		
MW-20	W-R2330017-031615-ACN-005	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-20 ^A (DUP)	W-R2330017-031615-ACN-006	3/16/2015																		
MW-20 (DUP)	W-R2330017-031615-ACN-006	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-20 ^A	W-R2330017-111715-JPM-010	11/17/2015																		
MW-20	W-R2330017-111715-JPM-010	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330021-041916-JPM-011	4/19/2016																		
MW-20	W-R2330021-041916-JPM-011	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330021-110316-JPM-026	11/3/2016																		
MW-20	W-R2330021-110316-JPM-026	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330022-042517-DMS-010	4/25/2017																		
MW-20	W-R2330022-042517-DMS-010	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A (DUP)	W-R2330022-042517-DMS-012	4/25/2017																		
MW-20 (DUP)	W-R2330022-042517-DMS-012	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330022-102617-AFB-022	10/26/2017																		
MW-20	W-R2330022-102617-AFB-022	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330024-042518-JPM-030	4/25/2018																		
MW-20	W-R2330024-042518-JPM-030	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-21 ^A	W-R2330012-112514-ACN-006	11/25/2014																		
MW-21	W-R2330012-112514-ACN-006	11/25/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-21 ^A	W-R2330017-032015-JCH-023	3/20/2015																		
MW-21	W-R2330017-032015-JCH-023	3/20/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-21 ^A	W-R2330012-111815-JPM-013	11/18/2015																		
MW-21	W-R2330012-111815-JPM-013	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A (DUP)	DUP 1	11/18/2015																		
MW-21 (DUP)	DUP 1	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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)											
															Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol						
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05						
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA						
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA						
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV						
Groundwater Concentration for Vapor Intrusion (GW _{v-i}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA						
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06						
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA						
ID	SAMPLE ID	SAMPLE DATE																								
MW-19 ^A	W-R2330017-111715-AFB-008	11/17/2015																								
MW-19	W-R2330017-111715-AFB-008	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-19 ^A	W-R2330021-041916-JPM-010	4/19/2016																								
MW-19	W-R2330021-041916-JPM-010	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-19 ^A	DUP 1	4/19/2016																								
MW-19	DUP 1	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-19 ^A	W-R2330021-110316-AEM-027	11/3/2016																								
MW-19	W-R2330021-110316-AEM-027	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-19 ^A	W-R2330022-042517-AFB-009	4/25/2017																								
MW-19	W-R2330022-042517-AFB-009	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-19 ^A	W-R2330022-102517-DMS-019	10/25/2017																								
MW-19	W-R2330022-102517-DMS-019	10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-19 ^A	W-R2330024-042518-JPM-029	4/25/2018																								
MW-19	W-R2330024-042518-JPM-029	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-20 ^A	W-R2330012-052014-ACN-028	5/20/2014																								
MW-20	W-R2330012-052014-ACN-028	5/20/2014	<3.0	<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						
MW-20 ^A	W-R2330012-112414-ACN-003	11/24/2014																								
MW-20	W-R2330012-112414-ACN-003	11/24/2014	<3.0	<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						
MW-20 ^A	W-R2330017-031615-ACN-005	3/16/2015																								
MW-20	W-R2330017-031615-ACN-005	3/16/2015	<3.0	<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						
MW-20 ^A (DUP)	W-R2330017-031615-ACN-006	3/16/2015																								
MW-20 (DUP)	W-R2330017-031615-ACN-006	3/16/2015	<3.0	<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						
MW-20 ^A	W-R2330017-111715-JPM-010	11/17/2015																								
MW-20	W-R2330017-111715-JPM-010	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-20 ^A	W-R2330021-041916-JPM-011	4/19/2016																								
MW-20	W-R2330021-041916-JPM-011	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-20 ^A	W-R2330021-110316-JPM-026	11/3/2016																								
MW-20	W-R2330021-110316-JPM-026	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-20 ^A	W-R2330022-042517-DMS-010	4/25/2017																								
MW-20	W-R2330022-042517-DMS-010	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-20 ^A (DUP)	W-R2330022-042517-DMS-012	4/25/2017																								
MW-20 (DUP)	W-R2330022-042517-DMS-012	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-20 ^A	W-R2330022-102617-AFB-022	10/26/2017																								
MW-20	W-R2330022-102617-AFB-022	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-20 ^A	W-R2330024-042518-JPM-030	4/25/2018																								
MW-20	W-R2330024-042518-JPM-030	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-21 ^A	W-R2330012-051914-ACN-021	5/19/2014																								
MW-21	W-R2330012-051914-ACN-021	5/19/2014	<3.0	<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						
MW-21 ^A	W-R2330012-112514-ACN-006	11/25/2014																								
MW-21	W-R2330012-112514-ACN-006	11/25/2014	<3.0	<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						
MW-21 ^A	W-R2330017-032015-JCH-023	3/20/2015																								
MW-21	W-R2330017-032015-JCH-023	3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0						
MW-21 ^A	W-R2330012-111815-JPM-013	11/18/2015																								
MW-21	W-R2330012-111815-JPM-013	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						
MW-21 ^A (DUP)	DUP 1	11/18/2015																								
MW-21 (DUP)	DUP 1	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS						

Table 2
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											
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)	
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)	
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
Groundwater Concentration for Vapor Intrusion (GW _{V,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	
ID	SAMPLE ID	SAMPLE DATE																			
MW-19 ^A	W-R2330017-111715-AFB-008	11/17/2015								4,100	NS	NS	NS	NS	NS	NS	NS	NS		11,000	
MW-19	W-R2330017-111715-AFB-008	11/17/2015	NS	NS	NS	NS	NS	NS	NS	370	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,400	
MW-19 ^A	W-R2330021-041916-JPM-010	4/19/2016								1,300	NS	NS	NS	NS	NS	NS	NS	NS		5,100	
MW-19	W-R2330021-041916-JPM-010	4/19/2016	NS	NS	NS	NS	NS	NS	NS	25 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,100	
MW-19 ^A	DUP 1	4/19/2016								1,300	NS	NS	NS	NS	NS	NS	NS	NS		5,100	
MW-19	DUP 1	4/19/2016	NS	NS	NS	NS	NS	NS	NS	13 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,000	
MW-19 ^A	W-R2330021-110316-AEM-027	11/3/2016								190	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,000	
MW-19	W-R2330021-110316-AEM-027	11/3/2016	NS	NS	NS	NS	NS	NS	NS	26	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	
MW-19 ^A	W-R2330022-042517-AFB-009	4/25/2017								820	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,100	
MW-19	W-R2330022-042517-AFB-009	4/25/2017	NS	NS	NS	NS	NS	NS	NS	18 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,200	
MW-19 ^A	W-R2330022-102517-DMS-019	10/25/2017								320	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,100	
MW-19	W-R2330022-102517-DMS-019	10/25/2017	NS	NS	NS	NS	NS	NS	NS	13	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,900	
MW-19 ^A	W-R2330024-042518-JPM-029	4/25/2018								740	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,200	
MW-19	W-R2330024-042518-JPM-029	4/25/2018	NS	NS	NS	NS	NS	NS	NS	61	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,200	
MW-20 ^A	W-R2330012-052014-ACN-028	5/20/2014								1,800	0.15 J	9.5	340	<1.0	0.061 J	3.8 J	1.6 J	5.1		9,600	
MW-20	W-R2330012-052014-ACN-028	5/20/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	15 J	0.065 J	5.6	330	<1.0	<1.0	0.39 J	0.71 J	1.1 J	<0.005	4,900	
MW-20 ^A	W-R2330012-112414-ACN-003	11/24/2014								330	<2.0	8.8	290	<1.0	<1.0	0.90 J	0.49 J	1.2 J		4,200	
MW-20	W-R2330012-112414-ACN-003	11/24/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	100	<2.0	7.7	300	<1.0	<1.0	0.39 J	0.66 J	0.32 J	<5.0	3,600	
MW-20 ^A	W-R2330017-031615-ACN-005	3/16/2015								1,600	0.14 J	7.5	250	<1.0	<1.0	2.8 J	1.5 J	4.9		7,000	
MW-20	W-R2330017-031615-ACN-005	3/16/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	64	0.13 J	5.8	260	<1.0	<1.0	0.36 J	0.73 J	0.98 J	<5.0	4,200	
MW-20 ^A (DUP)	W-R2330017-031615-ACN-006	3/16/2015								1,600	0.13 J	7.6	250	<1.0	<1.0	2.8 J	1.5 J	4.7		7,100	
MW-20 (DUP)	W-R2330017-031615-ACN-006	3/16/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	43 J	<2.0	6.1	250	<1.0	<1.0	0.28 J	0.61 J	0.93 J	<5.0	4,900	
MW-20 ^A	W-R2330017-111715-JPM-010	11/17/2015								2,600	NS	NS	NS	NS	NS	NS	NS	NS		10,000	
MW-20	W-R2330017-111715-JPM-010	11/17/2015	NS	NS	NS	NS	NS	NS	NS	93	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,200	
MW-20 ^A	W-R2330021-041916-JPM-011	4/19/2016								46 J	NS	NS	NS	NS	NS	NS	NS	NS		3,500	
MW-20	W-R2330021-041916-JPM-011	4/19/2016	NS	NS	NS	NS	NS	NS	NS	4.0 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,600	
MW-20 ^A	W-R2330021-110316-JPM-026	11/3/2016								120	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,700	
MW-20	W-R2330021-110316-JPM-026	11/3/2016	NS	NS	NS	NS	NS	NS	NS	9.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,400	
MW-20 ^A	W-R2330022-042517-DMS-010	4/25/2017								200	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,500	
MW-20	W-R2330022-042517-DMS-010	4/25/2017	NS	NS	NS	NS	NS	NS	NS	10 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,300	
MW-20 ^A (DUP)	W-R2330022-042517-DMS-012	4/25/2017								200	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,500	
MW-20 (DUP)	W-R2330022-042517-DMS-012	4/25/2017	NS	NS	NS	NS	NS	NS	NS	8.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,400	
MW-20 ^A	W-R2330022-102617-AFB-022	10/26/2017								960	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,300	
MW-20	W-R2330022-102617-AFB-022	10/26/2017	NS	NS	NS	NS	NS	NS	NS	180	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,900	
MW-20 ^A	W-R2330024-042518-JPM-030	4/25/2018								680	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,900	
MW-20	W-R2330024-042518-JPM-030	4/25/2018	NS	NS	NS	NS	NS	NS	NS	45	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,900	
MW-21 ^A	W-R2330012-051914-ACN-021	5/19/2014								1,400	0.16 J	1.9 J	38 J	<1.0	<1.0	2.4 J	1.7 J	4.1		2,400	
MW-21	W-R2330012-051914-ACN-021	5/19/2014	0.87 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	48 J	0.16 J	<5.0	31 J	<1.0	<1.0	<10	0.91 J	1.2 J	<0.005	56 J	
MW-21 ^A	W-R2330012-112514-ACN-006	11/25/2014								480	0.15 J	1.1 J	81 J	<1.0	0.076 J	1.1 J	0.89 J	2.0 J		850	
MW-21	W-R2330012-112514-ACN-006	11/25/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	23 J	0.24 J	0.70 J	72 J	<1.0	0.061 J	0.22 J	0.70 J	0.98 J	<5.0	42 J	
MW-21 ^A	W-R2330017-032015-JCH-023	3/20/2015								3,000	0.23 J	2.2 J	73 J	<1.0	0.21 J	5.1 J	2.5 J	6.2		4,100	
MW-21	W-R2330017-032015-JCH-023	3/20/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	23 J	0.19 J	<5.0	62 J	<1.0	0.078 J	0.14 J	0.89 J	0.41 J	<5.0	20 J	
MW-21 ^A	W-R2330012-111815-JPM-013	11/18/2015								34 J	NS	NS	NS	NS	NS	NS	NS	NS		59 J	
MW-21	W-R2330012-111815-JPM-013	11/18/2015	NS	NS	NS	NS	NS	NS	NS	3.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11 J	
MW-21 ^A (DUP)	DUP 1	11/18/2015								27 J	NS	NS	NS	NS	NS	NS	NS	NS		47 J	
MW-21 (DUP)	DUP 1	11/18/2015	NS	NS	NS	NS	NS	NS	NS	3.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	10 J	

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-19 ^A	W-R2330017-111715-AFB-008	11/17/2015	NS	38,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-19	W-R2330017-111715-AFB-008	11/17/2015	NS	34,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330021-041916-JPM-010	4/19/2016	NS	NS	450	NS	NS	NS	NS	NS	NS	NS
MW-19	W-R2330021-041916-JPM-010	4/19/2016	NS	NS	420	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	DUP 1	4/19/2016	NS	NS	450	NS	NS	NS	NS	NS	NS	NS
MW-19	DUP 1	4/19/2016	NS	NS	420	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330021-110316-AEM-027	11/3/2016	NS	NS	360	NS	NS	NS	NS	NS	NS	NS
MW-19	W-R2330021-110316-AEM-027	11/3/2016	NS	NS	350	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330022-042517-AFB-009	4/25/2017	NS	27,000	360	NS	NS	NS	NS	NS	NS	NS
MW-19	W-R2330022-042517-AFB-009	4/25/2017	NS	28,000	370	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330022-102517-DMS-019	10/25/2017	NS	NS	520	NS	NS	NS	NS	NS	NS	NS
MW-19	W-R2330022-102517-DMS-019	10/25/2017	NS	NS	520	NS	NS	NS	NS	NS	NS	NS
MW-19 ^A	W-R2330024-042518-JPM-029	4/25/2018	NS	NS	390	NS	NS	NS	NS	NS	NS	NS
MW-19	W-R2330024-042518-JPM-029	4/25/2018	NS	NS	380	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330012-052014-ACN-028	5/20/2014	2.7 J	<50	280	<0.2	5.5 J	<5.0	<0.20	<2.0	6.4	11 J
MW-20	W-R2330012-052014-ACN-028	5/20/2014	<3.0	<50	200	<0.2	1.9 J	<5.0	<0.20	<2.0	0.57 J	1.1 J
MW-20 ^A	W-R2330012-112414-ACN-003	11/24/2014	0.69 J	<50	160	<0.2	1.9 J	<5.0	<0.20	<2.0	1.9 J	5.3 J
MW-20	W-R2330012-112414-ACN-003	11/24/2014	<3.0	<50	150	<0.2	1.4 J	<5.0	<0.20	<2.0	0.68 J	4.5 J
MW-20 ^A	W-R2330017-031615-ACN-005	3/16/2015	2.8 J	<50	210	<0.2	6.7 J	<5.0	<0.20	<2.0	4.0 J	12 J
MW-20	W-R2330017-031615-ACN-005	3/16/2015	<3.0	<50	170	<0.2	3.7 J	<5.0	<0.20	<2.0	0.52 J	<50
MW-20 ^A (DUP)	W-R2330017-031615-ACN-006	3/16/2015	2.8 J	<50	210	<0.2	6.7 J	<5.0	<0.20	<2.0	3.9 J	12 J
MW-20 (DUP)	W-R2330017-031615-ACN-006	3/16/2015	<3.0	<50	170	<0.2	3.7 J	<5.0	<0.20	<2.0	0.55 J	<50
MW-20 ^A	W-R2330017-111715-JPM-010	11/17/2015	NS	56,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-20	W-R2330017-111715-JPM-010	11/17/2015	NS	55,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330021-041916-JPM-011	4/19/2016	NS	NS	140	NS	NS	NS	NS	NS	NS	NS
MW-20	W-R2330021-041916-JPM-011	4/19/2016	NS	NS	150	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330021-110316-JPM-026	11/3/2016	NS	NS	170	NS	NS	NS	NS	NS	NS	NS
MW-20	W-R2330021-110316-JPM-026	11/3/2016	NS	NS	160	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330022-042517-DMS-010	4/25/2017	NS	46,000	180	NS	NS	NS	NS	NS	NS	NS
MW-20	W-R2330022-042517-DMS-010	4/25/2017	NS	50,000	180	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A (DUP)	W-R2330022-042517-DMS-012	4/25/2017	NS	46,000	180	NS	NS	NS	NS	NS	NS	NS
MW-20 (DUP)	W-R2330022-042517-DMS-012	4/25/2017	NS	50,000	190	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330022-102617-AFB-022	10/26/2017	NS	NS	160	NS	NS	NS	NS	NS	NS	NS
MW-20	W-R2330022-102617-AFB-022	10/26/2017	NS	NS	140	NS	NS	NS	NS	NS	NS	NS
MW-20 ^A	W-R2330024-042518-JPM-030	4/25/2018	NS	NS	180	NS	NS	NS	NS	NS	NS	NS
MW-20	W-R2330024-042518-JPM-030	4/25/2018	NS	NS	160	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A	W-R2330012-051914-ACN-021	5/19/2014	1.4 J	<50	60	<0.2	5.5 J	0.68 J	<0.20	<2.0	3.8 J	9.9 J
MW-21	W-R2330012-051914-ACN-021	5/19/2014	<3.0	<50	9.1 J	<0.2	1.9 J	<5.0	<0.20	<2.0	0.32 J	1.9 J
MW-21 ^A	W-R2330012-112514-ACN-006	11/25/2014	0.72 J	<50	52	<0.2	3.0 J	<5.0	<0.20	<2.0	1.8 J	8.2 J
MW-21	W-R2330012-112514-ACN-006	11/25/2014	<3.0	<50	37 J	<0.2	2.0 J	<5.0	<0.20	<2.0	<4.0	4.5 J
MW-21 ^A	W-R2330017-032015-JCH-023	3/20/2015	2.9 J	<50	100	<0.2	7.7 J	<5.0	0.038 J	<2.0	8.5	18 J
MW-21	W-R2330017-032015-JCH-023	3/20/2015	<3.0	<50	25 J	<0.2	2.0 J	<5.0	<0.20	<2.0	<4.0	<50
MW-21 ^A	W-R2330012-111815-JPM-013	11/18/2015	NS	21,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330012-111815-JPM-013	11/18/2015	NS	21,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A (DUP)	DUP 1	11/18/2015	NS	20,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-21 (DUP)	DUP 1	11/18/2015	NS	21,000	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene		
	Non-residential Drinking Water Criteria (II)	38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)	
	Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000	
	Ground Water Surface Water Interface Criteria (GSI) (III)	2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270	
	GSI Final Acute Value (FAV)	40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600	
	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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)	
	Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)	18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000	
	Water Solubility (VII)	2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05	
	Flammability & Explosivity Screening Level (VIII)	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000	
ID	SAMPLE ID	SAMPLE DATE	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
MW-21 ^A	W-R2330021-042016-JPM-015	4/20/2016																		
MW-21	W-R2330012-042016-JPM-015	4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A	W-R2330021-110316-AEM-021	11/3/2016																		
MW-21	W-R2330021-110316-AEM-021	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A	W-R2330022-042717-DMS-021	4/27/2017																		
MW-21	W-R2330022-042717-DMS-021	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A	W-R2330022-102517-DMS-015	10/25/2017																		
MW-21	W-R2330022-102517-DMS-015	10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330024-042418-JPM-013	4/24/2018																		
MW-21	W-R2330024-042418-JPM-013	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-22 ^A	W-R2330012-112514-ACN-007	11/25/2014																		
MW-22	W-R2330012-112514-ACN-007	11/25/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-22 ^A (DUP)	W-R2330012-112514-ACN-008	11/25/2014																		
MW-22 (DUP)	W-R2330012-112514-ACN-008	11/25/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-22 ^A	W-R2330017-032015-JCH-027	3/20/2015																		
MW-22	W-R2330017-032015-JCH-027	3/20/2015	<25	<1.0	<1.0	<50	12 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-22 ^A	W-R2330017-111815-JPM-014	11/18/2015																		
MW-22	W-R2330017-111815-JPM-014	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330021-042016-JPM-019	4/20/2016																		
MW-22	W-R2330021-042016-JPM-019	4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330021-110216-JPM-017	11/2/2016																		
MW-22	W-R2330021-110216-JPM-017	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330022-042717-DMS-023	4/27/2017																		
MW-22	W-R2330022-042717-DMS-023	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330022-102517-AFB-014	10/25/2017																		
MW-22	W-R2330022-102517-AFB-014	10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R220024-042418-JPM-015	4/24/2018																		
MW-22	W-R220024-042418-JPM-015	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	40	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A (DUP)	W-R2330012-051914-ACN-024	5/19/2014																		
MW-23 (DUP)	W-R2330012-051914-ACN-024	5/19/2014	<25	<1.0	<1.0	<50	<50	4.2	<1.0	<5.0	45	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A	W-R2330012-112514-ACN-009	11/25/2014																		
MW-23	W-R2330012-112514-ACN-009	11/25/2014	<25	<1.0	<1.0	<50	<50	5.4	<1.0	<5.0	89	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A	W-R2330017-032015-ACN-028	3/20/2015																		
MW-23	W-R2330017-032015-ACN-028	3/20/2015	<25	<1.0	<1.0	<50	<50	2.7	<1.0	<5.0	45	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A	W-R2330017-111815-JPM-016	11/18/2015																		
MW-23	W-R2330017-111815-JPM-016	11/18/2015	<25	<1.0	<1.0	<50	<50	4.1	<1.0	<5.0	72	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A	W-R2330021-042016-JPM-020	4/20/2016																		
MW-23	W-R2330021-042016-JPM-020	4/20/2016	<25	<1.0	<1.0	<50	<50	2.5	<1.0	<5.0	36	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A	W-R2330021-110216-JPM-016	11/2/2016																		
MW-23	W-R2330021-110216-JPM-016	11/2/2016	<25	<1.0	<1.0	<50	3.2 J	1.2	<1.0	<5.0	18	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A	W-R2330022-042717-DMS-024	4/27/2017																		
MW-23	W-R2330022-042717-DMS-024	4/27/2017	<25	<1.0	<1.0	<50	2.2 J	2.7	<1.0	<5.0	43	<5.0	<1.0	0.60 J	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0

Table 2
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)										
															Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol					
Non-residential Drinking Water Criteria (II)				280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05				
Non-residential Health-Based Drinking Water Value (E)				10,000	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)				41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA				
GSI Final Acute Value (FAV)				730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA				
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)				1.9E+05 (S)	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)	3.0E+05	NLV	NLV				
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)				10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA				
Water Solubility (VII)				1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06				
Flammability & Explosivity Screening Level (VIII)				70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA				
ID	SAMPLE ID		SAMPLE DATE																						
MW-21 ^A	W-R2330021-042016-JPM-015		4/20/2016																						
MW-21	W-R2330012-042016-JPM-015		4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-21 ^A	W-R2330021-110316-AEM-021		11/3/2016																						
MW-21	W-R2330021-110316-AEM-021		11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-21 ^A	W-R2330022-042717-DMS-021		4/27/2017																						
MW-21	W-R2330022-042717-DMS-021		4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-21 ^A	W-R2330022-102517-DMS-015		10/25/2017																						
MW-21	W-R2330022-102517-DMS-015		10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-21	W-R2330024-042418-JPM-013		4/24/2018																						
MW-21	W-R2330024-042418-JPM-013		4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-22 ^A	W-R2330012-051914-ACN-022		5/19/2014																						
MW-22	W-R2330012-051914-ACN-022		5/19/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	1.5 J	<10	<4.0	<5.0	1.2 J	<5.0				
MW-22 ^A	W-R2330012-112514-ACN-007		11/25/2014																						
MW-22	W-R2330012-112514-ACN-007		11/25/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	1.7 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0				
MW-22 ^A (DUP)	W-R2330012-112514-ACN-008		11/25/2014																						
MW-22 (DUP)	W-R2330012-112514-ACN-008		11/25/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	1.7 J	<5.0	<10	<4.0	<5.0	<5.0	<5.0				
MW-22 ^A	W-R2330017-032015-JCH-027		3/20/2015																						
MW-22	W-R2330017-032015-JCH-027		3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	1.0 J	<5.0	<10	<10	<4.0	<5.0	<5.0				
MW-22 ^A	W-R2330017-111815-JPM-014		11/18/2015																						
MW-22	W-R2330017-111815-JPM-014		11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-22 ^A	W-R2330021-042016-JPM-019		4/20/2016																						
MW-22	W-R2330021-042016-JPM-019		4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-22 ^A	W-R2330021-110216-JPM-017		11/2/2016																						
MW-22	W-R2330021-110216-JPM-017		11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-22 ^A	W-R2330022-042717-DMS-023		4/27/2017																						
MW-22	W-R2330022-042717-DMS-023		4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-22 ^A	W-R2330022-102517-AFB-014		10/25/2017																						
MW-22	W-R2330022-102517-AFB-014		10/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-22 ^A	W-R220024-042418-JPM-015		4/24/2018																						
MW-22	W-R220024-042418-JPM-015		4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-23 ^A	W-R2330012-051914-ACN-023		5/19/2014																						
MW-23	W-R2330012-051914-ACN-023		5/19/2014	<3.0	<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				
MW-23 ^A (DUP)	W-R2330012-051914-ACN-024		5/19/2014																						
MW-23 (DUP)	W-R2330012-051914-ACN-024		5/19/2014	<3.0	<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	<5.0				
MW-23 ^A	W-R2330012-112514-ACN-009		11/25/2014																						
MW-23	W-R2330012-112514-ACN-009		11/25/2014	<3.0	<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				
MW-23 ^A	W-R2330017-032015-ACN-028		3/20/2015																						
MW-23	W-R2330017-032015-ACN-028		3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	1.0	<5.0	1.6 J	<10	<4.0	<5.0	<5.0				
MW-23 ^A	W-R2330017-111815-JPM-016		11/18/2015																						
MW-23	W-R2330017-111815-JPM-016		11/18/2015	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-23 ^A	W-R2330021-042016-JPM-020		4/20/2016																						
MW-23	W-R2330021-042016-JPM-020		4/20/2016	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-23 ^A	W-R2330021-110216-JPM-016		11/2/2016																						
MW-23	W-R2330021-110216-JPM-016		11/2/2016	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-23 ^A	W-R2330022-042717-DMS-024		4/27/2017																						
MW-23	W-R2330022-042717-DMS-024		4/27/2017	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				

Table 2
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											
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)	
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)	
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
Groundwater Concentration for Vapor Intrusion (GW _{VI,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	
ID	SAMPLE ID	SAMPLE DATE																			
MW-21 ^A	W-R2330021-042016-JPM-015	4/20/2016								190	NS	NS	NS	NS	NS	NS	NS	NS		320	
MW-21	W-R2330012-042016-JPM-015	4/20/2016	NS	NS	NS	NS	NS	NS	NS	20 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	50 J	
MW-21 ^A	W-R2330021-110316-AEM-021	11/3/2016								16 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	36 J	
MW-21	W-R2330021-110316-AEM-021	11/3/2016	NS	NS	NS	NS	NS	NS	NS	5.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	14 J	
MW-21 ^A	W-R2330022-042717-DMS-021	4/27/2017								120	NS	NS	NS	NS	NS	NS	NS	NS	NS	220	
MW-21	W-R2330022-042717-DMS-021	4/27/2017	NS	NS	NS	NS	NS	NS	NS	6.8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	36 J	
MW-21 ^A	W-R2330022-102517-DMS-015	10/25/2017								140	NS	NS	NS	NS	NS	NS	NS	NS	NS	200	
MW-21	W-R2330022-102517-DMS-015	10/25/2017	NS	NS	NS	NS	NS	NS	NS	5.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	15 J	
MW-21	W-R2330024-042418-JPM-013	4/24/2018								270	NS	NS	NS	NS	NS	NS	NS	NS	NS	670	
MW-21	W-R2330024-042418-JPM-013	4/24/2018	NS	NS	NS	NS	NS	NS	NS	8.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	190	
MW-22 ^A	W-R2330012-051914-ACN-022	5/19/2014								8,100	0.78 J	14	540	<1.0	0.56 J	14	9.5 J	31		21,000	
MW-22	W-R2330012-051914-ACN-022	5/19/2014	0.88 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	23 J	0.24 J	4.3 J	440	<1.0	<1.0	<10	2.2 J	0.64 J	1.3 J	3,100	
MW-22 ^A	W-R2330012-112514-ACN-007	11/25/2014								200	0.18 J	16	1,300	<1.0	0.11 J	1.1 J	1.9 J	1.3 J		11,000	
MW-22	W-R2330012-112514-ACN-007	11/25/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	12 J	0.22 J	15	1,300	<1.0	<1.0	0.70 J	1.7 J	<4.0	<5.0	11,000	
MW-22 ^A (DUP)	W-R2330012-112514-ACN-008	11/25/2014								160	<2.0	16	1,300	<1.0	0.095 J	0.80 J	1.7 J	1.1 J		11,000	
MW-22 (DUP)	W-R2330012-112514-ACN-008	11/25/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	14 J	0.11 J	16	1,300	<1.0	<1.0	0.61 J	1.7 J	0.37 J	17	11,000	
MW-22 ^A	W-R2330017-032015-JCH-027	3/20/2015								340	0.17 J	14	1,300	<1.0	<1.0	1.3 J	2.2 J	4.0		13,000	
MW-22	W-R2330017-032015-JCH-027	3/20/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	4.1 J	0.23 J	13	1,400	<1.0	<1.0	0.54 J	2.1 J	1.8 J	6.0	12,000	
MW-22 ^A	W-R2330017-111815-JPM-014	11/18/2015								95	NS	NS	NS	NS	NS	NS	NS	NS		7,000	
MW-22	W-R2330017-111815-JPM-014	11/18/2015	NS	NS	NS	NS	NS	NS	NS	2.0 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,400	
MW-22 ^A	W-R2330021-042016-JPM-019	4/20/2016								37 J	NS	NS	NS	NS	NS	NS	NS	NS		6,500	
MW-22	W-R2330021-042016-JPM-019	4/20/2016	NS	NS	NS	NS	NS	NS	NS	41 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000	
MW-22 ^A	W-R2330021-110216-JPM-017	11/2/2016								58	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000	
MW-22	W-R2330021-110216-JPM-017	11/2/2016	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000	
MW-22 ^A	W-R2330022-042717-DMS-023	4/27/2017								17 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	8,500	
MW-22	W-R2330022-042717-DMS-023	4/27/2017	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,500	
MW-22 ^A	W-R2330022-102517-AFB-014	10/25/2017								41	NS	NS	NS	NS	NS	NS	NS	NS	NS	12,000	
MW-22	W-R2330022-102517-AFB-014	10/25/2017	NS	NS	NS	NS	NS	NS	NS	8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000	
MW-22 ^A	W-R220024-042418-JPM-015	4/24/2018								18	NS	NS	NS	NS	NS	NS	NS	NS	NS	9,400	
MW-22	W-R220024-042418-JPM-015	4/24/2018	NS	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	8,000	
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	
MW-23	W-R2330012-051914-ACN-023	5/19/2014	0.85 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	7.7 J	0.089 J	12	560	<1.0	<1.0	0.76 J	1.9 J	<4.0	<0.005	12,000	
MW-23 ^A (DUP)	W-R2330012-051914-ACN-024	5/19/2014								590	0.11 J	12	580	<1.0	<1.0	1.7 J	2.1 J	2.2 J		13,000	
MW-23 (DUP)	W-R2330012-051914-ACN-024	5/19/2014	0.91 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	8.5 J	0.076 J	12	550	<1.0	<1.0	0.70 J	1.8 J	<4.0	<0.005	11,000	
MW-23 ^A	W-R2330012-112514-ACN-009	11/25/2014								6,700	1.1 J	46	1,300	0.31 J	0.68 J	18	9.3 J	37		35,000	
MW-23	W-R2330012-112514-ACN-009	11/25/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	21 J	0.20 J	26	1,100	<1.0	0.037 J	1.3 J	2.4 J	0.18 J	<5.0	18,000	
MW-23 ^A	W-R2330017-032015-ACN-028	3/20/2015								650	0.20 J	17	940	<1.0	<1.0	2.2 J	3.1 J	3.7 J		17,000	
MW-23	W-R2330017-032015-ACN-028	3/20/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	6.7 J	0.21 J	16	860	<1.0	<1.0	0.96 J	2.8 J	2.3 J	<5.0	16,000	
MW-23 ^A	W-R2330017-111815-JPM-016	11/18/2015								180	NS	NS	NS	NS	NS	NS	NS	NS		14,000	
MW-23	W-R2330017-111815-JPM-016	11/18/2015	NS	NS	NS	NS	NS	NS	NS	5.0 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000	
MW-23 ^A	W-R2330021-042016-JPM-020	4/20/2016								190	NS	NS	NS	NS	NS	NS	NS	NS		15,000	
MW-23	W-R2330021-042016-JPM-020	4/20/2016	NS	NS	NS	NS	NS	NS	NS	9.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	16,000	
MW-23 ^A	W-R2330021-110216-JPM-016	11/2/2016								570	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000	
MW-23	W-R2330021-110216-JPM-016	11/2/2016	NS	NS	NS	NS	NS	NS	NS	11 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	8,000	
MW-23 ^A	W-R2330022-042717-DMS-024	4/27/2017								110	NS	NS	NS	NS	NS	NS	NS	NS	NS	13,000	
MW-23	W-R2330022-042717-DMS-024	4/27/2017	NS	NS	NS	NS	NS	NS	NS	4.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	13,000	

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-21 ^A	W-R2330021-042016-JPM-015	4/20/2016	NS	NS	4.6 J	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330012-042016-JPM-015	4/20/2016	NS	NS	3.8 J	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A	W-R2330021-110316-AEM-021	11/3/2016	NS	NS	35 J	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330021-110316-AEM-021	11/3/2016	NS	NS	36 J	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A	W-R2330022-042717-DMS-021	4/27/2017	NS	19,000	33 J	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330022-042717-DMS-021	4/27/2017	NS	20,000	24 J	NS	NS	NS	NS	NS	NS	NS
MW-21 ^A	W-R2330022-102517-DMS-015	10/25/2017	NS		46	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330022-102517-DMS-015	10/25/2017	NS		43	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330024-042418-JPM-013	4/24/2018	NS	NS	150	NS	NS	NS	NS	NS	NS	NS
MW-21	W-R2330024-042418-JPM-013	4/24/2018	NS	NS	120	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330012-051914-ACN-022	5/19/2014	19	<50	730	<0.2	23	2.7 J	<0.20	<2.0	24	81
MW-22	W-R2330012-051914-ACN-022	5/19/2014	0.079 J	<50	360	<0.2	3.2 J	<5.0	<0.20	<2.0	0.64 J	2.2 J
MW-22 ^A	W-R2330012-112514-ACN-007	11/25/2014	0.62 J	<50	250	<0.2	4.4 J	<5.0	<0.20	<2.0	1.1 J	6.8 J
MW-22	W-R2330012-112514-ACN-007	11/25/2014	<3.0	<50	240	<0.2	3.7 J	<5.0	<0.20	<2.0	<4.0	23 J
MW-22 ^A (DUP)	W-R2330012-112514-ACN-008	11/25/2014	<3.0	<50	270	<0.2	4.4 J	<5.0	<0.20	<2.0	0.75 J	5.6 J
MW-22 (DUP)	W-R2330012-112514-ACN-008	11/25/2014	<3.0	<50	260	<0.2	3.8 J	<5.0	<0.20	<2.0	<4.0	4.6 J
MW-22 ^A	W-R2330017-032015-JCH-027	3/20/2015	2.3 J	<50	270	<0.2	6.5 J	<5.0	<0.20	<2.0	1.5 J	8.6 J
MW-22	W-R2330017-032015-JCH-027	3/20/2015	<3.0	<50	250	<0.2	5.9 J	<5.0	<0.20	<2.0	0.71 J	5.9 J
MW-22 ^A	W-R2330017-111815-JPM-014	11/18/2015	NS	120,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-22	W-R2330017-111815-JPM-014	11/18/2015	NS	120,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330021-042016-JPM-019	4/20/2016	NS	NS	88	NS	NS	NS	NS	NS	NS	NS
MW-22	W-R2330021-042016-JPM-019	4/20/2016	NS	NS	82	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330021-110216-JPM-017	11/2/2016	NS	NS	91	NS	NS	NS	NS	NS	NS	NS
MW-22	W-R2330021-110216-JPM-017	11/2/2016	NS	NS	91	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330022-042717-DMS-023	4/27/2017	NS	93,000	140	NS	NS	NS	NS	NS	NS	NS
MW-22	W-R2330022-042717-DMS-023	4/27/2017	NS	90,000	130	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R2330022-102517-AFB-014	10/25/2017	NS	NS	72	NS	NS	NS	NS	NS	NS	NS
MW-22	W-R2330022-102517-AFB-014	10/25/2017	NS	NS	67	NS	NS	NS	NS	NS	NS	NS
MW-22 ^A	W-R220024-042418-JPM-015	4/24/2018	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-22	W-R220024-042418-JPM-015	4/24/2018	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-23 ^A	W-R2330012-051914-ACN-023	5/19/2014	1.2 J	<50	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	0.067 J	<50	160	<0.2	3.3 J	<5.0	<0.20	<2.0	1.1 J	2.2 J
MW-23 ^A (DUP)	W-R2330012-051914-ACN-024	5/19/2014	1.3 J	<50	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-024	5/19/2014	<3.0	<50	150	<0.2	3.1 J	<5.0	<0.20	<2.0	0.84 J	1.9 J
MW-23 ^A	W-R2330012-112514-ACN-009	11/25/2014	30	<50	310	<0.2	25	2.8 J	0.059 J	<2.0	29	100
MW-23	W-R2330012-112514-ACN-009	11/25/2014	<3.0	<50	78	<0.2	3.8 J	<5.0	<0.20	<2.0	1.5 J	4.5 J
MW-23 ^A	W-R2330017-032015-ACN-028	3/20/2015	2.6 J	<50	120	<0.2	7.4 J	0.76 J	0.023 J	<2.0	3.3 J	9.2 J
MW-23	W-R2330017-032015-ACN-028	3/20/2015	0.82 J	<50	99	<0.2	6.3 J	<5.0	0.020 J	<2.0	1.2 J	4.1 J
MW-23 ^A	W-R2330017-111815-JPM-016	11/18/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-23	W-R2330017-111815-JPM-016	11/18/2015	NS	130,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-23 ^A	W-R2330021-042016-JPM-020	4/20/2016	NS	NS	89	NS	NS	NS	NS	NS	NS	NS
MW-23	W-R2330021-042016-JPM-020	4/20/2016	NS	NS	99	NS	NS	NS	NS	NS	NS	NS
MW-23 ^A	W-R2330021-110216-JPM-016	11/2/2016	NS	NS	100	NS	NS	NS	NS	NS	NS	NS
MW-23	W-R2330021-110216-JPM-016	11/2/2016	NS	NS	92	NS	NS	NS	NS	NS	NS	NS
MW-23 ^A	W-R2330022-042717-DMS-024	4/27/2017	NS	110,000	85	NS	NS	NS	NS	NS	NS	NS
MW-23	W-R2330022-042717-DMS-024	4/27/2017	NS	110,000	80	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-23 ^A	W-R2330022-102517-DMS-016	10/25/2017																		
MW-23	W-R2330022-102517-DMS-016	10/25/2017	<25	<1.0	<1.0	<50	<50	4.0	<1.0	<5.0	65	<5.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-23 ^A	W-R2330024-042418-DMS-014	4/24/2018																		
MW-23	W-R2330024-042418-DMS-014	4/24/2018	<25	<1.0	<1.0	<50	<50	2.1	<1.0	<5.0	42	<5.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24 ^A	W-R2330012-112614-JCH-013	11/26/2014																		
MW-24	W-R2330012-112614-JCH-013	11/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24 ^A	W-R2330017-032015-ACN-026	3/20/2015																		
MW-24	W-R2330017-032015-ACN-026	3/20/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24 ^A	W-R2330017-111815-AFB-015	11/18/2015																		
MW-24	W-R2330017-111815-AFB-015	11/18/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24 ^A	W-R2330021-042116-AFB-018	4/21/2016																		
MW-24	W-R2330021-042116-AFB-018	4/21/2016	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24 ^A	W-R2330021-110316-JPM-022	11/3/2016																		
MW-24	W-R2330021-110316-JPM-022	11/3/2016	<25	<1.0	<1.0	<50	1.6 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24 ^A	W-R2330022-042717-DMS-027	4/27/2017																		
MW-24	W-R2330022-042717-DMS-027	4/27/2017	<25	<1.0	<1.0	<50	2.8 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24 ^A	W-R2330022-102517-AFB-017	10/25/2017																		
MW-24	W-R2330022-102517-AFB-017	10/25/2017	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-24	W-R2330024-042418-DMS-009	4/24/2018																		
MW-24	W-R2330024-042418-DMS-009	4/24/2018	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-25 ^A	W-R2330012-112614-JCH-012	11/26/2014																		
MW-25	W-R2330012-112614-JCH-012	11/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-25 ^A	W-R2330017-032015-JCH-025	3/20/2015																		
MW-25	W-R2330017-032015-JCH-025	3/20/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-25 ^A	W-R2330017-111815-AFB-011	11/18/2015																		
MW-25	W-R2330017-111815-AFB-011	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330021-042016-AEP-017	4/20/2016																		
MW-25	W-R2330021-042016-AEP-017	4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330021-110316-AEM-023	11/3/2016																		
MW-25	W-R2330021-110316-AEM-023	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330022-042717-DMS-026	4/27/2017																		
MW-25	W-R2330022-042717-DMS-026	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330022-102817-AFB-037	10/28/2017																		
MW-25	W-R2330022-102817-AFB-037	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330024-042418-DMS-010	4/24/2018																		
MW-25	W-R2330024-042418-DMS-010	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-26 ^A	W-R2330012-112614-JCH-011	11/26/2014																		
MW-26	W-R2330012-112614-JCH-011	11/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-26 ^A	W-R2330017-032015-ACN-024	3/20/2015																		
MW-26	W-R2330017-032015-ACN-024	3/20/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0

Table 2
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)																
				Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-23 ^A	W-R2330022-102517-DMS-016	10/25/2017																		
MW-23	W-R2330022-102517-DMS-016	10/25/2017	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-23 ^A	W-R2330024-042418-DMS-014	4/24/2018																		
MW-23	W-R2330024-042418-DMS-014	4/24/2018	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330012-052014-ACN-030	5/20/2014																		
MW-24	W-R2330012-052014-ACN-030	5/20/2014	<3.0	<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
MW-24 ^A	W-R2330012-112614-JCH-013	11/26/2014																		
MW-24	W-R2330012-112614-JCH-013	11/26/2014	<3.0	<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
MW-24 ^A	W-R2330017-032015-ACN-026	3/20/2015																		
MW-24	W-R2330017-032015-ACN-026	3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
MW-24 ^A	W-R2330017-111815-AFB-015	11/18/2015																		
MW-24	W-R2330017-111815-AFB-015	11/18/2015	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330021-042116-AFB-018	4/21/2016																		
MW-24	W-R2330021-042116-AFB-018	4/21/2016	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330021-110316-JPM-022	11/3/2016																		
MW-24	W-R2330021-110316-JPM-022	11/3/2016	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330022-042717-DMS-027	4/27/2017																		
MW-24	W-R2330022-042717-DMS-027	4/27/2017	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330022-102517-AFB-017	10/25/2017																		
MW-24	W-R2330022-102517-AFB-017	10/25/2017	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330024-042418-DMS-009	4/24/2018																		
MW-24	W-R2330024-042418-DMS-009	4/24/2018	<3.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330012-051914-ACN-025	5/19/2014																		
MW-25	W-R2330012-051914-ACN-025	5/19/2014	<3.0	<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
MW-25 ^A	W-R2330012-112614-JCH-012	11/26/2014																		
MW-25	W-R2330012-112614-JCH-012	11/26/2014	<3.0	<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
MW-25 ^A	W-R2330017-032015-JCH-025	3/20/2015																		
MW-25	W-R2330017-032015-JCH-025	3/20/2015	<3.0	<10	<10	0.40 J	<10	<10	<5.0	<10	<5.0	0.30 J	<5.0	<10	<5.0	<10	<10	0.38 J	<5.0	<5.0
MW-25 ^A	W-R2330017-111815-AFB-011	11/18/2015																		
MW-25	W-R2330017-111815-AFB-011	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330021-042016-AEP-017	4/20/2016																		
MW-25	W-R2330021-042016-AEP-017	4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330021-110316-AEM-023	11/3/2016																		
MW-25	W-R2330021-110316-AEM-023	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330022-042717-DMS-026	4/27/2017																		
MW-25	W-R2330022-042717-DMS-026	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330022-102817-AFB-037	10/28/2017																		
MW-25	W-R2330022-102817-AFB-037	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330024-042418-DMS-010	4/24/2018																		
MW-25	W-R2330024-042418-DMS-010	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330012-051914-ACN-020	5/19/2014																		
MW-26	W-R2330012-051914-ACN-020	5/19/2014	<3.0	<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
MW-26 ^A	W-R2330012-112614-JCH-011	11/26/2014																		
MW-26	W-R2330012-112614-JCH-011	11/26/2014	<3.0	<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
MW-26 ^A	W-R2330017-032015-ACN-024	3/20/2015																		
MW-26	W-R2330017-032015-ACN-024	3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0

Table 2
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											
	D,n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)	
	Non-residential Drinking Water Criteria (II)	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
	Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
	Ground Water Surface Water Interface Criteria (GSI) (III)	9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
	GSI Final Acute Value (FAV)	75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
	Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
	Groundwater Concentration for Vapor Intrusion (GW _{VI-in}) (a)	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
	Water Solubility (VII)	11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)	NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	
ID	SAMPLE ID	SAMPLE DATE																	
MW-23 ^A	W-R2330022-102517-DMS-016	10/25/2017							65	NS	NS	NS	NS	NS	NS	NS	NS	NS	13,000
MW-23	W-R2330022-102517-DMS-016	10/25/2017	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	14,000
MW-23 ^A	W-R2330024-042418-DMS-014	4/24/2018							190	NS	NS	NS	NS	NS	NS	NS	NS	NS	12,000
MW-23	W-R2330024-042418-DMS-014	4/24/2018	NS	NS	NS	NS	NS	NS	29	NS	NS	NS	NS	NS	NS	NS	NS	NS	11,000
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
MW-24	W-R2330012-052014-ACN-030	5/20/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	4.8 J	0.074 J	5.2	160	<1.0	<1.0	<10	0.76 J	0.75 J	<0.005	4,700
MW-24 ^A	W-R2330012-112614-JCH-013	11/26/2014							12 J	<2.0	4.6 J	130	<1.0	0.051 J	0.13 J	0.25 J	<4.0		2,500
MW-24	W-R2330012-112614-JCH-013	11/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<50	<2.0	4.9 J	130	<1.0	<1.0	<10	0.19 J	<4.0	<5.0	2,100
MW-24 ^A	W-R2330017-032015-ACN-026	3/20/2015							84	<2.0	7.4	140	<1.0	0.24 J	0.68 J	0.56 J	1.8 J		5,900
MW-24	W-R2330017-032015-ACN-026	3/20/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	3.8 J	0.19 J	3.2 J	130	<1.0	0.066 J	<10	0.57 J	1.3 J	<5.0	2,600
MW-24 ^A	W-R2330017-111815-AFB-015	11/18/2015							260	NS	NS	NS	NS	NS	NS	NS	NS		5,900
MW-24	W-R2330017-111815-AFB-015	11/18/2015	NS	NS	NS	NS	NS	NS	7.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,700
MW-24 ^A	W-R2330021-042116-AFB-018	4/21/2016							170	NS	NS	NS	NS	NS	NS	NS	NS		4,900
MW-24	W-R2330021-042116-AFB-018	4/21/2016	NS	NS	NS	NS	NS	NS	39 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,800
MW-24 ^A	W-R2330021-110316-JPM-022	11/3/2016							730	NS	NS	NS	NS	NS	NS	NS	NS	NS	15,000
MW-24	W-R2330021-110316-JPM-022	11/3/2016	NS	NS	NS	NS	NS	NS	15 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,400
MW-24 ^A	W-R2330022-042717-DMS-027	4/27/2017							19 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,700
MW-24	W-R2330022-042717-DMS-027	4/27/2017	NS	NS	NS	NS	NS	NS	10 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,400
MW-24 ^A	W-R2330022-102517-AFB-017	10/25/2017							27	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,000
MW-24	W-R2330022-102517-AFB-017	10/25/2017	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,600
MW-24	W-R2330024-042418-DMS-009	4/24/2018							13	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,400
MW-24	W-R2330024-042418-DMS-009	4/24/2018	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,600
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
MW-25	W-R2330012-051914-ACN-025	5/19/2014	0.80 J	<1.0	<5.0	<5.0	<2.0	<5.0	51	0.21 J	0.63 J	68 J	<1.0	<1.0	<10	0.59 J	3.7 J	<0.005	110 J
MW-25 ^A	W-R2330012-112614-JCH-012	11/26/2014							400	0.18 J	0.85 J	72 J	<1.0	0.11 J	1.3 J	0.53 J	3.2 J		570
MW-25	W-R2330012-112614-JCH-012	11/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	5.9 J	0.15 J	<5.0	66 J	<1.0	0.071 J	<10	0.33 J	2.9 J	<5.0	16 J
MW-25 ^A	W-R2330017-032015-JCH-025	3/20/2015							450	0.22 J	0.88 J	72 J	<1.0	0.060 J	0.84 J	0.77 J	4.2		620
MW-25	W-R2330017-032015-JCH-025	3/20/2015	<5.0	<1.0	0.13 J	0.71 J	<2.0	<5.0	12 J	0.28 J	<5.0	67 J	<1.0	0.061 J	<10	0.63 J	6.2	<5.0	28 J
MW-25 ^A	W-R2330017-111815-AFB-011	11/18/2015							6,000	NS	NS	NS	NS	NS	NS	NS	NS		14,000
MW-25	W-R2330017-111815-AFB-011	11/18/2015	NS	NS	NS	NS	NS	NS	46 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	63 J
MW-25 ^A	W-R2330021-042016-AEP-017	4/20/2016							1,400	NS	NS	NS	NS	NS	NS	NS	NS		2,400
MW-25	W-R2330021-042016-AEP-017	4/20/2016	NS	NS	NS	NS	NS	NS	24 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	180 J
MW-25 ^A	W-R2330021-110316-AEM-023	11/3/2016							250	NS	NS	NS	NS	NS	NS	NS	NS	NS	490
MW-25	W-R2330021-110316-AEM-023	11/3/2016	NS	NS	NS	NS	NS	NS	7.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	13 J
MW-25 ^A	W-R2330022-042717-DMS-026	4/27/2017							720	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,500
MW-25	W-R2330022-042717-DMS-026	4/27/2017	NS	NS	NS	NS	NS	NS	18 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	26 J
MW-25 ^A	W-R2330022-102817-AFB-037	10/28/2017							190	NS	NS	NS	NS	NS	NS	NS	NS	NS	350
MW-25	W-R2330022-102817-AFB-037	10/28/2017	NS	NS	NS	NS	NS	NS	7.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	11 J
MW-25	W-R2330024-042418-DMS-010	4/24/2018							1,200	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,700
MW-25	W-R2330024-042418-DMS-010	4/24/2018	NS	NS	NS	NS	NS	NS	16	NS	NS	NS	NS	NS	NS	NS	NS	NS	26 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
MW-26	W-R2330012-051914-ACN-020	5/19/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	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
MW-26 ^A	W-R2330012-112614-JCH-011	11/26/2014							210	0.22 J	<5.0	25 J	<1.0	0.13 J	0.52 J	0.65 J	2.0 J		360
MW-26	W-R2330012-112614-JCH-011	11/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	8.4 J	0.16 J	<5.0	24 J	<1.0	0.079 J	<10	0.54 J	1.0 J	<5.0	<200
MW-26 ^A	W-R2330017-032015-ACN-024	3/20/2015							2,200	0.33 J	3.5 J	34 J	<1.0	0.16 J	4.5 J	2.1 J	7.8		4,300
MW-26	W-R2330017-032015-ACN-024	3/20/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	82	0.27 J	<5.0	21 J	<1.0	0.070 J	0.29 J	0.80 J	2.2 J	<5.0	130 J

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-23 ^A	W-R2330022-102517-DMS-016	10/25/2017	NS	NS	90	NS	NS	NS	NS	NS	NS	NS
MW-23	W-R2330022-102517-DMS-016	10/25/2017	NS	NS	91	NS	NS	NS	NS	NS	NS	NS
MW-23 ^A	W-R2330024-042418-DMS-014	4/24/2018	NS	NS	79	NS	NS	NS	NS	NS	NS	NS
MW-23	W-R2330024-042418-DMS-014	4/24/2018	NS	NS	73	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330012-052014-ACN-030	5/20/2014	0.38 J	<50	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	<3.0	<50	620	<0.2	2.9 J	<5.0	<0.20	<2.0	<4.0	1.7 J
MW-24 ^A	W-R2330012-112614-JCH-013	11/26/2014	<3.0	<50	690	<0.2	1.7 J	<5.0	<0.20	<2.0	<4.0	4.7 J
MW-24	W-R2330012-112614-JCH-013	11/26/2014	<3.0	<50	670	<0.2	0.93 J	<5.0	<0.20	<2.0	<4.0	5.4 J
MW-24 ^A	W-R2330017-032015-ACN-026	3/20/2015	0.47 J	<50	740	<0.2	3.1 J	<5.0	<0.20	<2.0	<4.0	4.6 J
MW-24	W-R2330017-032015-ACN-026	3/20/2015	0.36 J	<50	700	<0.2	2.8 J	<5.0	<0.20	<2.0	<4.0	<50
MW-24 ^A	W-R2330017-111815-AFB-015	11/18/2015	NS	48,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330017-111815-AFB-015	11/18/2015	NS	47,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330021-042116-AFB-018	4/21/2016	NS	NS	840	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330021-042116-AFB-018	4/21/2016	NS	NS	920	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330021-110316-JPM-022	11/3/2016	NS	NS	820	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330021-110316-JPM-022	11/3/2016	NS	NS	760	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330022-042717-DMS-027	4/27/2017	NS	50,000	990	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330022-042717-DMS-027	4/27/2017	NS	49,000	970	NS	NS	NS	NS	NS	NS	NS
MW-24 ^A	W-R2330022-102517-AFB-017	10/25/2017	NS	NS	700	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330022-102517-AFB-017	10/25/2017	NS	NS	710	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330024-042418-DMS-009	4/24/2018	NS	NS	1000	NS	NS	NS	NS	NS	NS	NS
MW-24	W-R2330024-042418-DMS-009	4/24/2018	NS	NS	960	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330012-051914-ACN-025	5/19/2014	2.5 J	<50	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	0.25 J	<50	150	<0.2	2.3 J	1.7 J	<0.20	<2.0	0.35 J	2.2 J
MW-25 ^A	W-R2330012-112614-JCH-012	11/26/2014	0.59 J	<50	340	<0.2	6.5 J	1.1 J	<0.20	<2.0	1.4 J	6.1 J
MW-25	W-R2330012-112614-JCH-012	11/26/2014	<3.0	<50	250	<0.2	4.4 J	<5.0	<0.20	<2.0	<4.0	4.4 J
MW-25 ^A	W-R2330017-032015-JCH-025	3/20/2015	0.57 J	<50	310	<0.2	4.9 J	1.2 J	<0.20	<2.0	1.5 J	6.3 J
MW-25	W-R2330017-032015-JCH-025	3/20/2015	0.37 J	<50	110	<0.2	4.8 J	1.1 J	<0.20	<2.0	<4.0	8.4 J
MW-25 ^A	W-R2330017-111815-AFB-011	11/18/2015	NS	30,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330017-111815-AFB-011	11/18/2015	NS	16,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330021-042016-AEP-017	4/20/2016	NS	NS	990	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330021-042016-AEP-017	4/20/2016	NS	NS	68	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330021-110316-AEM-023	11/3/2016	NS	NS	370	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330021-110316-AEM-023	11/3/2016	NS	NS	230	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330022-042717-DMS-026	4/27/2017	NS	19,000	580	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330022-042717-DMS-026	4/27/2017	NS	18,000	95	NS	NS	NS	NS	NS	NS	NS
MW-25 ^A	W-R2330022-102817-AFB-037	10/28/2017	NS	NS	570	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330022-102817-AFB-037	10/28/2017	NS	NS	320	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330024-042418-DMS-010	4/24/2018	NS	NS	1,100	NS	NS	NS	NS	NS	NS	NS
MW-25	W-R2330024-042418-DMS-010	4/24/2018	NS	NS	45	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330012-051914-ACN-020	5/19/2014	1.1 J	<50	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	<3.0	<50	86	<0.2	0.23 J	<5.0	<0.20	<2.0	0.41 J	1.6 J
MW-26 ^A	W-R2330012-112614-JCH-011	11/26/2014	<3.0	<50	69	<0.2	2.7 J	0.86 J	<0.20	<2.0	0.98 J	4.5 J
MW-26	W-R2330012-112614-JCH-011	11/26/2014	<3.0	<50	65	<0.2	2.4 J	<5.0	<0.20	<2.0	<4.0	3.0 J
MW-26 ^A	W-R2330017-032015-ACN-024	3/20/2015	3.4	<50	100	<0.2	7.5 J	<5.0	<0.20	<2.0	7.0	16 J
MW-26	W-R2330017-032015-ACN-024	3/20/2015	<3.0	<50	25 J	<0.2	2.9 J	<5.0	<0.20	<2.0	<4.0	<50

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI,m}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-26 ^A	W-R2330017-111815-AFB-012	11/18/2015																		
MW-26	W-R2330017-111815-AFB-012	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330021-042016-AEP-016	4/20/2016																		
MW-26	W-R2330021-042016-AEP-016	4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330021-110316-JPM-024	11/3/2016																		
MW-26	W-R2330021-110316-JPM-024	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330022-042717-DMS-025	4/27/2017																		
MW-26	W-R2330022-042717-DMS-025	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330022-102817-AFB-038	10/28/2017																		
MW-26	W-R2330022-102817-AFB-038	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330024-042418-DMS-012	4/24/2018																		
MW-26	W-R2330024-042418-DMS-012	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330012-091514-ACN-002	9/15/2014																		
MW-27	W-R2330012-091514-ACN-002	9/15/2014	NS	NS	NS	NS	NS	NS	<1.0	NS	NS	NS	NS	NS	<5.0	<5.0	NS	NS	NS	NS
MW-27 ^A	W-R2330012-121114-JCH-018	12/1/2014																		
MW-27	W-R2330012-121114-JCH-018	12/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-27 ^A	NS	NS																		
MW-27	W-R2330017-031915-JCH-016	3/19/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-27 ^A	W-R2330017-111915-JPM-020	11/19/2015																		
MW-27	W-R2330017-111915-JPM-020	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330021-042216-AFB-031	4/22/2016																		
MW-27	NS	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330021-110416-JPM-033	11/4/2016																		
MW-27	W-R2330021-110416-JPM-033	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A (DUP)	W-R2330021-110416-JPM-034	11/4/2016																		
MW-27 (DUP)	W-R2330021-110416-JPM-034	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330022-042817-AFB-031	4/28/2017																		
MW-27	W-R2330022-042817-AFB-031	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330022-102417-DMS-009	10/24/2017																		
MW-27	W-R2330022-102417-DMS-009	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330024-042518-DMS-024	4/25/2018																		
MW-27	W-R2330024-042518-DMS-024	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330012-020515-ACN-001	2/5/2015																		
MW-29	W-R2330012-020515-ACN-001	2/5/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-29 ^A (DUP)	W-R2330012-020515-ACN-002	2/5/2015																		
MW-29 (DUP)	W-R2330012-020515-ACN-002	2/5/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-29 ^A	W-R2330017-031615-JCH-001	3/16/2015																		
MW-29	W-R2330017-031615-JCH-001	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-29 ^A	W-R2330017-112015-AFB-028	11/20/2015																		
MW-29	W-R2330017-112015-AFB-028	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330021-042216-AFB-033	4/22/2016																		
MW-29	W-R2330021-042216-AFB-033	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330021-110416-AEM-031	11/4/2016																		
MW-29	W-R2330021-110416-AEM-031	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330022-042517-JPM-006	4/25/2017																		
MW-29	W-R2330022-042517-JPM-006	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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)										
															Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol					
Non-residential Drinking Water Criteria (II)				280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05				
Non-residential Health-Based Drinking Water Value (E)				10,000	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)				41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA				
GSI Final Acute Value (FAV)				730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA				
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)				1.9E+05 (S)	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)	3.0E+05	NLV	NLV				
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)				10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA				
Water Solubility (VII)				1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06				
Flammability & Explosivity Screening Level (VIII)				70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA				
ID	SAMPLE ID	SAMPLE DATE																							
MW-26 ^A	W-R2330017-111815-AFB-012	11/18/2015																							
MW-26	W-R2330017-111815-AFB-012	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-26 ^A	W-R2330021-042016-AEP-016	4/20/2016																							
MW-26	W-R2330021-042016-AEP-016	4/20/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-26 ^A	W-R2330021-110316-JPM-024	11/3/2016																							
MW-26	W-R2330021-110316-JPM-024	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-26 ^A	W-R2330022-042717-DMS-025	4/27/2017																							
MW-26	W-R2330022-042717-DMS-025	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-26 ^A	W-R2330022-102817-AFB-038	10/28/2017																							
MW-26	W-R2330022-102817-AFB-038	10/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-26	W-R2330024-042418-DMS-012	4/24/2018																							
MW-26	W-R2330024-042418-DMS-012	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-27 ^A	W-R2330012-091514-ACN-002	9/15/2014																							
MW-27	W-R2330012-091514-ACN-002	9/15/2014	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5.0	NS	NS	NS				
MW-27 ^A	W-R2330012-121114-JCH-018	12/1/2014																							
MW-27	W-R2330012-121114-JCH-018	12/1/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<4.0	<5.0	<5.0	<5.0				
MW-27 ^A	NS	NS																							
MW-27	W-R2330017-031915-JCH-016	3/19/2015	<3.0	<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	<5.0				
MW-27 ^A	W-R2330017-111915-JPM-020	11/19/2015																							
MW-27	W-R2330017-111915-JPM-020	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-27 ^A	W-R2330021-042216-AFB-031	4/22/2016																							
MW-27	NS	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-27 ^A	W-R2330021-110416-JPM-033	11/4/2016																							
MW-27	W-R2330021-110416-JPM-033	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-27 ^A (DUP)	W-R2330021-110416-JPM-034	11/4/2016																							
MW-27 (DUP)	W-R2330021-110416-JPM-034	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-27 ^A	W-R2330022-042817-AFB-031	4/28/2017																							
MW-27	W-R2330022-042817-AFB-031	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-27 ^A	W-R2330022-102417-DMS-009	10/24/2017																							
MW-27	W-R2330022-102417-DMS-009	10/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-27 ^A	W-R2330024-042518-DMS-024	4/25/2018																							
MW-27	W-R2330024-042518-DMS-024	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-29 ^A	W-R2330012-020515-ACN-001	2/5/2015																							
MW-29	W-R2330012-020515-ACN-001	2/5/2015	<3.0	<11	<11	<5.3	<11	<10	<5.3	<11	<5.3	<5.3	<5.3	<11	<5.3	<11	<4.2	<5.0	<5.3	<5.3	<5.3				
MW-29 ^A (DUP)	W-R2330012-020515-ACN-002	2/5/2015																							
MW-29 (DUP)	W-R2330012-020515-ACN-002	2/5/2015	<3.0	<11	<11	<5.3	<11	<10	<5.3	<11	<5.3	<5.3	<5.3	<11	<5.3	<11	<4.2	<5.0	<5.3	<5.3	<5.3				
MW-29 ^A	W-R2330017-031615-JCH-001	3/16/2015																							
MW-29	W-R2330017-031615-JCH-001	3/16/2015	<3.0	<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	<5.0				
MW-29 ^A	W-R2330017-112015-AFB-028	11/20/2015																							
MW-29	W-R2330017-112015-AFB-028	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-29 ^A	W-R2330021-042216-AFB-033	4/22/2016																							
MW-29	W-R2330021-042216-AFB-033	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-29 ^A	W-R2330021-110416-AEM-031	11/4/2016																							
MW-29	W-R2330021-110416-AEM-031	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				
MW-29 ^A	W-R2330022-042517-JPM-006	4/25/2017																							
MW-29	W-R2330022-042517-JPM-006	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS				

Table 2
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										
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{V,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																		
MW-26 ^A	W-R2330017-111815-AFB-012	11/18/2015								910	NS	NS	NS	NS	NS	NS	NS	NS		2,300
MW-26	W-R2330017-111815-AFB-012	11/18/2015	NS	NS	NS	NS	NS	NS	NS	9.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	19 J
MW-26 ^A	W-R2330021-042016-AEP-016	4/20/2016								1,200	NS	NS	NS	NS	NS	NS	NS	NS		2,100
MW-26	W-R2330021-042016-AEP-016	4/20/2016	NS	NS	NS	NS	NS	NS	NS	59	NS	NS	NS	NS	NS	NS	NS	NS	NS	160 J
MW-26 ^A	W-R2330021-110316-JPM-024	11/3/2016								500	NS	NS	NS	NS	NS	NS	NS	NS	NS	910
MW-26	W-R2330021-110316-JPM-024	11/3/2016	NS	NS	NS	NS	NS	NS	NS	150	NS	NS	NS	NS	NS	NS	NS	NS	NS	310
MW-26 ^A	W-R2330022-042717-DMS-025	4/27/2017								290	NS	NS	NS	NS	NS	NS	NS	NS	NS	790
MW-26	W-R2330022-042717-DMS-025	4/27/2017	NS	NS	NS	NS	NS	NS	NS	15 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	23 J
MW-26 ^A	W-R2330022-102817-AFB-038	10/28/2017								250	NS	NS	NS	NS	NS	NS	NS	NS	NS	480
MW-26	W-R2330022-102817-AFB-038	10/28/2017	NS	NS	NS	NS	NS	NS	NS	16	NS	NS	NS	NS	NS	NS	NS	NS	NS	21 J
MW-26	W-R2330024-042418-DMS-012	4/24/2018								290	NS	NS	NS	NS	NS	NS	NS	NS	NS	470
MW-26	W-R2330024-042418-DMS-012	4/24/2018	NS	NS	NS	NS	NS	NS	NS	14	NS	NS	NS	NS	NS	NS	NS	NS	NS	<80
MW-27 ^A	W-R2330012-091514-ACN-002	9/15/2014								190	0.61 J	4.7 J	240	<1.0	0.097 J	0.69 J	2.4 J	3.7 J		1,700
MW-27	W-R2330012-091514-ACN-002	9/15/2014	NS	NS	NS	NS	NS	NS	NS	5.8 J	0.58 J	4.5 J	240	<1.0	<1.0	<10	2.9 J	1.9 J	NS	1,500
MW-27 ^A	W-R2330012-121114-JCH-018	12/1/2014								460	0.25 J	2.7 J	200	<1.0	0.063 J	1.2 J	2.5 J	4.2		1,900
MW-27	W-R2330012-121114-JCH-018	12/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	32 J	0.18 J	2.2 J	290	<1.0	<1.0	0.22 J	2.1 J	1.4 J	<5.0	2,600
MW-27 ^A	NS	NS								270	0.43 J	0.97 J	210	<1.0	0.13 J	0.76 J	1.9 J	2.3 J		2,200
MW-27	W-R2330017-031915-JCH-016	3/19/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	3.8 J	0.67 J	0.75 J	260	<1.0	0.23 J	0.35 J	2.4 J	1.3 J	<5.0	1,900
MW-27 ^A	W-R2330017-111915-JPM-020	11/19/2015								54	NS	NS	NS	NS	NS	NS	NS	NS		2,400
MW-27	W-R2330017-111915-JPM-020	11/19/2015	NS	NS	NS	NS	NS	NS	NS	2.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,400
MW-27 ^A	W-R2330021-042216-AFB-031	4/22/2016								59	NS	NS	NS	NS	NS	NS	NS	NS		4,700
MW-27	NS	4/22/2016	NS	NS	NS	NS	NS	NS	NS	3.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,100
MW-27 ^A	W-R2330021-110416-JPM-033	11/4/2016								120	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,300
MW-27	W-R2330021-110416-JPM-033	11/4/2016	NS	NS	NS	NS	NS	NS	NS	5.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,000
MW-27 ^A (DUP)	W-R2330021-110416-JPM-034	11/4/2016								110	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,200
MW-27 (DUP)	W-R2330021-110416-JPM-034	11/4/2016	NS	NS	NS	NS	NS	NS	NS	5.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,000
MW-27 ^A	W-R2330022-042817-AFB-031	4/28/2017								71	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,600
MW-27	W-R2330022-042817-AFB-031	4/28/2017	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,000
MW-27 ^A	W-R2330022-102417-DMS-009	10/24/2017								35	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,800
MW-27	W-R2330022-102417-DMS-009	10/24/2017	NS	NS	NS	NS	NS	NS	NS	8.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,500
MW-27 ^A	W-R2330024-042518-DMS-024	4/25/2018								170	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,200
MW-27	W-R2330024-042518-DMS-024	4/25/2018	NS	NS	NS	NS	NS	NS	NS	4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,900
MW-29 ^A	W-R2330012-020515-ACN-001	2/5/2015								530	<2.0	2.5 J	200	<1.0	0.046 J	1.3 J	1.4 J	1.6 J		3,200
MW-29	W-R2330012-020515-ACN-001	2/5/2015	<5.3	<1.1	<5.3	<5.3	<2.1	<5.3	<5.3	8.8 J	<2.0	2.3 J	200	<1.0	<1.0	<10	1.1	0.35 J	<5.0	2,400
MW-29 ^A (DUP)	W-R2330012-020515-ACN-002	2/5/2015								370	<2.0	2.1 J	200	<1.0	0.065 J	1.3 J	1.3 J	0.88 J		2,900
MW-29 (DUP)	W-R2330012-020515-ACN-002	2/5/2015	<5.3	<1.1	<5.3	<5.3	<2.1	<5.3	<5.3	11 J	<2.0	2.4	200	<1.0	<1.0	<10	1.3 J	<4.0	<5.0	2,500
MW-29 ^A	W-R2330017-031615-JCH-001	3/16/2015								1,400	0.11 J	6.2	220	<1.0	0.11 J	3.3 J	2.0 J	5.6		5,400
MW-29	W-R2330017-031615-JCH-001	3/16/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	<50	<2.0	3.1 J	220	<1.0	0.048 J	<10	1.0 J	1.3 J	<5.0	2,800
MW-29 ^A	W-R2330017-112015-AFB-028	11/20/2015								420	NS	NS	NS	NS	NS	NS	NS	NS		4,100
MW-29	W-R2330017-112015-AFB-028	11/20/2015	NS	NS	NS	NS	NS	NS	NS	5.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,300
MW-29 ^A	W-R2330021-042216-AFB-033	4/22/2016								110	NS	NS	NS	NS	NS	NS	NS	NS		5,400
MW-29	W-R2330021-042216-AFB-033	4/22/2016	NS	NS	NS	NS	NS	NS	NS	2.5 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,700
MW-29 ^A	W-R2330021-110416-AEM-031	11/4/2016								54	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,000
MW-29	W-R2330021-110416-AEM-031	11/4/2016	NS	NS	NS	NS	NS	NS	NS	5.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,000
MW-29 ^A	W-R2330022-042517-JPM-006	4/25/2017								18 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,400
MW-29	W-R2330022-042517-JPM-006	4/25/2017	NS	NS	NS	NS	NS	NS	NS	20 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,700

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-26 ^A	W-R2330017-111815-AFB-012	11/18/2015	NS	21000	NS	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330017-111815-AFB-012	11/18/2015	NS	20000	NS	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330021-042016-AEP-016	4/20/2016	NS	NS	58	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330021-042016-AEP-016	4/20/2016	NS	NS	11 J	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330021-110316-JPM-024	11/3/2016	NS	NS	45 J	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330021-110316-JPM-024	11/3/2016	NS	NS	250	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330022-042717-DMS-025	4/27/2017	NS	14,000	19 J	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330022-042717-DMS-025	4/27/2017	NS	13,000	5.8 J	NS	NS	NS	NS	NS	NS	NS
MW-26 ^A	W-R2330022-102817-AFB-038	10/28/2017	NS	NS	71	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330022-102817-AFB-038	10/28/2017	NS	NS	62	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330024-042418-DMS-012	4/24/2018	NS	NS	17	NS	NS	NS	NS	NS	NS	NS
MW-26	W-R2330024-042418-DMS-012	4/24/2018	NS	NS	5.4	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330012-091514-ACN-002	9/15/2014	0.70 J	<50	160	0.064 J	9.1 J	<5.0	<0.20	<2.0	1.1 J	7.0 J
MW-27	W-R2330012-091514-ACN-002	9/15/2014	0.076 J	<50	160	0.062 J	8.8 J	<5.0	<0.20	<2.0	0.55 J	5.0 J
MW-27 ^A	W-R2330012-121114-JCH-018	12/1/2014	1.2 J	<50	140	<0.2	9.3 J	1.1 J	<0.20	<2.0	1.9 J	11 J
MW-27	W-R2330012-121114-JCH-018	12/1/2014	<3.0	<50	110	<0.2	7.5 J	0.79 J	<0.20	<2.0	0.66 J	4.2 J
MW-27 ^A	NS	NS	0.62 J	<50	72	<0.2	5.7 J	<5.0	<0.20	<2.0	1.5 J	4.0 J
MW-27	W-R2330017-031915-JCH-016	3/19/2015	<3.0	<50	80	<0.2	6.8 J	0.97 J	0.095 J	<2.0	<4.0	3.1 J
MW-27 ^A	W-R2330017-111915-JPM-020	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27	W-R2330017-111915-JPM-020	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330021-042216-AFB-031	4/22/2016	NS	NS	94	NS	NS	NS	NS	NS	NS	NS
MW-27	NS	4/22/2016	NS	NS	100	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330021-110416-JPM-033	11/4/2016	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-27	W-R2330021-110416-JPM-033	11/4/2016	NS	NS	100	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A (DUP)	W-R2330021-110416-JPM-034	11/4/2016	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-27 (DUP)	W-R2330021-110416-JPM-034	11/4/2016	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330022-042817-AFB-031	4/28/2017	NS	75,000	100	NS	NS	NS	NS	NS	NS	NS
MW-27	W-R2330022-042817-AFB-031	4/28/2017	NS	69,000	90	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330022-102417-DMS-009	10/24/2017	NS	NS	92	NS	NS	NS	NS	NS	NS	NS
MW-27	W-R2330022-102417-DMS-009	10/24/2017	NS	NS	91	NS	NS	NS	NS	NS	NS	NS
MW-27 ^A	W-R2330024-042518-DMS-024	4/25/2018	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-27	W-R2330024-042518-DMS-024	4/25/2018	NS	NS	100	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330012-020515-ACN-001	2/5/2015	2.0 J	<50	410	<0.2	4.4 J	<5.0	<0.20	<2.0	1.2 J	6.8 J
MW-29	W-R2330012-020515-ACN-001	2/5/2015	<3.0	<50	380	<0.2	3.3 J	<5.0	<0.20	<2.0	<4.0	3.6 J
MW-29 ^A (DUP)	W-R2330012-020515-ACN-002	2/5/2015	0.60 J	<50	400	<0.2	4.3 J	<5.0	<0.20	<2.0	0.99 J	6.4 J
MW-29 (DUP)	W-R2330012-020515-ACN-002	2/5/2015	<3.0	<50	400	<0.2	3.5 J	<5.0	<0.20	<2.0	<4.0	3.4 J
MW-29 ^A	W-R2330017-031615-JCH-001	3/16/2015	2.8 J	<50	400	<0.2	8.0 J	<5.0	<0.20	<2.0	3.4 J	17 J
MW-29	W-R2330017-031615-JCH-001	3/16/2015	<3.0	<50	400	<0.2	3.9 J	<5.0	<0.20	<2.0	<4.0	5.4 J
MW-29 ^A	W-R2330017-112015-AFB-028	11/20/2015	NS	21,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-29	W-R2330017-112015-AFB-028	11/20/2015	NS	20,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330021-042216-AFB-033	4/22/2016	NS	NS	260	NS	NS	NS	NS	NS	NS	NS
MW-29	W-R2330021-042216-AFB-033	4/22/2016	NS	NS	250	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330021-110416-AEM-031	11/4/2016	NS	NS	300	NS	NS	NS	NS	NS	NS	NS
MW-29	W-R2330021-110416-AEM-031	11/4/2016	NS	NS	290	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330022-042517-JPM-006	4/25/2017	NS	21,000	240	NS	NS	NS	NS	NS	NS	NS
MW-29	W-R2330022-042517-JPM-006	4/25/2017	NS	22,000	250	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI,m}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-29 ^A	W-R2330022-102617-AFB-024	10/26/2017																		
MW-29	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330024-042518-JPM-023	4/25/2018																		
MW-29	W-R2330024-042518-JPM-023	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330012-020515-ACN-003	2/5/2015																		
MW-30	W-R2330012-020515-ACN-003	2/5/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-30 ^A	W-R2330017-031615-ACN-002	3/16/2015																		
MW-30	W-R2330017-031615-ACN-002	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-30 ^A	W-R2330017-112015-JPM-029	11/20/2015																		
MW-30	W-R2330017-112015-JPM-029	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330021-042216-JPM-034	4/22/2016																		
MW-30	W-R2330021-042216-JPM-034	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	DUP 2	4/22/2016																		
MW-30	DUP 2	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330021-110416-AEM-032	11/4/2016																		
MW-30	W-R2330021-110416-AEM-032	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330022-042517-DMS-007	4/25/2017																		
MW-30	W-R2330022-042517-DMS-007	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330022-102617-AFB-025	10/26/2017																		
MW-30	W-R2330022-102617-AFB-025	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330024-042518-JPM-025	4/25/2018																		
MW-30	W-R2330024-042518-JPM-025	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330017-060515-ACN-001	6/5/2015																		
MW-31	W-R2330017-060515-ACN-001	6/5/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330017-111615-AEP-001	11/16/2015																		
MW-31	W-R2330017-111615-AEP-001	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330021-041816-JPM-003	4/18/2016																		
MW-31	W-R2330021-041816-JPM-003	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330021-103116-AEM-003	10/31/2016																		
MW-31	W-R2330021-103116-AEM-003	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330022-042417-DMS-002	4/24/2017																		
MW-31	W-R2330022-042417-DMS-002	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330022-102317-DMS-003	10/23/2017																		
MW-31	W-R2330022-102617-DMS-003	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330024-042318-DMS-003	4/23/2018																		
MW-31	W-R2330024-042318-DMS-003	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330017-060515-ACN-002	6/5/2015																		
MW-32	W-R2330017-060515-ACN-002	6/5/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330017-111615-AEP-002	11/16/2015																		
MW-32	W-R2330017-111615-AEP-002	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330021-041816-AEP-004	4/18/2016																		
MW-32	W-R2330021-041816-AEP-004	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330021-103116-JPM-004	10/31/2016																		
MW-32	W-R2330021-103116-JPM-004	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330022-042417-AFB-001	4/24/2017																		
MW-32	W-R2330022-042417-AFB-001	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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)																
				Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	Bis(2-ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzy phthalate	Carbazole	Dibenzofuran	Dichlorodifluoromethane	Diethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NLV	NA	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-29 ^A	W-R2330022-102617-AFB-024	10/26/2017																		
MW-29	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330024-042518-JPM-023	4/25/2018																		
MW-29	W-R2330024-042518-JPM-023	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330012-020515-ACN-003	2/5/2015																		
MW-30	W-R2330012-020515-ACN-003	2/5/2015	<3.0	<11	<11	<5.3	<11	<10	<5.3	<11	<5.3	<5.3	<5.3	<11	<5.3	<11	<4.2	<5.0	<5.3	<5.3
MW-30 ^A	W-R2330017-031615-ACN-002	3/16/2015																		
MW-30	W-R2330017-031615-ACN-002	3/16/2015	<3.0	<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
MW-30 ^A	W-R2330017-112015-JPM-029	11/20/2015																		
MW-30	W-R2330017-112015-JPM-029	11/20/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330021-042216-JPM-034	4/22/2016																		
MW-30	W-R2330021-042216-JPM-034	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	DUP 2	4/22/2016																		
MW-30	DUP 2	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330021-110416-AEM-032	11/4/2016																		
MW-30	W-R2330021-110416-AEM-032	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330022-042517-DMS-007	4/25/2017																		
MW-30	W-R2330022-042517-DMS-007	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330022-102617-AFB-025	10/26/2017																		
MW-30	W-R2330022-102617-AFB-025	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330024-042518-JPM-025	4/25/2018																		
MW-30	W-R2330024-042518-JPM-025	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330017-060515-ACN-001	6/5/2015																		
MW-31	W-R2330017-060515-ACN-001	6/5/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330017-111615-AEP-001	11/16/2015																		
MW-31	W-R2330017-111615-AEP-001	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330021-041816-JPM-003	4/18/2016																		
MW-31	W-R2330021-041816-JPM-003	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330021-103116-AEM-003	10/31/2016																		
MW-31	W-R2330021-103116-AEM-003	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330022-042417-DMS-002	4/24/2017																		
MW-31	W-R2330022-042417-DMS-002	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330022-102317-DMS-003	10/23/2017																		
MW-31	W-R2330022-102617-DMS-003	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330024-042318-DMS-003	4/23/2018																		
MW-31	W-R2330024-042318-DMS-003	4/24/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330017-060515-ACN-002	6/5/2015																		
MW-32	W-R2330017-060515-ACN-002	6/5/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330017-111615-AEP-002	11/16/2015																		
MW-32	W-R2330017-111615-AEP-002	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330021-041816-AEP-004	4/18/2016																		
MW-32	W-R2330021-041816-AEP-004	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330021-103116-JPM-004	10/31/2016																		
MW-32	W-R2330021-103116-JPM-004	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330022-042417-AFB-001	4/24/2017																		
MW-32	W-R2330022-042417-AFB-001	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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										
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																		
MW-29 ^A	W-R2330022-102617-AFB-024	10/26/2017								12	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,900
MW-29	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,400
MW-29 ^A	W-R2330024-042518-JPM-023	4/25/2018								42	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,100
MW-29	W-R2330024-042518-JPM-023	4/25/2018	NS	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,400
MW-30 ^A	W-R2330012-020515-ACN-003	2/5/2015								580	0.30 J	4.3 J	120	<1.0	0.53 J	1.7 J	0.30 J	3.9 J		500
MW-30	W-R2330012-020515-ACN-003	2/5/2015	<5.3	<1.1	<5.3	<5.3	<2.1	<5.3	<5.3	11 J	0.39 J	3.2 J	110	<1.0	0.45 J	<10	0.28 J	1.1 J	5.0	18 J
MW-30 ^A	W-R2330017-031615-ACN-002	3/16/2015								110	0.28 J	1.6 J	95 J	<1.0	0.54 J	0.34 J	0.19 J	2.2 J		100 J
MW-30	W-R2330017-031615-ACN-002	3/16/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	5.8 J	0.44 J	2.3 J	110	<1.0	0.22 J	<10	0.62 J	1.6 J	<5.0	180 J
MW-30 ^A	W-R2330017-112015-JPM-029	11/20/2015								54	NS	NS	NS	NS	NS	NS	NS	NS		310
MW-30	W-R2330017-112015-JPM-029	11/20/2015	NS	NS	NS	NS	NS	NS	NS	10 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	740
MW-30 ^A	W-R2330021-042216-JPM-034	4/22/2016								21 J	NS	NS	NS	NS	NS	NS	NS	NS		710
MW-30	W-R2330021-042216-JPM-034	4/22/2016	NS	NS	NS	NS	NS	NS	NS	7.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	530
MW-30 ^A	DUP 2	4/22/2016								18 J	NS	NS	NS	NS	NS	NS	NS	NS		650
MW-30	DUP 2	4/22/2016	NS	NS	NS	NS	NS	NS	NS	7.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	530
MW-30 ^A	W-R2330021-110416-AEM-032	11/4/2016								28 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,000
MW-30	W-R2330021-110416-AEM-032	11/4/2016	NS	NS	NS	NS	NS	NS	NS	7.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	990
MW-30 ^A	W-R2330022-042517-DMS-007	4/25/2017								35 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,000
MW-30	W-R2330022-042517-DMS-007	4/25/2017	NS	NS	NS	NS	NS	NS	NS	6.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,000
MW-30 ^A	W-R2330022-102617-AFB-025	10/26/2017								480	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,300
MW-30	W-R2330022-102617-AFB-025	10/26/2017	NS	NS	NS	NS	NS	NS	NS	38	NS	NS	NS	NS	NS	NS	NS	NS	NS	920
MW-30 ^A	W-R2330024-042518-JPM-025	4/25/2018								70	NS	NS	NS	NS	NS	NS	NS	NS	NS	620
MW-30	W-R2330024-042518-JPM-025	4/25/2018	NS	NS	NS	NS	NS	NS	NS	6.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	340
MW-31 ^A	W-R2330017-060515-ACN-001	6/5/2015								330	NS	NS	NS	NS	NS	NS	NS	NS		490
MW-31	W-R2330017-060515-ACN-001	6/5/2015	NS	NS	NS	NS	NS	NS	NS	10 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	55 J
MW-31 ^A	W-R2330017-111615-AEP-001	11/16/2015								3,400	NS	NS	NS	NS	NS	NS	NS	NS		5,900
MW-31	W-R2330017-111615-AEP-001	11/16/2015	NS	NS	NS	NS	NS	NS	NS	16	NS	NS	NS	NS	NS	NS	NS	NS	NS	130
MW-31 ^A	W-R2330021-041816-JPM-003	4/18/2016								12	NS	NS	NS	NS	NS	NS	NS	NS		130
MW-31	W-R2330021-041816-JPM-003	4/18/2016	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	110
MW-31 ^A	W-R2330021-103116-AEM-003	10/31/2016								14 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	160 J
MW-31	W-R2330021-103116-AEM-003	10/31/2016	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	110 J
MW-31 ^A	W-R2330022-042417-DMS-002	4/24/2017								350	NS	NS	NS	NS	NS	NS	NS	NS	NS	870
MW-31	W-R2330022-042417-DMS-002	4/24/2017	NS	NS	NS	NS	NS	NS	NS	13 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	150 J
MW-31 ^A	W-R2330022-102317-DMS-003	10/23/2017								16	NS	NS	NS	NS	NS	NS	NS	NS	NS	110
MW-31	W-R2330022-102617-DMS-003	10/23/2017	NS	NS	NS	NS	NS	NS	NS	<4.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	65 J
MW-31 ^A	W-R2330024-042318-DMS-003	4/23/2018								480	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,800
MW-31	W-R2330024-042318-DMS-003	4/24/2018	NS	NS	NS	NS	NS	NS	NS	31	NS	NS	NS	NS	NS	NS	NS	NS	NS	65 J
MW-32 ^A	W-R2330017-060515-ACN-002	6/5/2015								1,400	NS	NS	NS	NS	NS	NS	NS	NS		4,700
MW-32	W-R2330017-060515-ACN-002	6/5/2015	NS	NS	NS	NS	NS	NS	NS	6.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,000
MW-32 ^A	W-R2330017-111615-AEP-002	11/16/2015								920	NS	NS	NS	NS	NS	NS	NS	NS		6,300
MW-32	W-R2330017-111615-AEP-002	11/16/2015	NS	NS	NS	NS	NS	NS	NS	120	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,700
MW-32 ^A	W-R2330021-041816-AEP-004	4/18/2016								160	NS	NS	NS	NS	NS	NS	NS	NS		670
MW-32	W-R2330021-041816-AEP-004	4/18/2016	NS	NS	NS	NS	NS	NS	NS	4.0 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	410
MW-32 ^A	W-R2330021-103116-JPM-004	10/31/2016								780	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,700
MW-32	W-R2330021-103116-JPM-004	10/31/2016	NS	NS	NS	NS	NS	NS	NS	170	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,000
MW-32 ^A	W-R2330022-042417-AFB-001	4/24/2017								1,600	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,100
MW-32	W-R2330022-042417-AFB-001	4/24/2017	NS	NS	NS	NS	NS	NS	NS	19 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	810

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-29 ^A	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	210	NS	NS	NS	NS	NS	NS	NS
MW-29	W-R2330022-102617-AFB-024	10/26/2017	NS	NS	210	NS	NS	NS	NS	NS	NS	NS
MW-29 ^A	W-R2330024-042518-JPM-023	4/25/2018	NS	NS	250	NS	NS	NS	NS	NS	NS	NS
MW-29	W-R2330024-042518-JPM-023	4/25/2018	NS	NS	250	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330012-020515-ACN-003	2/5/2015	1.3 J	<50	72	<0.2	3.0 J	<5.0	<0.20	<2.0	1.6 J	8.0 J
MW-30	W-R2330012-020515-ACN-003	2/5/2015	<3.0	<50	67	<0.2	1.6 J	<5.0	<0.20	<2.0	0.68 J	3.8 J
MW-30 ^A	W-R2330017-031615-ACN-002	3/16/2015	<3.0	<50	47 J	<0.2	2.0 J	<5.0	<0.20	<2.0	0.96 J	4.6 J
MW-30	W-R2330017-031615-ACN-002	3/16/2015	<3.0	<50	110	<0.2	1.7 J	<5.0	<0.20	<2.0	0.91 J	5.3 J
MW-30 ^A	W-R2330017-112015-JPM-029	11/20/2015	NS	14,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-30	W-R2330017-112015-JPM-029	11/20/2015	NS	13,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330021-042216-JPM-034	4/22/2016	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-30	W-R2330021-042216-JPM-034	4/22/2016	NS	NS	130	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	DUP 2	4/22/2016	NS	NS	120	NS	NS	NS	NS	NS	NS	NS
MW-30	DUP 2	4/22/2016	NS	NS	120	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330021-110416-AEM-032	11/4/2016	NS	NS	94	NS	NS	NS	NS	NS	NS	NS
MW-30	W-R2330021-110416-AEM-032	11/4/2016	NS	NS	100	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330022-042517-DMS-007	4/25/2017	NS	12,000	75	NS	NS	NS	NS	NS	NS	NS
MW-30	W-R2330022-042517-DMS-007	4/25/2017	NS	12,000	96	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330022-102617-AFB-025	10/26/2017	NS	NS	75	NS	NS	NS	NS	NS	NS	NS
MW-30	W-R2330022-102617-AFB-025	10/26/2017	NS	NS	70	NS	NS	NS	NS	NS	NS	NS
MW-30 ^A	W-R2330024-042518-JPM-025	4/25/2018	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
MW-30	W-R2330024-042518-JPM-025	4/25/2018	NS	NS	92	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330017-060515-ACN-001	6/5/2015	NS	<50	240	NS	NS	NS	NS	NS	NS	NS
MW-31	W-R2330017-060515-ACN-001	6/5/2015	NS	<50	240	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330017-111615-AEP-001	11/16/2015	NS	27,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-31	W-R2330017-111615-AEP-001	11/16/2015	NS	17,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330021-041816-JPM-003	4/18/2016	NS	NS	360	NS	NS	NS	NS	NS	NS	NS
MW-31	W-R2330021-041816-JPM-003	4/18/2016	NS	NS	390	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330021-103116-AEM-003	10/31/2016	NS	NS	400	NS	NS	NS	NS	NS	NS	NS
MW-31	W-R2330021-103116-AEM-003	10/31/2016	NS	NS	370	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330022-042417-DMS-002	4/24/2017	NS	18,000	410	NS	NS	NS	NS	NS	NS	NS
MW-31	W-R2330022-042417-DMS-002	4/24/2017	NS	18,000	420	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330022-102317-DMS-003	10/23/2017	NS		440	NS	NS	NS	NS	NS	NS	NS
MW-31	W-R2330022-102617-DMS-003	10/23/2017	NS		430	NS	NS	NS	NS	NS	NS	NS
MW-31 ^A	W-R2330024-042318-DMS-003	4/23/2018	NS		630	NS	NS	NS	NS	NS	NS	NS
MW-31	W-R2330024-042318-DMS-003	4/24/2018	NS		400	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330017-060515-ACN-002	6/5/2015	NS	<50	95	NS	NS	NS	NS	NS	NS	NS
MW-32	W-R2330017-060515-ACN-002	6/5/2015	NS	<50	62	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330017-111615-AEP-002	11/16/2015	NS	66,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-32	W-R2330017-111615-AEP-002	11/16/2015	NS	66,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330021-041816-AEP-004	4/18/2016	NS	NS	81	NS	NS	NS	NS	NS	NS	NS
MW-32	W-R2330021-041816-AEP-004	4/18/2016	NS	NS	87	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330021-103116-JPM-004	10/31/2016	NS	NS	100	NS	NS	NS	NS	NS	NS	NS
MW-32	W-R2330021-103116-JPM-004	10/31/2016	NS	NS	82	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330022-042417-AFB-001	4/24/2017	NS	25,000	46 J	NS	NS	NS	NS	NS	NS	NS
MW-32	W-R2330022-042417-AFB-001	4/24/2017	NS	24,000	29 J	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene	
	Non-residential Drinking Water Criteria (II)	38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
	Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
	Ground Water Surface Water Interface Criteria (GSI) (III)	2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
	GSI Final Acute Value (FAV)	40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
	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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
	Groundwater Concentration for Vapor Intrusion (GW _{VIR}) (a)	18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
	Water Solubility (VII)	2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
	Flammability & Explosivity Screening Level (VIII)	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																	
MW-32 ^A	W-R2330022-102317-DMS-004	10/23/2017																	
MW-32	W-R2330022-102317-DMS-004	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330024-042318-JPM-004	4/23/2018																	
MW-32	W-R2330024-042318-JPM-004	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330017-060515-ACN-003	6/5/2015																	
MW-33	W-R2330017-060515-ACN-003	6/5/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330017-111615-AEP-003	11/16/2015																	
MW-33	W-R2330017-111615-AEP-003	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330021-041816-JPM-005	4/18/2016																	
MW-33	W-R2330021-041816-JPM-005	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330021-103116-JPM-005	10/31/2016																	
MW-33	W-R2330021-103116-JPM-005	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330022-042417-DMS-003	4/24/2017																	
MW-33	W-R2330022-042417-DMS-003	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330022-102617-DMS-005	10/23/2017																	
MW-33	W-R2330022-102617-DMS-005	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330024-042318-DMS-005	4/23/2018																	
MW-33	W-R2330024-042318-DMS-005	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330017-060515-ACN-004	6/5/2015																	
MW-34	W-R2330017-060515-ACN-004	6/5/2015	<25	<1.0	<1.0	<50	<50	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
MW-34 ^A	W-R2330017-111815-JPM-017	11/18/2015																	
MW-34	W-R2330017-111815-JPM-017	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330021-041916-JPM-013	4/19/2016																	
MW-34	W-R2330021-041916-JPM-013	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330021-110416-AEM-030	11/4/2016																	
MW-34	W-R2330021-110416-AEM-030	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330022-042417-DMS-004	4/24/2017																	
MW-34	W-R2330022-042417-DMS-004	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330022-102617-DMS-006	10/23/2017																	
MW-34	W-R2330022-102617-DMS-006	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330024-042318-DMS-007	4/23/2018																	
MW-34	W-R2330024-042318-DMS-007	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330021-041816-AEP-001	4/18/2016																	
MW-35	W-R2330021-041816-AEP-001	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330021-103116-JPM-002	10/31/2016																	
MW-35	W-R2330021-103116-JPM-002	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330022-050117-AFB-036	5/1/2017																	
MW-35	W-R2330022-050117-AFB-036	5/1/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330022-102317-DMS-002	10/23/2017																	
MW-35	W-R2330022-102317-DMS-002	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330024-042318-DMS-001	4/23/2018																	
MW-35	W-R2330024-042318-DMS-001	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330021-041816-JPM-002	4/18/2016																	
MW-36	W-R2330021-041816-JPM-002	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330021-103116-AEM-001	10/31/2016																	
MW-36	W-R2330021-103116-AEM-001	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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)																	
			Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VIR}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NLV	NA	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-32 ^A	W-R2330022-102317-DMS-004	10/23/2017																		
MW-32	W-R2330022-102317-DMS-004	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330024-042318-JPM-004	4/23/2018																		
MW-32	W-R2330024-042318-JPM-004	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330017-060515-ACN-003	6/5/2015																		
MW-33	W-R2330017-060515-ACN-003	6/5/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330017-111615-AEP-003	11/16/2015																		
MW-33	W-R2330017-111615-AEP-003	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330021-041816-JPM-005	4/18/2016																		
MW-33	W-R2330021-041816-JPM-005	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330021-103116-JPM-005	10/31/2016																		
MW-33	W-R2330021-103116-JPM-005	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330022-042417-DMS-003	4/24/2017																		
MW-33	W-R2330022-042417-DMS-003	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330022-102617-DMS-005	10/23/2017																		
MW-33	W-R2330022-102617-DMS-005	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330024-042318-DMS-005	4/23/2018																		
MW-33	W-R2330024-042318-DMS-005	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330017-060515-ACN-004	6/5/2015																		
MW-34	W-R2330017-060515-ACN-004	6/5/2015	<3.0	<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
MW-34 ^A	W-R2330017-111815-JPM-017	11/18/2015																		
MW-34	W-R2330017-111815-JPM-017	11/18/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330021-041916-JPM-013	4/19/2016																		
MW-34	W-R2330021-041916-JPM-013	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330021-110416-AEM-030	11/4/2016																		
MW-34	W-R2330021-110416-AEM-030	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330022-042417-DMS-004	4/24/2017																		
MW-34	W-R2330022-042417-DMS-004	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330022-102617-DMS-006	10/23/2017																		
MW-34	W-R2330022-102617-DMS-006	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330024-042318-DMS-007	4/23/2018																		
MW-34	W-R2330024-042318-DMS-007	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330021-041816-AEP-001	4/18/2016																		
MW-35	W-R2330021-041816-AEP-001	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330021-103116-JPM-002	10/31/2016																		
MW-35	W-R2330021-103116-JPM-002	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330022-050117-AFB-036	5/1/2017																		
MW-35	W-R2330022-050117-AFB-036	5/1/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330022-102317-DMS-002	10/23/2017																		
MW-35	W-R2330022-102317-DMS-002	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330024-042318-DMS-001	4/23/2018																		
MW-35	W-R2330024-042318-DMS-001	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330021-041816-JPM-002	4/18/2016																		
MW-36	W-R2330021-041816-JPM-002	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330021-103116-AEM-001	10/31/2016																		
MW-36	W-R2330021-103116-AEM-001	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 2
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											
	D,n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P.R)	Iron (B)	
Non-residential Drinking Water Criteria (II)	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)	
Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600	
Ground Water Surface Water Interface Criteria (GSI) (III)	9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA	
GSI Final Acute Value (FAV)	75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA	
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	
Groundwater Concentration for Vapor Intrusion (GW _{v,m}) (a)	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV	
Water Solubility (VII)	11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Flammability & Explosivity Screening Level (VIII)	NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	
ID	SAMPLE ID		SAMPLE DATE																
MW-32 ^A	W-R2330022-102317-DMS-004	10/23/2017							7 J	NS	NS	NS	NS	NS	NS	NS	NS	5,200	
MW-32	W-R2330022-102317-DMS-004	10/23/2017	NS	NS	NS	NS	NS	NS	<4.2	NS	NS	NS	NS	NS	NS	NS	NS	5,100	
MW-32 ^A	W-R2330024-042318-JPM-004	4/23/2018							2,000	NS	NS	NS	NS	NS	NS	NS	NS	5,800	
MW-32	W-R2330024-042318-JPM-004	4/23/2018	NS	NS	NS	NS	NS	NS	180	NS	NS	NS	NS	NS	NS	NS	NS	2,100	
MW-33 ^A	W-R2330017-060515-ACN-003	6/5/2015							1,000	NS	NS	NS	NS	NS	NS	NS		4,500	
MW-33	W-R2330017-060515-ACN-003	6/5/2015	NS	NS	NS	NS	NS	NS	18 J	NS	NS	NS	NS	NS	NS	NS	NS	3,200	
MW-33 ^A	W-R2330017-111615-AEP-003	11/16/2015							860	NS	NS	NS	NS	NS	NS	NS		3,400	
MW-33	W-R2330017-111615-AEP-003	11/16/2015	NS	NS	NS	NS	NS	NS	15 J	NS	NS	NS	NS	NS	NS	NS	NS	2,700	
MW-33 ^A	W-R2330021-041816-JPM-005	4/18/2016							67	NS	NS	NS	NS	NS	NS	NS		2,700	
MW-33	W-R2330021-041816-JPM-005	4/18/2016	NS	NS	NS	NS	NS	NS	3.8 J	NS	NS	NS	NS	NS	NS	NS	NS	2,700	
MW-33 ^A	W-R2330021-103116-JPM-005	10/31/2016							400	NS	NS	NS	NS	NS	NS	NS	NS	4,100	
MW-33	W-R2330021-103116-JPM-005	10/31/2016	NS	NS	NS	NS	NS	NS	16 J	NS	NS	NS	NS	NS	NS	NS	NS	3,300	
MW-33 ^A	W-R2330022-042417-DMS-003	4/24/2017							820	NS	NS	NS	NS	NS	NS	NS	NS	5,300	
MW-33	W-R2330022-042417-DMS-003	4/24/2017	NS	NS	NS	NS	NS	NS	16 J	NS	NS	NS	NS	NS	NS	NS	NS	4,200	
MW-33 ^A	W-R2330022-102617-DMS-005	10/23/2017							430	NS	NS	NS	NS	NS	NS	NS	NS	3,700	
MW-33	W-R2330022-102617-DMS-005	10/23/2017	NS	NS	NS	NS	NS	NS	39	NS	NS	NS	NS	NS	NS	NS	NS	3,300	
MW-33 ^A	W-R2330024-042318-DMS-005	4/23/2018							5.2 J	NS	NS	NS	NS	NS	NS	NS	NS	4,100	
MW-33	W-R2330024-042318-DMS-005	4/23/2018	NS	NS	NS	NS	NS	NS	360	NS	NS	NS	NS	NS	NS	NS	NS	4,400	
MW-34 ^A	W-R2330017-060515-ACN-004	6/5/2015							1,700	0.24 J	4.2 J	120	<1.0	<1.0	2.6 J	2.2 J	5.0	2,800	
MW-34	W-R2330017-060515-ACN-004	6/5/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	20 J	0.23 J	3.0 J	110	<1.0	<1.0	1.3 J	1.0 J	0.75 J	<0.005	120 J
MW-34 ^A	W-R2330017-111815-JPM-017	11/18/2015							28 J	NS	NS	NS	NS	NS	NS	NS	NS	1,000	
MW-34	W-R2330017-111815-JPM-017	11/18/2015	NS	NS	NS	NS	NS	NS	2.9 J	NS	NS	NS	NS	NS	NS	NS	NS	930	
MW-34 ^A	W-R2330021-041916-JPM-013	4/19/2016							120	NS	NS	NS	NS	NS	NS	NS		1,200	
MW-34	W-R2330021-041916-JPM-013	4/19/2016	NS	NS	NS	NS	NS	NS	5.7 J	NS	NS	NS	NS	NS	NS	NS	NS	850	
MW-34 ^A	W-R2330021-110416-AEM-030	11/4/2016							300	NS	NS	NS	NS	NS	NS	NS	NS	2,500	
MW-34	W-R2330021-110416-AEM-030	11/4/2016	NS	NS	NS	NS	NS	NS	10 J	NS	NS	NS	NS	NS	NS	NS	NS	1,900	
MW-34 ^A	W-R2330022-042417-DMS-004	4/24/2017							120	NS	NS	NS	NS	NS	NS	NS	NS	2,300	
MW-34	W-R2330022-042417-DMS-004	4/24/2017	NS	NS	NS	NS	NS	NS	12 J	NS	NS	NS	NS	NS	NS	NS	NS	1,900	
MW-34 ^A	W-R2330022-102617-DMS-006	10/23/2017							180	NS	NS	NS	NS	NS	NS	NS	NS	1,800	
MW-34	W-R2330022-102617-DMS-006	10/23/2017	NS	NS	NS	NS	NS	NS	7.9 J	NS	NS	NS	NS	NS	NS	NS	NS	1,500	
MW-34 ^A	W-R2330024-042318-DMS-007	4/23/2018							42	NS	NS	NS	NS	NS	NS	NS	NS	1,800	
MW-34	W-R2330024-042318-DMS-007	4/23/2018	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	1,600	
MW-35 ^A	W-R2330021-041816-AEP-001	4/18/2016							110	NS	NS	NS	NS	NS	NS	NS	NS	320	
MW-35	W-R2330021-041816-AEP-001	4/18/2016	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	11 J	
MW-35 ^A	W-R2330021-103116-JPM-002	10/31/2016							50 J	NS	NS	NS	NS	NS	NS	NS	NS	190 J	
MW-35	W-R2330021-103116-JPM-002	10/31/2016	NS	NS	NS	NS	NS	NS	8 J	NS	NS	NS	NS	NS	NS	NS	NS	13 J	
MW-35 ^A	W-R2330022-050117-AFB-036	5/1/2017							220	NS	NS	NS	NS	NS	NS	NS	NS	790	
MW-35	W-R2330022-050117-AFB-036	5/1/2017	NS	NS	NS	NS	NS	NS	7.1 J	NS	NS	NS	NS	NS	NS	NS	NS	21 J	
MW-35 ^A	W-R2330022-102317-DMS-002	10/23/2017							33	NS	NS	NS	NS	NS	NS	NS	NS	110	
MW-35	W-R2330022-102317-DMS-002	10/23/2017	NS	NS	NS	NS	NS	NS	<4.3	NS	NS	NS	NS	NS	NS	NS	NS	<4.6	
MW-35 ^A	W-R2330024-042318-DMS-001	4/23/2018							61	NS	NS	NS	NS	NS	NS	NS	NS	210	
MW-35	W-R2330024-042318-DMS-001	4/23/2018	NS	NS	NS	NS	NS	NS	4.7 J	NS	NS	NS	NS	NS	NS	NS	NS	87	
MW-36 ^A	W-R2330021-041816-JPM-002	4/18/2016							59	NS	NS	NS	NS	NS	NS	NS	NS	1,100	
MW-36	W-R2330021-041816-JPM-002	4/18/2016	NS	NS	NS	NS	NS	NS	4.1 J	NS	NS	NS	NS	NS	NS	NS	NS	930	
MW-36 ^A	W-R2330021-103116-AEM-001	10/31/2016							58	NS	NS	NS	NS	NS	NS	NS	NS	490	
MW-36	W-R2330021-103116-AEM-001	10/31/2016	NS	NS	NS	NS	NS	NS	7.7 J	NS	NS	NS	NS	NS	NS	NS	NS	340	

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-32 ^A	W-R2330022-102317-DMS-004	10/23/2017	NS		90	NS	NS	NS	NS	NS	NS	NS
MW-32	W-R2330022-102317-DMS-004	10/23/2017	NS		80	NS	NS	NS	NS	NS	NS	NS
MW-32 ^A	W-R2330024-042318-JPM-004	4/23/2018	NS		42	NS	NS	NS	NS	NS	NS	NS
MW-32	W-R2330024-042318-JPM-004	4/23/2018	NS		33	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330017-060515-ACN-003	6/5/2015	NS	<50	120	NS	NS	NS	NS	NS	NS	NS
MW-33	W-R2330017-060515-ACN-003	6/5/2015	NS	<50	80	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330017-111615-AEP-003	11/16/2015	NS	84,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-33	W-R2330017-111615-AEP-003	11/16/2015	NS	85,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330021-041816-JPM-005	4/18/2016	NS	NS	81	NS	NS	NS	NS	NS	NS	NS
MW-33	W-R2330021-041816-JPM-005	4/18/2016	NS	NS	84	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330021-103116-JPM-005	10/31/2016	NS	NS	78	NS	NS	NS	NS	NS	NS	NS
MW-33	W-R2330021-103116-JPM-005	10/31/2016	NS	NS	64	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330022-042417-DMS-003	4/24/2017	NS	96,000	100	NS	NS	NS	NS	NS	NS	NS
MW-33	W-R2330022-042417-DMS-003	4/24/2017	NS	98,000	89	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330022-102617-DMS-005	10/23/2017	NS	NS	72	NS	NS	NS	NS	NS	NS	NS
MW-33	W-R2330022-102617-DMS-005	10/23/2017	NS	NS	68	NS	NS	NS	NS	NS	NS	NS
MW-33 ^A	W-R2330024-042318-DMS-005	4/23/2018	NS	NS	84	NS	NS	NS	NS	NS	NS	NS
MW-33	W-R2330024-042318-DMS-005	4/23/2018	NS	NS	90	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330017-060515-ACN-004	6/5/2015	2.4 J	<50	320	<0.2	7.4 J	<5.0	<0.20	<2.0	3.3 J	13 J
MW-34	W-R2330017-060515-ACN-004	6/5/2015	<3.0	<50	270	<0.2	3.6 J	<5.0	<0.20	<2.0	<4.0	<50
MW-34 ^A	W-R2330017-111815-JPM-017	11/18/2015	NS	20,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-34	W-R2330017-111815-JPM-017	11/18/2015	NS	19,000	NS	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330021-041916-JPM-013	4/19/2016	NS	NS	300	NS	NS	NS	NS	NS	NS	NS
MW-34	W-R2330021-041916-JPM-013	4/19/2016	NS	NS	290	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330021-110416-AEM-030	11/4/2016	NS	NS	520	NS	NS	NS	NS	NS	NS	NS
MW-34	W-R2330021-110416-AEM-030	11/4/2016	NS	NS	490	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330022-042417-DMS-004	4/24/2017	NS	24,000	230	NS	NS	NS	NS	NS	NS	NS
MW-34	W-R2330022-042417-DMS-004	4/24/2017	NS	24,000	240	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330022-102617-DMS-006	10/23/2017	NS	NS	290	NS	NS	NS	NS	NS	NS	NS
MW-34	W-R2330022-102617-DMS-006	10/23/2017	NS	NS	290	NS	NS	NS	NS	NS	NS	NS
MW-34 ^A	W-R2330024-042318-DMS-007	4/23/2018	NS	NS	280	NS	NS	NS	NS	NS	NS	NS
MW-34	W-R2330024-042318-DMS-007	4/23/2018	NS	NS	280	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330021-041816-AEP-001	4/18/2016	NS	NS	16 J	NS	NS	NS	NS	NS	NS	NS
MW-35	W-R2330021-041816-AEP-001	4/18/2016	NS	NS	6.3 J	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330021-103116-JPM-002	10/31/2016	NS	NS	19 J	NS	NS	NS	NS	NS	NS	NS
MW-35	W-R2330021-103116-JPM-002	10/31/2016	NS	NS	1.7 J	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330022-050117-AFB-036	5/1/2017	NS	15,000	29 J	NS	NS	NS	NS	NS	NS	NS
MW-35	W-R2330022-050117-AFB-036	5/1/2017	NS	13,000	1.8 J	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330022-102317-DMS-002	10/23/2017	NS		12	NS	NS	NS	NS	NS	NS	NS
MW-35	W-R2330022-102317-DMS-002	10/23/2017	NS		7.6	NS	NS	NS	NS	NS	NS	NS
MW-35 ^A	W-R2330024-042318-DMS-001	4/23/2018	NS	NS	18	NS	NS	NS	NS	NS	NS	NS
MW-35	W-R2330024-042318-DMS-001	4/23/2018	NS	NS	3.4 J	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330021-041816-JPM-002	4/18/2016	NS	NS	160	NS	NS	NS	NS	NS	NS	NS
MW-36	W-R2330021-041816-JPM-002	4/18/2016	NS	NS	150	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330021-103116-AEM-001	10/31/2016	NS	NS	150	NS	NS	NS	NS	NS	NS	NS
MW-36	W-R2330021-103116-AEM-001	10/31/2016	NS	NS	130	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
MW-36 ^A	W-R2330022-050117-AFB-037	5/1/2017																		
MW-36	W-R2330022-050117-AFB-037	5/1/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330022-102317-DMS-001	10/23/2017																		
MW-36	W-R2330022-102317-DMS-001	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330024-042318-DMS-002	4/23/2018																		
MW-36	W-R2330024-042318-DMS-002	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330017-032015-ACN-030	3/20/2015																		
CRA-266M	W-R2330017-032015-ACN-030	3/20/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
CRA-266M ^A	W-R2330017-111715-JPM-006	11/17/2015																		
CRA-266M	W-R2330017-111715-JPM-006	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330021-042216-JPM-032	4/22/2016																		
CRA-266M	W-R2330021-042216-JPM-032	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330021-110216-JPM-015	11/2/2016																		
CRA-266M	W-R2330021-110216-JPM-015	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330022-042717-AFB-022	4/27/2017																		
CRA-266M	W-R2330022-042717-AFB-022	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330022-102617-AFB-021	10/26/2017																		
CRA-266M	W-R2330022-102617-AFB-021	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330024-042518-JPM-021	4/25/2018																		
CRA-266M	W-R2330024-042518-JPM-021	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.37 J
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.31 J
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	1.4	2.5 J	<1.0	0.44 J
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	<1.0	<5.0	0.72 J	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.29 J
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.48 J
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.28 J
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	<1.0	0.53 J	<1.0	2.9 J	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	4.3 J	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	0.53 J	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
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	<1.0	<5.0	<1.0	<5.0	<1.0	0.84 J	<5.0	<5.0	14.0	6.0	<1.0	39

Table 2
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)																	
			Xylenes	1,1-Biphenyl	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	4-Methylphenol	2,4-Dimethylphenol	4-Chloroaniline	Bis(2-ethylhexyl)phthalate	Acenaphthene	Acetophenone	Benzaldehyde	Butyl benzy phthalate	Carbazole	Dibenzofuran	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
MW-36 ^A	W-R2330022-050117-AFB-037	5/1/2017																		
MW-36	W-R2330022-050117-AFB-037	5/1/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330022-102317-DMS-001	10/23/2017																		
MW-36	W-R2330022-102317-DMS-001	10/23/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330024-042318-DMS-002	4/23/2018																		
MW-36	W-R2330024-042318-DMS-002	4/23/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330017-032015-ACN-030	3/20/2015																		
CRA-266M	W-R2330017-032015-ACN-030	3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
CRA-266M ^A	W-R2330017-111715-JPM-006	11/17/2015																		
CRA-266M	W-R2330017-111715-JPM-006	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330021-042216-JPM-032	4/22/2016																		
CRA-266M	W-R2330021-042216-JPM-032	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330021-110216-JPM-015	11/2/2016																		
CRA-266M	W-R2330021-110216-JPM-015	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330022-042717-AFB-022	4/27/2017																		
CRA-266M	W-R2330022-042717-AFB-022	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330022-102617-AFB-021	10/26/2017																		
CRA-266M	W-R2330022-102617-AFB-021	10/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330024-042518-JPM-021	4/25/2018																		
CRA-266M	W-R2330024-042518-JPM-021	4/25/2018	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-13 ^A	W-R2330009-121013-AJL-008	12/10/2013																		
SB-13	W-R2330009-121013-AJL-008	12/10/2013	<3.0	<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	<5.0
SB-14 ^A	W-R2330009-121013-AJL-007	12/10/2013																		
SB-14	W-R2330009-121013-AJL-007	12/10/2013	<3.0	<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	<5.0
SB-15 ^A	W-R2330009-120913-AJL-006	12/9/2013																		
SB-15	W-R2330009-120913-AJL-006	12/9/2013	<3.0	<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	<5.0
SB-21 ^A	W-R2330009-120513-RD-001	12/5/2013																		
SB-21	W-R2330009-120513-RD-001	12/5/2013	4.2	<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	<5.0	0.35 J	<5.0
SB-22 ^A	W-R2330009-120513-RD-002	12/5/2013																		
SB-22	W-R2330009-120513-RD-002	12/5/2013	<3.0	<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	<5.0
SB-23 ^A	W-R2330009-120513-RD-003	12/5/2013																		
SB-23	W-R2330009-120513-RD-003	12/5/2013	<3.0	<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
SB-24 ^A	W-R2330009-120613-RD-004	12/6/2013																		
SB-24	W-R2330009-120613-RD-004	12/6/2013	<3.0	<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
SB-25 ^A	W-R2330009-120613-RD-005	12/6/2013																		
SB-25	W-R2330009-120613-RD-005	12/6/2013	<3.0	<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
SB-26 ^A	W-R2330009-121013-AJL-009	12/10/2013																		
SB-26	W-R2330009-121013-AJL-009	12/10/2013	<3.0	<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
SB-27 ^A	W-R2330009-121113-AJL-010	12/11/2013																		
SB-27	W-R2330009-121113-AJL-010	12/11/2013	<3.0	<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	<5.0
SB-27 ^A (DUP)	W-R2330009-121113-AJL-011	12/11/2013																		
SB-27 (DUP)	W-R2330009-121113-AJL-011	12/11/2013	<3.0	<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	<5.0
SB-28 ^A	W-R2330009-121113-AJL-012	12/11/2013																		
SB-28	W-R2330009-121113-AJL-012	12/11/2013	<3.0	<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	<5.0
SB-29 ^A	W-R2330009-121213-AJL-014	12/12/2013																		
SB-29	W-R2330009-121213-AJL-014	12/12/2013	74.0	<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	<5.0

Table 2
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										
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																		
MW-36 ^A	W-R2330022-050117-AFB-037	5/1/2017								240	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,100
MW-36	W-R2330022-050117-AFB-037	5/1/2017	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	380
MW-36 ^A	W-R2330022-102317-DMS-001	10/23/2017								25	NS	NS	NS	NS	NS	NS	NS	NS	NS	450
MW-36	W-R2330022-102317-DMS-001	10/23/2017	NS	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	490
MW-36 ^A	W-R2330024-042318-DMS-002	4/23/2018								220	NS	NS	NS	NS	NS	NS	NS	NS	NS	580
MW-36	W-R2330024-042318-DMS-002	4/23/2018	NS	NS	NS	NS	NS	NS	NS	6.2 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	87
CRA-266M ^A	W-R2330017-032015-ACN-030	3/20/2015								150	0.15 J	9.1	24 J	<1.0	0.18 J	0.41 J	0.86 J	1.6 J		750
CRA-266M	W-R2330017-032015-ACN-030	3/20/2015	<5.0	0.13 J	<5.0	<5.0	<2.0	<5.0	<5.0	<50	0.15 J	2.8 J	21 J	<1.0	0.23 J	0.16 J	0.60 J	1.1 J	<5.0	43 J
CRA-266M ^A	W-R2330017-111715-JPM-006	11/17/2015								8.6 J	NS	NS	NS	NS	NS	NS	NS	NS		480
CRA-266M	W-R2330017-111715-JPM-006	11/17/2015	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	31
CRA-266M ^A	W-R2330021-042216-JPM-032	4/22/2016								22 J	NS	NS	NS	NS	NS	NS	NS	NS		440
CRA-266M	W-R2330021-042216-JPM-032	4/22/2016	NS	NS	NS	NS	NS	NS	NS	33 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	360
CRA-266M ^A	W-R2330021-110216-JPM-015	11/2/2016								4.8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	140 J
CRA-266M	W-R2330021-110216-JPM-015	11/2/2016	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	130 J
CRA-266M ^A	W-R2330022-042717-AFB-022	4/27/2017								29 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	890
CRA-266M	W-R2330022-042717-AFB-022	4/27/2017	NS	NS	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	180 J
CRA-266M ^A	W-R2330022-102617-AFB-021	10/26/2017								<4.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	420
CRA-266M	W-R2330022-102617-AFB-021	10/26/2017	NS	NS	NS	NS	NS	NS	NS	<4.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	440
CRA-266M ^A	W-R2330024-042518-JPM-021	4/25/2018								<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	360
CRA-266M	W-R2330024-042518-JPM-021	4/25/2018	NS	NS	NS	NS	NS	NS	NS	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	380
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
SB-13	W-R2330009-121013-AJL-008	12/10/2013	0.21 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
SB-14	W-R2330009-121013-AJL-007	12/10/2013	0.25 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
SB-15	W-R2330009-120913-AJL-006	12/9/2013	0.23 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
SB-21	W-R2330009-120513-RD-001	12/5/2013	<5.0	<1.0	0.94 J	<5.0	<2.0	<5.0	0.44 J	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
SB-22 ^A	W-R2330009-120513-RD-002	12/5/2013								1,900	2.2 J	<5.0	1000	<1.0	<1.0	8.1 J	4.3 J	40 J		16,000
SB-22	W-R2330009-120513-RD-002	12/5/2013	0.14 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
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
SB-23	W-R2330009-120513-RD-003	12/5/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	17 J	0.39 J	23	690	<1.0	<1.0	2.3 J	3.0 J	1.5 J	31	12,000
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
SB-24	W-R2330009-120613-RD-004	12/6/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	52 J	0.60 J	6.7	410	<1.0	<1.0	<10	2.5 J	2.5 J	9.2	4,700
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
SB-25	W-R2330009-120613-RD-005	12/6/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	930	4.3	11	84 J	<1.0	0.10 J	1.4 J	4.0 J	1.5 J	46.0	1,100
SB-26 ^A	W-R2330009-121013-AJL-009	12/10/2013								15,000	5.0 J	610	970 J	12	17	1,000	310	1,100		700,000
SB-26	W-R2330009-121013-AJL-009	12/10/2013	0.16 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	60	22	8.6	57 J	<1.0	<1.0	<10	2.8 J	1.4 J	1.0 J	1,900
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
SB-27	W-R2330009-121113-AJL-010	12/11/2013	0.22 J	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SB-27 ^A (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
SB-27 (DUP)	W-R2330009-121113-AJL-011	12/11/2013	0.19 J	<1.0	<5.0	<5.0														

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-95}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
MW-36 ^A	W-R2330022-050117-AFB-037	5/1/2017	NS	15,000	250	NS	NS	NS	NS	NS	NS	NS
MW-36	W-R2330022-050117-AFB-037	5/1/2017	NS	13,000	140	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330022-102317-DMS-001	10/23/2017	NS	NS	190	NS	NS	NS	NS	NS	NS	NS
MW-36	W-R2330022-102317-DMS-001	10/23/2017	NS	NS	200	NS	NS	NS	NS	NS	NS	NS
MW-36 ^A	W-R2330024-042318-DMS-002	4/23/2018	NS	NS	190	NS	NS	NS	NS	NS	NS	NS
MW-36	W-R2330024-042318-DMS-002	4/23/2018	NS	NS	130	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330017-032015-ACN-030	3/20/2015	1.3 J	<50	210	<0.2	3.7 J	<5.0	<0.20	<2.0	0.76 J	7.8 J
CRA-266M	W-R2330017-032015-ACN-030	3/20/2015	<3.0	<50	72	<0.2	2.4 J	<5.0	<0.20	<2.0	<4.0	<50
CRA-266M ^A	W-R2330017-111715-JPM-006	11/17/2015	NS	12,000	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M	W-R2330017-111715-JPM-006	11/17/2015	NS	12,000	NS	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330021-042216-JPM-032	4/22/2016	NS	NS	110	NS	NS	NS	NS	NS	NS	NS
CRA-266M	W-R2330021-042216-JPM-032	4/22/2016	NS	NS	100	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330021-110216-JPM-015	11/2/2016	NS	NS	72	NS	NS	NS	NS	NS	NS	NS
CRA-266M	W-R2330021-110216-JPM-015	11/2/2016	NS	NS	68	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330022-042717-AFB-022	4/27/2017	NS	12,000	610	NS	NS	NS	NS	NS	NS	NS
CRA-266M	W-R2330022-042717-AFB-022	4/27/2017	NS	13,000	130	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330022-102617-AFB-021	10/26/2017	NS	NS	800	NS	NS	NS	NS	NS	NS	NS
CRA-266M	W-R2330022-102617-AFB-021	10/26/2017	NS	NS	830	NS	NS	NS	NS	NS	NS	NS
CRA-266M ^A	W-R2330024-042518-JPM-021	4/25/2018	NS	NS	96	NS	NS	NS	NS	NS	NS	NS
CRA-266M	W-R2330024-042518-JPM-021	4/25/2018	NS	NS	98	NS	NS	NS	NS	NS	NS	NS
SB-13 ^A	W-R2330009-121013-AJL-008	12/10/2013	250	<50	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	0.072 J	<50	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	4.0	<50	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	0.11 J	<50	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	0.79 J	<50	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	<3.0	<50	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	1,700	<50	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	0.49 J	<50	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	59	<50	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	0.21 J	<50	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	86	<50	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	0.084 J	<50	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	150	<50	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	<3.0	<50	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	440	<50	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	0.63 J	<50	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	640	<50	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	0.11 J	<50	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	100	<50	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	<3.0	<50	310	<0.2	25	<5.0	<0.20	<2.0	0.46 J	19 J
SB-27 ^A (DUP)	W-R2330009-121113-AJL-011	12/11/2013	19 J	<50	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	<3.0	<50	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	200	<50	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	<3.0	<50	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	330	<50	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	<3.0	<50	580	<0.2	12 J	<5.0	<0.20	<2.0	1.7 J	18 J

Table 2
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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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)																				
ID	SAMPLE ID	SAMPLE DATE	ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
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	<1.0	<5.0	<1.0	<5.0	<1.0	5.5 J	<5.0	<5.0	0.29 J	2.0 J	<1.0	0.33 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	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<1.0	0.44 J
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	<1.0	<5.0	1.4	<5.0	<1.0	<10	<5.0	<5.0	<1.0	1.3 J	<1.0	0.27 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	<1.0	0.44 J	1.2	<5.0	<1.0	<10	<5.0	<5.0	<1.0	0.62 J	<1.0	0.29 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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.44 J
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	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.38 J
SB-16	W-R2330012-033114-ACN-001	3/31/2014	<25	<1.0	<1.0	<50	14 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
SB-17	W-R2330012-033114-ACN-002	3/31/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	6.2	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
SB-18	W-R2330012-033114-ACN-003	3/31/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
SB-19	W-2330012-040114-ACN-004	4/1/2014	<25	<1.0	<1.0	<50	3.3 J	0.36 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	1.1	0.62 J
SB-20	W-2330012-040114-ACN-005	4/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.25 J
SB-35	W-2330012-040114-ACN-006	4/1/2014	<25	<1.0	1.5	<50	3.3 J	6.1	<1.0	<5.0	2.0	<5.0	<1.0	1.5	<5.0	<5.0	0.18 J	1.4 J	1.1	0.25 J
SB-36	W-R2330012-040314-ACN-007	4/3/2014	<25	<1.0	<1.0	<50	7.1 J	2.5	<1.0	<5.0	1.2	<5.0	<1.0	<10	<5.0	<5.0	0.84 J	1.9 J	<1.0	0.54 J
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	<25	<1.0	<1.0	<50	7.8 J	2.7	<1.0	<5.0	1.4	<5.0	<1.0	1.4 J	<5.0	<5.0	0.86 J	2.0 J	<1.0	0.52 J
SB-37	W-R2330012-040314-ACN-009	4/3/2014	<25	<1.0	<1.0	<50	6.9 J	2.6	<1.0	1.3 J	<1.0	<5.0	<1.0	<10	<5.0	<5.0	0.84 J	<5.0	<1.0	0.82 J
SB-38	W-R2330012-040314-ACN-010	4/3/2014	2.2 J	<1.0	0.98 J	<50	16 J	2.8	<1.0	1.4 J	0.96 J	<5.0	<1.0	<10	<5.0	<5.0	<1.0	1.6 J	<1.0	0.38 J
SB-39	W-R2330012-040314-ACN-011	4/3/2014	<25	<1.0	0.91 J	<50	11 J	17	<1.0	1.6 J	90	<5.0	<1.0	2.0 J	<5.0	<5.0	<1.0	2.0 J	<1.0	0.30 J
SB-46	W-R2330012-041114-ACN-015	4/11/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.30 J
SB-47	W-R2330012-041114-ACN-016	4/11/2014	<25	<1.0	<1.0	<50	<50	0.31 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.49 J
SB-48	W-R2330012-040314-ACN-013	4/9/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.35 J
SB-49	W-R2330012-040314-ACN-014	4/9/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
SB-50	W-R2330012-040314-ACN-012	4/9/2014	<25	<1.0	<1.0	<50	<50	0.29 J	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	0.39 J
SW-1	W-R2330009-050313-MJF-015	5/3/2013	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
SW-1	W-R2330012-041514-ACN-017	4/15/2014	<25	<1.0	<1.0	1.4 J	7.5 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
SW-2	W-R2330009-050313-MJF-014	5/3/2013	<25	<1.0	<1.0	<50	4.0 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5		

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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)																	
			Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VIR}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
SB-30 ^A	W-R2330009-121213-AJL-016	12/12/2013																		
SB-30	W-R2330009-121213-AJL-016	12/12/2013	1.0 J	<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	<5.0
SB-31 ^A	W-R2330009-121213-AJL-018	12/12/2013																		
SB-31	W-R2330009-121213-AJL-018	12/12/2013	<3.0	<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
SB-32 ^A	W-R2330009-121213-AJL-015	12/12/2013																		
SB-32	W-R2330009-121213-AJL-015	12/12/2013	1.0 J	<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	<5.0
SB-33 ^A	W-R2330009-121213-AJL-017	12/12/2013																		
SB-33	W-R2330009-121213-AJL-017	12/12/2013	1.3 J	<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	<5.0	0.37 J	<5.0
SB-34 ^A	W-R2330009-121313-AJL-018	12/13/2013																		
SB-34	W-R2330009-121313-AJL-018	12/13/2013	<3.0	<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
SB-34 ^A (DUP)	W-R2330009-121313-AJL-019	12/13/2013																		
SB-34 (DUP)	W-R2330009-121313-AJL-019	12/13/2013	<3.0	<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
SB-16	W-R2330012-033114-ACN-001	3/31/2014	<3.0	<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
SB-17	W-R2330012-033114-ACN-002	3/31/2014	<3.0	<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
SB-18	W-R2330012-033114-ACN-003	3/31/2014	<3.0	<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
SB-19	W-2330012-040114-ACN-004	4/1/2014	1.0 J	<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
SB-20	W-2330012-040114-ACN-005	4/1/2014	<3.0	<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
SB-35	W-2330012-040114-ACN-006	4/1/2014	1.9 J	<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
SB-36	W-R2330012-040314-ACN-007	4/3/2014	2.8 J	<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
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	2.8 J	<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
SB-37	W-R2330012-040314-ACN-009	4/3/2014	1.7 J	<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
SB-38	W-R2330012-040314-ACN-010	4/3/2014	1.5 J	<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
SB-39	W-R2330012-040314-ACN-011	4/3/2014	1.5 J	<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
SB-46	W-R2330012-041114-ACN-015	4/11/2014	<3.0	<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
SB-47	W-R2330012-041114-ACN-016	4/11/2014	<3.0	<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
SB-48	W-R2330012-040314-ACN-013	4/9/2014	<3.0	<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
SB-49	W-R2330012-040314-ACN-014	4/9/2014	<3.0	<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
SB-50	W-R2330012-040314-ACN-012	4/9/2014	<3.0	<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
SW-1	W-R2330009-050313-MJF-015	5/3/2013	<3.0	<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
SW-1	W-R2330012-041514-ACN-017	4/15/2014	<3.0	<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
SW-2	W-R2330009-050313-MJF-014	5/3/2013	<3.0	<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
SW-2	W-R2330012-041514-ACN-019	4/15/2014	<3.0	<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
SW-3	W-R2330009-051013-MJF-016	5/10/2013	<3.0	<80	<10	<5.0	<10	<10	<80	<80	<40	<5.0	<5.0	<10	<5.0	<80	<4.0	<5.0	<40	<40
SW-3	W-R2330012-041514-ACN-018	4/15/2014	<3.0	<10	<10	<5.0	<10	<10												

Table 2
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										
			D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{v,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																		
SB-30 ^A	W-R2330009-121213-AJL-016	12/12/2013								7,300	3.1 J	6.8 J	2,700	<1.0	2.4 J	22 J	7.2 J	58		41,000
SB-30	W-R2330009-121213-AJL-016	12/12/2013	0.21 J	<1.0	1.1 J	2.2 J	<2.0	<5.0	0.40 J	18 J	0.43 J	<5.0	2,100	<1.0	<1.0	<10	3.6 J	<4.0	3.9 J	29,000
SB-31 ^A	W-R2330009-121213-AJL-018	12/12/2013								2,000	0.34 J	5.7 J	84 J	0.1 J	<1.0	14	2.5 J	14		8,400
SB-31	W-R2330009-121213-AJL-018	12/12/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	60 J	0.46 J	23 J	520 J	<10	<10	4.3 J	5.9 J	<40	2.1 J	21,000
SB-32 ^A	W-R2330009-121213-AJL-015	12/12/2013								1,600	1.7 J	<5.0	1,600	<1.0	2.4 J	12 J	6.2 J	31 J		30,000
SB-32	W-R2330009-121213-AJL-015	12/12/2013	0.37 J	<1.0	0.17 J	1.0 J	<2.0	<5.0	<5.0	21 J	0.53 J	<5.0	1,500	<1.0	<1.0	4.7 J	5.4 J	<4.0	3.7 J	26,000
SB-33 ^A	W-R2330009-121213-AJL-017	12/12/2013								45,000	95	66	3,400	2.0 J	42	320	51 J	1,100		170,000
SB-33	W-R2330009-121213-AJL-017	12/12/2013	0.26 J	<1.0	<5.0	0.20 J	<2.0	<5.0	<5.0	30 J	1.6 J	<5.0	1,500	<1.0	<1.0	3.5 J	6.8 J	<4.0	60	23,000
SB-34 ^A	W-R2330009-121313-AJL-018	12/13/2013								2,000	0.34 J	5.7	84 J	0.10 J	<1.0	14	2.5 J	14		8,400
SB-34	W-R2330009-121313-AJL-018	12/13/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	60 J	0.46 J	23 J	520 J	<1.0	<1.0	4.3 J	5.9 J	<4.0	2.1 J	21,000
SB-34 ^A (DUP)	W-R2330009-121313-AJL-019	12/13/2013								11,000	0.97 J	12	150	0.49 J	0.26 J	59	11 J	50		31,000
SB-34 (DUP)	W-R2330009-121313-AJL-019	12/13/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	75 J	0.89 J	9.3 J	700 J	<1.0	<1.0	<10	4.6 J	<4.0	4.5 J	38,000
SB-16	W-R2330012-033114-ACN-001	3/31/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	35 J	1.2 J	44	540	<1.0	0.12 J	0.97 J	4.1 J	0.76 J	<0.005	11,000
SB-17	W-R2330012-033114-ACN-002	3/31/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	38 J	0.16 J	5.7	370	<1.0	0.046 J	0.65 J	3.9 J	<4.0	<0.005	7,000
SB-18	W-R2330012-033114-ACN-003	3/31/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	380	0.33 J	6.2	58 J	<1.0	0.053 J	1.4 J	3.9 J	1.5 J	<0.005	13,000
SB-19	W-2330012-040114-ACN-004	4/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	39 J	0.46 J	5.3	140	<1.0	<1.0	<10	5.8 J	0.54 J	2.1	2,100
SB-20	W-2330012-040114-ACN-005	4/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	300	0.19 J	<5.0	21 J	<1.0	<1.0	<10	1.8 J	1.2 J	1.3	490
SB-35	W-2330012-040114-ACN-006	4/1/2014	<5.0	<1.0	1.3 J	1.9 J	1.9 J	<5.0	<5.0	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
SB-36	W-R2330012-040314-ACN-007	4/3/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SB-36 (DUP)	W-R2330012-040314-ACN-008	4/3/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SB-37	W-R2330012-040314-ACN-009	4/3/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SB-38	W-R2330012-040314-ACN-010	4/3/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	13 J	2.5 J	14 J	380	<1.0	<1.0	<10	6.2 J	<4.0	5.2 J	2,200
SB-39	W-R2330012-040314-ACN-011	4/3/2014	<5.0	<1.0	<5.0	0.80 J	<2.0	<5.0	<5.0	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
SB-46	W-R2330012-041114-ACN-015	4/11/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SB-47	W-R2330012-041114-ACN-016	4/11/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SB-48	W-R2330012-040314-ACN-013	4/9/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	170 J	1.4 J	<5.0	69 J	<1.0	<1.0	<10	7.7 J	6.1 J	<0.005	280 J
SB-49	W-R2330012-040314-ACN-014	4/9/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SB-50	W-R2330012-040314-ACN-012	4/9/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SW-1	W-R2330009-050313-MJF-015	5/3/2013	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	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
SW-1	W-R2330012-041514-ACN-017	4/15/2014	<5.0	1.6 H	<5.0	<5.0	<2.0	0.69 H	<5.0	16 J	1.3 J	<								

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-M}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
SB-30 ^A	W-R2330009-121213-AJL-016	12/12/2013	940	<50	380 J	0.15	22 J	<5.0	<0.20	<2.0	19 J	950
SB-30	W-R2330009-121213-AJL-016	12/12/2013	1.1 J	<50	260 J	<0.2	8.2 J	<5.0	<0.20	<2.0	<4.0	<500
SB-31 ^A	W-R2330009-121213-AJL-018	12/12/2013	11	<50	130	0.1	9.7 J	<5.0	<2.0	<2.0	6.6	44
SB-31	W-R2330009-121213-AJL-018	12/12/2013	<3.0	<50	170 J	<0.2	19 J	<5.0	<2.0	<2.0	<4.0	<27
SB-32 ^A	W-R2330009-121213-AJL-015	12/12/2013	120	<50	290 J	<0.2	31 J	<5.0	<0.20	<2.0	2.4 J	210 J
SB-32	W-R2330009-121213-AJL-015	12/12/2013	<3.0	<50	270 J	<0.2	19 J	<5.0	<0.20	<2.0	2.4 J	16 J
SB-33 ^A	W-R2330009-121213-AJL-017	12/12/2013	3,200	<50	2,200	2.2	320	<5.0	16	<2.0	90	9,900
SB-33	W-R2330009-121213-AJL-017	12/12/2013	<3.0	<50	420 J	<0.2	16 J	<5.0	<0.20	<2.0	2.3 J	61 J
SB-34 ^A	W-R2330009-121313-AJL-018	12/13/2013	11	<50	130	0.11	9.7 J	<5.0	<2.0	<2.0	6.6	44 J
SB-34	W-R2330009-121313-AJL-018	12/13/2013	<3.0	<50	170 J	<0.2	19 J	<5.0	<2.0	<2.0	<4.0	27 J
SB-34 ^A (DUP)	W-R2330009-121313-AJL-019	12/13/2013	77	<50	610	0.43	40	2.6 J	0.18 J	0.37 J	30	140
SB-34 (DUP)	W-R2330009-121313-AJL-019	12/13/2013	<3.0	<50	1,500	<0.2	26 J	<5.0	<2.0	<2.0	1.7 J	34 J
SB-16	W-R2330012-033114-ACN-001	3/31/2014	<3.0	<50	270	<0.2	31	0.98 J	<0.2	<2.0	0.86 J	360
SB-17	W-R2330012-033114-ACN-002	3/31/2014	<3.0	<50	390	<0.2	7.5 J	1.7 J	<0.2	<2.0	0.69 J	19 J
SB-18	W-R2330012-033114-ACN-003	3/31/2014	0.44 J	<50	660	<0.2	11 J	<5.0	<0.2	<2.0	1.4 J	140
SB-19	W-2330012-040114-ACN-004	4/1/2014	0.081 J	<50	930	<0.2	18 J	0.84 J	<0.20	<2.0	0.46 J	62
SB-20	W-2330012-040114-ACN-005	4/1/2014	0.13 J	<50	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	0.43 J	<50	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	0.47 J	<50	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	0.41 J	<50	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	3.1 J	<50	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	0.47 J	<50	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	1.5 J	<50	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	1.2 J	<50	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	0.18 J	<50	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	<3.0	<50	410	<0.2	20 J	5.4 J	<0.20	<2.0	2.4 J	21J
SB-49	W-R2330012-040314-ACN-014	4/9/2014	0.62 J	<50	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	14 J	<50	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	0.069 J	<50	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	2.3 J	<50	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	0.25 J	<50	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	0.77 J	<50	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	1.7 J	<50	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	2.6 J	<50	6.2 J	<0.2	4.2 J	<5.0	<0.20	<2.0	<4.0	8.8 J
SW-3 ^A	W-R2330024-042418-JPM-011	4/24/2018	NS	NS	180	NS	NS	NS	NS	NS	NS	NS
SW-3	W-R2330024-042418-JPM-011	4/24/2018	NS	NS	38	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330004-090512-MJF-05	9/5/2012	0.27 J	<50	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	0.0053 J	<50	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	0.053 J	<50	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	<3.0	<50	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	<3.0	<50	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	<3.0	<50	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	0.16 J	<50	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	0.037 J	<50	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	0.054 J	<50	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	<3.0	<50	0.39 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	0.87 J

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{v-in}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
Equipment Blank ^A	W-R2330012-112414-ACN-005	11/24/2014																		
Equipment Blank	W-R2330012-112414-ACN-005	11/24/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330012-112514-ACN-010	11/25/2014																		
Equipment Blank	W-R2330012-112514-ACN-010	11/25/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330012-112614-JCH-016	11/26/2014																		
Equipment Blank	W-R2330012-112614-JCH-016	11/26/2014	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330012-121114-JCH-022	12/1/2014																		
Equipment Blank	W-R2330012-121114-JCH-022	12/1/2014	<25	<1.0	<1.0	<50	<50	<1.0	7.2	<5.0	<1.0	<5.0	15	<10	3.4 J	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330012-122114-JCH-029	12/2/2014																		
Equipment Blank	W-R2330012-122114-JCH-029	12/2/2014	<25	<1.0	<1.0	<50	<50	<1.0	2.2	<5.0	<1.0	<5.0	5.7	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330012-020515-ACN-004	2/5/2015																		
Equipment Blank	W-R2330012-020515-ACN-004	2/5/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<1.0	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330017-031615-ACN-008	3/16/2015																		
Equipment Blank	W-R2330017-031615-ACN-008	3/16/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330017-031715-ACN-014	3/17/2015																		
Equipment Blank	W-R2330017-031715-ACN-014	3/17/2015	<25	<1.0	<1.0	<50	5.1 J	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330017-031915-ACN-022	3/19/2015																		
Equipment Blank	W-R2330017-031915-ACN-022	3/19/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330017-032015-ACN-031	3/20/2015																		
Equipment Blank	W-R2330017-032015-ACN-031	3/20/2015	<25	<1.0	<1.0	<50	<50	<1.0	<1.0	<5.0	<1.0	<5.0	<1.0	<10	<5.0	<5.0	<1.0	<5.0	<1.0	<1.0
Equipment Blank ^A	W-R2330017-111615-AEP-024	11/16/2015																		
Equipment Blank	W-R2330017-111615-AEP-024	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330017-111715-JPM-025	11/17/2015																		
Equipment Blank	W-R2330017-111715-JPM-025	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330017-111815-AFB-026	11/18/2015																		
Equipment Blank	W-R2330017-111915-AEP-027	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-041816-AEP-006	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-041916-AEP-014	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-042116-AFB-029	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-042216-JPM-035	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEM-006	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEP-011	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEM-020	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-110316-JPM-028	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-110416-JPM-038	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042417-DMS-005	4/24/2017																		
Equipment Blank	W-R2330022-042417-DMS-005	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042517-JPM-014	4/25/2017																		
Equipment Blank	W-R2330022-042517-JPM-014	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042617-DMS-020	4/26/2017																		
Equipment Blank	W-R2330022-042617-DMS-020	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042717-DMS-028	4/27/2017																		
Equipment Blank	W-R2330022-042717-DMS-028	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042817-AFB-035	4/28/2017																		
Equipment Blank	W-R2330022-042817-AFB-035	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-050117-AFB-038	5/1/2017																		

Table 2
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)																	
			Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate	Dimethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VIR}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
Equipment Blank ^A	W-R2330012-112414-ACN-005	11/24/2014																		
Equipment Blank	W-R2330012-112414-ACN-005	11/24/2014	<3.0	<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
Equipment Blank ^A	W-R2330012-112514-ACN-010	11/25/2014																		
Equipment Blank	W-R2330012-112514-ACN-010	11/25/2014	<3.0	<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
Equipment Blank ^A	W-R2330012-112614-JCH-016	11/26/2014																		
Equipment Blank	W-R2330012-112614-JCH-016	11/26/2014	<3.0	<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
Equipment Blank ^A	W-R2330012-121114-JCH-022	12/1/2014																		
Equipment Blank	W-R2330012-121114-JCH-022	12/1/2014	<3.0	<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
Equipment Blank ^A	W-R2330012-122114-JCH-029	12/2/2014																		
Equipment Blank	W-R2330012-122114-JCH-029	12/2/2014	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
Equipment Blank ^A	W-R2330012-020515-ACN-004	2/5/2015																		
Equipment Blank	W-R2330012-020515-ACN-004	2/5/2015	<3.0	<11	<11	<5.3	<11	<10	<5.3	<11	<5.3	<5.3	<5.3	<11	<5.3	<11	<4.2	<5.0	<5.3	<5.3
Equipment Blank ^A	W-R2330017-031615-ACN-008	3/16/2015																		
Equipment Blank	W-R2330017-031615-ACN-008	3/16/2015	<3.0	<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
Equipment Blank ^A	W-R2330017-031715-ACN-014	3/17/2015																		
Equipment Blank	W-R2330017-031715-ACN-014	3/17/2015	<3.0	<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
Equipment Blank ^A	W-R2330017-031915-ACN-022	3/19/2015																		
Equipment Blank	W-R2330017-031915-ACN-022	3/19/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
Equipment Blank ^A	W-R2330017-032015-ACN-031	3/20/2015																		
Equipment Blank	W-R2330017-032015-ACN-031	3/20/2015	<3.0	<10	<10	<5.0	<10	<10	<5.0	<10	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<4.0	<5.0	<5.0
Equipment Blank ^A	W-R2330017-111615-AEP-024	11/16/2015																		
Equipment Blank	W-R2330017-111615-AEP-024	11/16/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330017-111715-JPM-025	11/17/2015																		
Equipment Blank	W-R2330017-111715-JPM-025	11/17/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330017-111815-AFB-026	11/18/2015																		
Equipment Blank	W-R2330017-111915-AEP-027	11/19/2015	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-041816-AEP-006	4/18/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-041916-AEP-014	4/19/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-042116-AFB-029	4/21/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-042216-JPM-035	4/22/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEM-006	10/31/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEP-011	11/1/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEM-020	11/2/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-110316-JPM-028	11/3/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-110416-JPM-038	11/4/2016	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042417-DMS-005	4/24/2017																		
Equipment Blank	W-R2330022-042417-DMS-005	4/24/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042517-JPM-014	4/25/2017																		
Equipment Blank	W-R2330022-042517-JPM-014	4/25/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042617-DMS-020	4/26/2017																		
Equipment Blank	W-R2330022-042617-DMS-020	4/26/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042717-DMS-028	4/27/2017																		
Equipment Blank	W-R2330022-042717-DMS-028	4/27/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042817-AFB-035	4/28/2017																		
Equipment Blank	W-R2330022-042817-AFB-035	4/28/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-050117-AFB-038	5/1/2017																		

Table 2
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												
	D-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P,R)	Iron (B)		
Non-residential Drinking Water Criteria (II)	2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)		
Non-residential Health-Based Drinking Water Value (E)	NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600		
Ground Water Surface Water Interface Criteria (GSI) (III)	9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA		
GSI Final Acute Value (FAV)	75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA		
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV		
Groundwater Concentration for Vapor Intrusion (GW _{v,m}) (a)	NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV		
Water Solubility (VII)	11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Flammability & Explosivity Screening Level (VIII)	NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID		
ID	SAMPLE ID	SAMPLE DATE																		
Equipment Blank ^A	W-R2330012-112414-ACN-005	11/24/2014						3.3 J	<2.0	<5.0	<100	<1.0	<1.0	<1.0	<20	6.3		<200		
Equipment Blank	W-R2330012-112414-ACN-005	11/24/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	6.3 J	<2.0	<5.0	<100	<1.0	0.027 J	<10	<20	6.3	<5.0	<200
Equipment Blank ^A	W-R2330012-112514-ACN-010	11/25/2014						3.6 J	<2.0	<5.0	0.67 J	<1.0	<1.0	<10	<20	2.3 J		17 J		
Equipment Blank	W-R2330012-112514-ACN-010	11/25/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	3.2 J	<2.0	<5.0	0.58 J	<1.0	<10	<20	2.2 J	<5.0	<200	
Equipment Blank ^A	W-R2330012-112614-JCH-016	11/26/2014						3.8 J	<2.0	<5.0	<100	<1.0	0.091 J	<10	<20	6.2		<200		
Equipment Blank	W-R2330012-112614-JCH-016	11/26/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	6.2 J	<2.0	<5.0	<100	<1.0	0.27 J	0.37 J	<20	5.9	<5.0	21 J
Equipment Blank ^A	W-R2330012-121114-JCH-022	12/1/2014						23 J	0.15 J	<5.0	16 J	<1.0	0.032 J	0.30 J	<20	170		33 J		
Equipment Blank	W-R2330012-121114-JCH-022	12/1/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	23 J	0.16 J	<5.0	15 J	<1.0	0.034 J	<10	<20	160	<5.0	27 J
Equipment Blank ^A	W-R2330012-122114-JCH-029	12/2/2014						<50	<2.0	<5.0	1.4 J	<1.0	<1.0	<10	<20	<4.0		<200		
Equipment Blank	W-R2330012-122114-JCH-029	12/2/2014	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	<50	<2.0	<5.0	0.45 J	<1.0	<1.0	0.13 J	<20	<4.0	<5.0	<200
Equipment Blank ^A	W-R2330012-020515-ACN-004	2/5/2015						12 J	<2.0	<5.0	6.8 J	<1.0	<1.0	<10	0.21 J	83		<200		
Equipment Blank	W-R2330012-020515-ACN-004	2/5/2015	<5.3	<1.1	<5.3	<5.3	<2.1	<5.3	<5.3	<50	<2.0	<5.0	<100	<1.0	<1.0	<10	<20	2.0 J	<5.0	<200
Equipment Blank ^A	W-R2330017-031615-ACN-008	3/16/2015						<50	<2.0	<5.0	<100	<1.0	<1.0	0.21 J	<20	1.1 J		<200		
Equipment Blank	W-R2330017-031615-ACN-008	3/16/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	<50	<2.0	<5.0	<100	<1.0	<1.0	0.19 J	<20	1.1 J	<5.0	<200
Equipment Blank ^A	W-R2330017-031715-ACN-014	3/17/2015						<50	<2.0	<5.0	<100	<1.0	0.027 J	0.17 J	<20	1.0 J		<200		
Equipment Blank	W-R2330017-031715-ACN-014	3/17/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	<50	<2.0	<5.0	<100	<1.0	<1.0	0.19 J	<20	1.1 J	<5.0	<200
Equipment Blank ^A	W-R2330017-031915-ACN-022	3/19/2015						21 J	<2.0	<5.0	3.3 J	<1.0	<1.0	<10	<20	1.4 J		22 J		
Equipment Blank	W-R2330017-031915-ACN-022	3/19/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	18 J	<2.0	<5.0	1.5 J	<1.0	<1.0	<10	<20	1.3 J	<5.0	<200
Equipment Blank ^A	W-R2330017-032015-ACN-031	3/20/2015						<50	<2.0	<5.0	<100	<1.0	<1.0	0.21 J	<20	1.4 J		43 J		
Equipment Blank	W-R2330017-032015-ACN-031	3/20/2015	<5.0	<1.0	<5.0	<5.0	<2.0	<5.0	<5.0	<50	<2.0	<5.0	<100	<1.0	<1.0	0.21 J	<20	1.1 J	<5.0	<200
Equipment Blank ^A	W-R2330017-111615-AEP-024	11/16/2015						<50	NS	NS	NS	NS	NS	NS	NS	NS		33 J		
Equipment Blank	W-R2330017-111615-AEP-024	11/16/2015	NS	NS	NS	NS	NS	NS	NS	1.3 J	NS	NS	NS	NS	NS	NS	NS	NS	<200	
Equipment Blank ^A	W-R2330017-111715-JPM-025	11/17/2015						2.7 J	NS	NS	NS	NS	NS	NS	NS	NS		100 J		
Equipment Blank	W-R2330017-111715-JPM-025	11/17/2015	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<200	
Equipment Blank ^A	W-R2330017-111815-AFB-026	11/18/2015						1.8 J	NS	NS	NS	NS	NS	NS	NS	NS		<200		
Equipment Blank	W-R2330017-111915-AEP-027	11/19/2015	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<200	
Equipment Blank	W-R2330021-041816-AEP-006	4/18/2016	NS	NS	NS	NS	NS	67	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	88 J	
Equipment Blank	W-R2330021-041916-AEP-014	4/19/2016	NS	NS	NS	NS	NS	16 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	98 J	
Equipment Blank	W-R2330021-042116-AFB-029	4/21/2016	NS	NS	NS	NS	NS	91	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	340	
Equipment Blank	W-R2330021-042216-JPM-035	4/22/2016	NS	NS	NS	NS	NS	71	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	460	
Equipment Blank	WR2330021-103116-AEM-006	10/31/2016	NS	NS	NS	NS	NS	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	11	
Equipment Blank	WR2330021-103116-AEP-011	11/1/2016	NS	NS	NS	NS	NS	28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	120	
Equipment Blank	WR2330021-103116-AEM-020	11/2/2016	NS	NS	NS	NS	NS	48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	150	
Equipment Blank	W-R2330021-110316-JPM-028	11/3/2016	NS	NS	NS	NS	NS	7.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19	
Equipment Blank	W-R2330021-110416-JPM-038	11/4/2016	NS	NS	NS	NS	NS	89	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	350	
Equipment Blank ^A	W-R2330022-042417-DMS-005	4/24/2017						5.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7.2 J	
Equipment Blank	W-R2330022-042417-DMS-005	4/24/2017	NS	NS	NS	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8.8 J	
Equipment Blank ^A	W-R2330022-042517-JPM-014	4/25/2017						13 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	52 J	
Equipment Blank	W-R2330022-042517-JPM-014	4/25/2017	NS	NS	NS	NS	NS	7.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	93 J	
Equipment Blank ^A	W-R2330022-042617-DMS-020	4/26/2017						16 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	58 J	
Equipment Blank	W-R2330022-042617-DMS-020	4/26/2017	NS	NS	NS	NS	NS	31 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	100 J	
Equipment Blank ^A	W-R2330022-042717-DMS-028	4/27/2017						13 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	56 J	
Equipment Blank	W-R2330022-042717-DMS-028	4/27/2017	NS	NS	NS	NS	NS	24 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	140 J	
Equipment Blank ^A	W-R2330022-042817-AFB-035	4/28/2017						16 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	66 J	
Equipment Blank	W-R2330022-042817-AFB-035	4/28/2017	NS	NS	NS	NS	NS	7.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	81 J	
Equipment Blank ^A	W-R2330022-050117-AFB-038	5/1/2017						18 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	70 J	

Table 2
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			Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc
Non-residential Drinking Water Criteria (II)			4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
Ground Water Surface Water Interface Criteria (GSI) (III)			29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
GSI Final Acute Value (FAV)			551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI-9}) (a)			NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Water Solubility (VII)			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	SAMPLE ID	SAMPLE DATE										
Equipment Blank ^A	W-R2330012-112414-ACN-005	11/24/2014	<3.0	<50	0.53 J	<0.2	0.63 J	<5.0	<0.20	<2.0	<4.0	3.7 J
Equipment Blank	W-R2330012-112414-ACN-005	11/24/2014	<3.0	<50	0.22 J	<0.2	0.67 J	<5.0	<0.20	<2.0	<4.0	3.4 J
Equipment Blank ^A	W-R2330012-112514-ACN-010	11/25/2014	<3.0	<50	0.28 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	3.4 J
Equipment Blank	W-R2330012-112514-ACN-010	11/25/2014	<3.0	<50	0.23 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	3.4 J
Equipment Blank ^A	W-R2330012-112614-JCH-016	11/26/2014	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank	W-R2330012-112614-JCH-016	11/26/2014	<3.0	<50	0.24 J	<0.2	0.68 J	<5.0	0.026 J	<2.0	<4.0	3.5 J
Equipment Blank ^A	W-R2330012-121114-JCH-022	12/1/2014	<3.0	<50	3.5 J	<0.2	1.1 J	<5.0	0.043 J	<2.0	<4.0	14 J
Equipment Blank	W-R2330012-121114-JCH-022	12/1/2014	<3.0	<50	3.2 J	<0.2	1.0 J	<5.0	0.022 J	<2.0	0.54 J	14 J
Equipment Blank ^A	W-R2330012-122114-JCH-029	12/2/2014	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank	W-R2330012-122114-JCH-029	12/2/2014	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank ^A	W-R2330012-020515-ACN-004	2/5/2015	<3.0	<50	8.1 J	<0.2	1.4 J	<5.0	<0.20	<2.0	<4.0	8.6 J
Equipment Blank	W-R2330012-020515-ACN-004	2/5/2015	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank ^A	W-R2330017-031615-ACN-008	3/16/2015	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank	W-R2330017-031615-ACN-008	3/16/2015	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank ^A	W-R2330017-031715-ACN-014	3/17/2015	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank	W-R2330017-031715-ACN-014	3/17/2015	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank ^A	W-R2330017-031915-ACN-022	3/19/2015	<3.0	<50	0.26 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank	W-R2330017-031915-ACN-022	3/19/2015	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank ^A	W-R2330017-032015-ACN-031	3/20/2015	<3.0	<50	0.20 J	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank	W-R2330017-032015-ACN-031	3/20/2015	<3.0	<50	<50	<0.2	<20	<5.0	<0.20	<2.0	<4.0	<50
Equipment Blank ^A	W-R2330017-111615-AEP-024	11/16/2015	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330017-111615-AEP-024	11/16/2015	NS	66 J	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330017-111715-JPM-025	11/17/2015	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330017-111715-JPM-025	11/17/2015	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330017-111815-AFB-026	11/18/2015	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330017-111915-AEP-027	11/19/2015	NS	<50	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-041816-AEP-006	4/18/2016	NS	NS	5.2 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-041916-AEP-014	4/19/2016	NS	NS	1.4 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-042116-AFB-029	4/21/2016	NS	NS	6.5 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-042216-JPM-035	4/22/2016	NS	NS	2.9 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEM-006	10/31/2016	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEP-011	11/1/2016	NS	NS	3.1	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	WR2330021-103116-AEM-020	11/2/2016	NS	NS	3	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-110316-JPM-028	11/3/2016	NS	NS	<50	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330021-110416-JPM-038	11/4/2016	NS	NS	7.4 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042417-DMS-005	4/24/2017	NS	130 J	<50	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330022-042417-DMS-005	4/24/2017	NS	250 J	<50	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042517-JPM-014	4/25/2017	NS	59 J	1.1 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330022-042517-JPM-014	4/25/2017	NS	920	4.3 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042617-DMS-020	4/26/2017	NS	75 J	2.5 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330022-042617-DMS-020	4/26/2017	NS	190 J	7.6 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042717-DMS-028	4/27/2017	NS	150 J	2.5 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330022-042717-DMS-028	4/27/2017	NS	200 J	8.7 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-042817-AFB-035	4/28/2017	NS	190 J	2.9 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330022-042817-AFB-035	4/28/2017	NS	150 J	2.0 J	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-050117-AFB-038	5/1/2017	NS	170 J	2.6 J	NS	NS	NS	NS	NS	NS	NS

Table 2
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	Bromodichloromethane	Carbon disulfide	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene
Non-residential Drinking Water Criteria (II)			38,000	600 (A)	75 (A)	5,200	2,100	5.0 (A)	80 (A,W)	2,300	100 (A)	1,700	80 (A,W)	NA	80 (A,W)	4,800	74 (E)	2,300	NA	790 (E)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	700	NA	NA	1,000
Ground Water Surface Water Interface Criteria (GSI) (III)			2,200	13	17	ID	1,700	200 (X)	ID	ID	25	1,100 (X)	350	NA	ID	ID	18	28	NA	270
GSI Final Acute Value (FAV)			40,000	240	210	ID	30,000	1,900	ID	ID	450	20,000	11,000	ID	ID	ID	320	500	NA	2,600
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	37,000	5.5E+05	4.7E+05 (S)	5.7E+06 (S)	1.8E+05	NA	1.10E+05	3.0E+05	1.7E+05 (S)	56,000 (S)	NA	5.3E+5 (S)
Groundwater Concentration for Vapor Intrusion (GW _{VI,eq}) (a)			18,000	32,000	380	4,400,000	34,000,000	1.4E+02	NA	9,900	4,600	180,000	7.2E+02	8,100	NA	NA	2.6E+03	53	NA	150,000
Water Solubility (VII)			2.40E+08	1.56E+05	73,800	2.00E+07	1.0E+09	1.75E+06	6.74E+06	1.19E+06	4.72E+05	5.74E+06	7.92E+06	NA	2.60E+06	3.0E+05	1.69E+05	56,000	NA	5.26E+05
Flammability & Explosivity Screening Level (VIII)			ID	NA	NA	ID	1.5E+07	68,000	ID	13,000	1.6E+05	1.1E+05	ID	NA	ID	ID	43,000	29,000	NA	61,000
ID	SAMPLE ID	SAMPLE DATE																		
Equipment Blank	W-R2330022-050117-AFB-038	5/1/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102317-DMS-007	10/23/2017																		
Equipment Blank ^A	W-R2330022-102417-DMS-013	10/24/2017																		
Equipment Blank ^A	W-R2330022-102517-AFB-020	10/25/2017																		
Equipment Blank ^A	W-R2330022-102617-AFB-027	10/26/2017																		
Equipment Blank ^A	W-R2330022-102717-AFB-033	10/27/2017																		
Equipment Blank ^A	W-R2330022-102817-AFB-039	10/28/2017																		
Equipment Blank ^A	W-R230024-042318-DMS-008	4/23/2018																		
Equipment Blank	W-R230024-042318-DMS-008	4/23/2018																		
Equipment Blank ^A	W-R2330024-042418-JPM-019	4/24/2018																		
Equipment Blank	W-R2330024-042418-JPM-019	4/24/2018																		
Equipment Blank ^A	W-R2330024-042518-DMS-031	4/25/2018																		
Equipment Blank	W-R2330024-042518-DMS-031	4/25/2018																		
Equipment Blank ^A	W-R2330024-042618-DMS-035	4/26/2018																		
Equipment Blank	W-R2330024-042618-DMS-035	4/26/2018																		

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.

NS = Not Sampled or Not Analyzed.

Exceeds Generic Drinking Water Cleanup Criteria (II)

Exceeds Generic Drinking Water Cleanup Criteria (II) and the Generic Health-Based Drinking Water Value (E)

Exceeds Generic Ground Water Surface Water Interface Criteria (III)

Exceeds Two or More DW (II), GSI (III) and/or Generic Health-Based Drinking 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 2
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)																
				Xylenes	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	Dichlorodifluoromethane	Diethyl phthalate
Non-residential Drinking Water Criteria (II)			280 (E)	ID	130	750	1,000	1,000	1,000	NA	6.0 (A)	3,800	4,400	NA	2,700 (S)	350	ID	4,800	16,000	2.1E+05
Non-residential Health-Based Drinking Water Value (E)			10,000	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)			41	ID	18	19	30 (M); 25	30 (M); 25	380	NA	25	38	ID	NA	67 (X)	10 (M); 4.0	4.0	ID	110	NA
GSI Final Acute Value (FAV)			730	ID	NA	340	NA	1,400	2,700	ID	285	200	NA	NA	NA	72	NA	ID	2,000	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			1.9E+05 (S)	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)	3.0E+05	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{VI,m}) (a)			10,000 (d)	ID	NA	3,900	NA	NA	NA	NA	NA	2.30E+05	NA	NA	NA	NLV	NA	NA	NA	NA
Water Solubility (VII)			1.86E+5 (S)	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	3.0E+05	1.08E+06	4.19E+06
Flammability & Explosivity Screening Level (VIII)			70,000	ID	ID	ID	NA	NA	ID	NA	NA	ID	ID	NA	ID	ID	ID	ID	NA	NA
ID	SAMPLE ID	SAMPLE DATE																		
Equipment Blank	W-R2330022-050117-AFB-038	5/1/2017	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102317-DMS-007	10/23/2017																		
Equipment Blank ^A	W-R2330022-102417-DMS-013	10/24/2017																		
Equipment Blank ^A	W-R2330022-102517-AFB-020	10/25/2017																		
Equipment Blank ^A	W-R2330022-102617-AFB-027	10/26/2017																		
Equipment Blank ^A	W-R2330022-102717-AFB-033	10/27/2017																		
Equipment Blank ^A	W-R2330022-102817-AFB-039	10/28/2017																		
Equipment Blank ^A	W-R230024-042318-DMS-008	4/23/2018																		
Equipment Blank	W-R230024-042318-DMS-008	4/23/2018																		
Equipment Blank ^A	W-R2330024-042418-JPM-019	4/24/2018																		
Equipment Blank	W-R2330024-042418-JPM-019	4/24/2018																		
Equipment Blank ^A	W-R2330024-042518-DMS-031	4/25/2018																		
Equipment Blank	W-R2330024-042518-DMS-031	4/25/2018																		
Equipment Blank ^A	W-R2330024-042618-DMS-035	4/26/2018																		
Equipment Blank	W-R2330024-042618-DMS-035	4/26/2018																		

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.
NS = Not Sampled or Not Analyzed.

- Exceeds Generic Drinking Water Cleanup Criteria (II)
- Exceeds Generic Drinking Water Cleanup Criteria (II) and the Generic Health-Based Drinking Water Value (E)
- Exceeds Generic Ground Water Surface Water Interface Criteria (III)
- Exceeds Two or More DW (II), GSI (III) and/or Generic Health-Based Drinking 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 2
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										
			Di-n-butyl phthalate	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Phenol	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper (B)	Cyanide (P.R)	Iron (B)
Non-residential Drinking Water Criteria (II)			2,500	210 (S)	2,000 (S)	1,500	150	140 (S)	13,000	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)
Non-residential Health-Based Drinking Water Value (E)			NA	NA	NA	NA	NA	NA	NA	4,100	NA	NA	NA	NA	NA	NA	NA	4,000	NA	5,600
Ground Water Surface Water Interface Criteria (GSI) (III)			9.7	1.6	12	11	2.0 (M); 1.4	ID	450	NA	130	10	670 (G)	6.7 (G)	3 (G)	11	100	13 (G)	5.2	NA
GSI Final Acute Value (FAV)			75	220	200	200	11	ID	6,800	NA	2,300	680	3,844 (G)	120	13 (G)	1,588	740	39 (G)	NA	NA
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)			NLV	210 (S)	2,000 (S)	31,000 (S)	1,000 (S)	140 (S)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Groundwater Concentration for Vapor Intrusion (GW _{vi,m}) (a)			NA	NA	300,000	1,200	4.8E+2	1.7E+06	NA	NLV	NLV	NLV	NLV	NA	NLV	NLV	NLV	NLV	NA	NLV
Water Solubility (VII)			11,200	206	1,980	31,000	1,000	135	8.28E+7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flammability & Explosivity Screening Level (VIII)			NA	ID	ID	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
ID	SAMPLE ID	SAMPLE DATE																		
Equipment Blank	W-R2330022-050117-AFB-038	5/1/2017	NS	NS	NS	NS	NS	NS	NS	7.9 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	30 J
Equipment Blank ^A	W-R2330022-102317-DMS-007	10/23/2017								12	NS	NS	NS	NS	NS	NS	NS	NS	NS	24 J
Equipment Blank ^A	W-R2330022-102417-DMS-013	10/24/2017								12	NS	NS	NS	NS	NS	NS	NS	NS	NS	90
Equipment Blank ^A	W-R2330022-102517-AFB-020	10/25/2017								9.8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	38 J
Equipment Blank ^A	W-R2330022-102617-AFB-027	10/26/2017								18	NS	NS	NS	NS	NS	NS	NS	NS	NS	190
Equipment Blank ^A	W-R2330022-102717-AFB-033	10/27/2017								13	NS	NS	NS	NS	NS	NS	NS	NS	NS	91
Equipment Blank ^A	W-R2330022-102817-AFB-039	10/28/2017								10	NS	NS	NS	NS	NS	NS	NS	NS	NS	32 J
Equipment Blank ^A	W-R230024-042318-DMS-008	4/23/2018								5.5 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	30 J
Equipment Blank	W-R230024-042318-DMS-008	4/23/2018								18	NS	NS	NS	NS	NS	NS	NS	NS	NS	42 J
Equipment Blank ^A	W-R2330024-042418-JPM-019	4/24/2018								6.4 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	19 J
Equipment Blank	W-R2330024-042418-JPM-019	4/24/2018								10 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	32 J
Equipment Blank ^A	W-R2330024-042518-DMS-031	4/25/2018								3.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	<300
Equipment Blank	W-R2330024-042518-DMS-031	4/25/2018								<50	NS	NS	NS	NS	NS	NS	NS	NS	NS	<300
Equipment Blank ^A	W-R2330024-042618-DMS-035	4/26/2018								320	NS	NS	NS	NS	NS	NS	NS	NS	NS	5000
Equipment Blank	W-R2330024-042618-DMS-035	4/26/2018								20	NS	NS	NS	NS	NS	NS	NS	NS	NS	4200

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.
NS = Not Sampled or Not Analyzed.

- Exceeds Generic Drinking Water Cleanup Criteria (II)
- Exceeds Generic Drinking Water Cleanup Criteria (II) and the Generic Health-Based Drinking Water Value (E)
- Exceeds Generic Ground Water Surface Water Interface Criteria (III)
- Exceeds Two or More DW (II), GSI (III) and/or Generic Health-Based Drinking Water Value (E)
- Exceeds GSI Final Acute Value (FAV), also exceeds others

Per the approval from the EPA, ground water analytical suite was modified prior to the November 2015 monitoring event.
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 2
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											
	Lead (B)	Magnesium (B)	Manganese (B)	Mercury	Nickel	Selenium (B)	Silver	Thallium	Vanadium	Zinc	
	Non-residential Drinking Water Criteria (II)	4.0 (L)	1.1E+06	50 (E)	2.0 (A)	100 (A)	50 (A)	98	2.0 (A)	62	5,000 (E)
	Non-residential Health-Based Drinking Water Value (E)	NA	NA	2,500	NA	NA	NA	NA	NA	NA	NA
	Ground Water Surface Water Interface Criteria (GSI) (III)	29	NA	2,800 (G)	0.0013	73 (G)	5.0	0.2 (M); 0.06	3.7	27	170 (G)
	GSI Final Acute Value (FAV)	551	NA	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	56 (S)	NLV	NLV	NLV	NLV	NLV	NLV
	Groundwater Concentration for Vapor Intrusion (GW _{VI,eq}) (a)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
	Water Solubility (VII)	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	SAMPLE ID	SAMPLE DATE	ID	ID	ID	ID	ID	ID	ID	ID	
Equipment Blank	W-R2330022-050117-AFB-038	5/1/2017	NS	120 J	0.88 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102317-DMS-007	10/23/2017	NS		1.2 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102417-DMS-013	10/24/2017	NS		0.79 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102517-AFB-020	10/25/2017	NS		1.8 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102617-AFB-027	10/26/2017	NS		2.3 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102717-AFB-033	10/27/2017	NS		1.5 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330022-102817-AFB-039	10/28/2017	NS		7.00	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R230024-042318-DMS-008	4/23/2018			1.5 J	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R230024-042318-DMS-008	4/23/2018			1.7 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330024-042418-JPM-019	4/24/2018	NS	NS	1.5 J	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330024-042418-JPM-019	4/24/2018	NS	NS	1.9 J	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330024-042518-DMS-031	4/25/2018	NS	NS	<50	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330024-042518-DMS-031	4/25/2018	NS	NS	<50	NS	NS	NS	NS	NS	NS
Equipment Blank ^A	W-R2330024-042618-DMS-035	4/26/2018	NS	NS	74	NS	NS	NS	NS	NS	NS
Equipment Blank	W-R2330024-042618-DMS-035	4/26/2018	NS	NS	64	NS	NS	NS	NS	NS	NS

Table 3
Corrective Measure Alternatives RCRA's Threshold Screening Matrix
Van Buren Landfill Site
Michigan Avenue and Ecorse Road
Van Buren Township, Wayne County, Michigan

Investigation Area	Summary of Exceedences	Identified Corrective Measure Alternative	Protective of Human Health and the Environment	Corrective Measure Objectives	Control Sources of Releases	Potential Corrective Measure Alternatives for Further Evaluation
A O D	SOIL: Metals > DWP, ECO VOCs ¹ > DWP, ECO	Ecological Cover ²	Yes	Yes	No	1) Ecological Cover 2) Low Permeability Cap/Cover 4) Targeted Excavation
		Low Permeability Cap/Cover	Yes	Yes	No	
		Targeted Excavation	Yes	Yes	Yes	
Site Wide	SOIL & GROUND WATER Metals > DWP, ECO, DW VOCs1 > DWP, ECO, DW	Monitoring	Yes	No	No	1) Monitoring 2) Phytoremediation 3) Groundwater Use Restrictions 4) Land Use Restrictions 5) No Action 6) Surficial Waste Cleanup
		No Action	No	No	No	
		Phytoremediation ²	Yes	Yes	Yes	
		Land Use Restrictions	Yes	Yes	No	
		Surficial Waste Clean Up	Yes	Yes	Yes	
		Groundwater Use Restrictions	Yes	Yes	No	
A O D	GROUND WATER: Metals > DW VOCs ¹ > DW	Off-Site Institutional Controls	Yes	Yes	No	1) Off-Site Instituional Controls 2)Targeted Pump and Treat 3) Leachate Collections System 4) Low Permeability Subsurface Enclosure
		Targeted Pump and Treat	Yes	Yes	Yes	
		Low Permeability Subsurface Enclosure	Yes	Yes	Yes	
		Leachate Collection System	Yes	Yes	Yes	

Notes:
¹ = VOC exceedances limited to a subarea of the AOD (ground water impacts delineated during Phase III benzene delineation investigation), located at the northern border of the Site (proximal to MW-10).
²= Only to be applied if Site will be used as a natural area
DWP = MDEQ PART 201 Residential Drinking Water Protection Criteria.
DC = MDEQ PART 201 Direct Contact Criteria.
DW = MDEQ PART 201 Drinking Water Criteria (Residential and Non-Residential)

Table 4
Corrective Measures Alternatives vs RCRA's Balancing Criteria
Van Buren Landfill Site
Michigan Avenue and Ecorse Road
Van Buren Township, Wayne County, Michigan

Investigation Area	Site Wide				
Media	Ground Water and Soil				
Corrective Measures Alternative	No Action	Land Use Restrictions	Off-site Institutional Controls	Phytoremediation	Monitoring
Description	No Action: Represents leaving the Site as is in its existing condition. The fence would be maintained to prevent trespassing. Frequent regular monitoring would likely be in addition to a No Action corrective measure.	Land Use Restrictions Includes: Limiting land use to commercial non-residential uses including passive recreational uses. Prohibit the excavation of soils that would exacerbate the migration of contaminants. Prohibit the detrimental disturbance to, removal of, and any activity that would interfere with function of or access to potential corrective measures. Due to SVI criteria exceedences in soil, any structures erected at the Site would require a vapor intrusion assessment to determine if engineering controls would be required to reduce vapor phase concentrations to acceptable levels.	Off-Site Institutional Controls Includes: Restrictive covenants on neighboring properties to restrict the use of ground water could be proposed to those landowners.	Phytoremediation Includes: The use of existing vegetation to contain contaminants, remove water and limit migration within the soil and ground water.	Monitoring Includes: Ground water monitoring to collect necessary data for evaluating trends and confirming the stability of ground water impacts.
Long-Term Effectiveness	The long-term effectiveness of No Action would likely be inadequate.	Restrictive covenants are legally binding in perpetuity and are a useful tool for protection of human health at the Site.	Restrictive covenants are legally binding in perpetuity and are a useful tool for preventing risk of exposure on off-site neighboring properties.	Phytoremediationwould be effective removing water and help limit migration. The process is limited to the growing season.	Monitoring would verify if the stability of leachate / ground water over time.
Toxicity, Mobility and Volume Reduction	No Action does not reduce the toxicity, mobility, or volume of any wastes on-Site.	Land Use Restrictions do not increase or reduce the toxicity, mobility, or volume of any of the wastes on-Site.	Off-Site land use or ground water restrictions do not increase or reduce the toxicity, mobility, or volume of any of the wastes on-Site.	Phytoremediation can continue to limit mobility using the roots to remove water. In addition, phytoremediation can reduce infiltration.	Monitoring does not increase or decrease the toxicity, mobility, or volume of contaminants. Rather, the information collected helps evaluate the implemented corrective measures.
Short-Term Effectiveness	The short-term effectiveness of No Action is immediate	Restricted covenants are immediate once recorded, and are a useful tool for protection of human health at the Site.	Restricted covenants are immediate once registered, and are a useful tool for restricting land use and / or ground water off-Site in the short term.	Generally, phytoremediation requires time to allow for plant growth, however, there is already an abundance of plant growth on the Site, so phytoremediation is already being effective. The process is also limited to the growing season. In the short term, phytoremediation will not be as effective as other more methods.	Monitoring will be usefull in the short-term and used to help assess whether those actions are working towards the corrective measures objectives and goals.
Implementability	No Action would be very easy to implement.	Restrictions would be easily implemented as RACER Trust is the Owner of the Site.	It is unknown how willing neighborig landowners would be to respond to placing restrictions on their property.	Phytoremediation is already occuring on the Site and AOD.	A ground water monitoring program would be easy to implement using the current network of wells.
Community Acceptance	No Action would likely be poorly accepted by the community.	The restrictions are compatible with current zoning (general industrial) and possible future uses. The ristrictions would likely be accepted by the community.	It is unknown how willing neighborig landowners would be to respond to placing restrictions on their property.	Phytoremediation technologies are generally very well accepted in communities.	Monitoring of wells has been completed in the past for this Site and includes wells on neighboring properties. Monitoring of wells is highly accepted. Particularly as a component of a remedy.
MDEQ Acceptance	No Action would likely be poorly acceptable to MDEQ.	Land Use Restrictions are acceptable to MDEQ.	Ground water restrictions are acceptable to MDEQ.	Phytoremediation is an acceptable method of remediation by MDEQ.	Monitoring is an acceptable remedy to MDEQ, generally as a component of a remedy.
Cost (1)	No Capital Cost Annual Cost - \$3,592 30 Year Cost - \$107,760	Capital Cost - \$10,478 Annual Cost - \$2,592 30 Year Cost - \$88,238	Capital Cost - \$128,660 Annual Cost - \$2,592 30 Year Cost - \$206,420	Capital Cost - \$134,120 Annual Cost - \$4,388 30 Year Cost - \$265,760	Capital Cost - \$13,424 Annual Cost - \$25,930 30 Year Cost - \$791,324

Notes:
1) See Appendix A for detailed, backup costs.
2) The costs for each corrective measure is calculated individually and seperated from other corrective measure influences. The realistic costs may
3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.
4) All cost estimates have been prepared for comparison purposes only and is based on ready available information. Changes in cost are likely to occur as a result of new information and engineering design. This cost estimate is expected to be within +/-20% to the actual project cost.

Abbreviations
AOD = Area of Disturbance
BERA = Baseling Ecological
MDEQ = Michigan Department of Environmental Quality
NPDES = National Pollutant Discharge Elimination System
RACER = Revitalizing Auto Communities Environmental Response Trust
SVI = Soil Vapor Inhalation
USEPA = United States Environmental Protection Agency

Table 4
Corrective Measures Alternatives vs RCRA's Balancing Criteria
Van Buren Landfill Site
Michigan Avenue and Ecorse Road
Van Buren Township, Wayne County, Michigan

AOD Soil			
Low Permeability Cap/Cover	Targeted Excavation	Surficial Waste Cleanup	Ecological Cover
Low Permeability Cap Includes: A cap consisting of either clean cover (soil, clay) over a low impermeable membrane and establishing vegetation over time, or an asphalt or concrete cap over the AOD, or more localized locations to prevent surface water from infiltrating the waste, and in doing so, reduce the spread of contaminants.	Targeted Excavation Includes: Excavating targeted areas of contaminated soils and/or waste and backfilling the area with backfill. Excavated soils and associated materials will be transported and disposed of appropriately. Target excavation could focus on areas within the AOD where the most significant soil exceedances are found in order to reduce the source of ground water contamination or potential direct contact exposure.	Surficial Waste Cleanup Includes: Removing significant surficial debris piles from the entire Site.	Ecological Cover includes placing 6 inches of topsoil in Zones 5 and 7 as specified in the BERA. Some removal of vegetation would need to occur. This alternative is only necessary should the property be transferred for a use as a natural area.
A low permeability cap/cover would minimize infiltration.	Removing waste from the targeted locations via excavation is a dependable way to remove contaminants. Removal of these wastes will prevent long-term sources to leachate / ground water and potential direct contact exposure. Much of the impacted soil / waste would remain as a contaminant source to ground water and direct contact potential risks.	Removal of significant surficial debris piles from within the AOD would enhance safety and visual aesthetics of the Site for future use.	An ecological cover would reduce ecological risks associated with impacted surficial soil.
A low permeability cap/cover would not reduce the toxicity or volume of contaminated ground water, but may reduce mobility.	Targeted excavation can reduce the volume of contaminants but transfers the impacted soil / waste to an alternate location.	Removing significant debris piles would reduce the volume of waste although not a significant reduction.	Ecological cover does not reduce toxicity to ecological receptors but does not reduce mobility and volume of contaminated soil / waste and or ground water / leachate.
A low permeability cap would prevent direct contact with the waste / soil and reduce infiltration through waste immediately following construction of the cap.	Targeted excavation of contaminants effectively removes contaminants from the selected area once completed.	Removal of significant surficial debris piles from within the AOD would enhance safety and visual aesthetics of the Site.	An ecological cover would reduce ecological risks associated with surficial soil impacts.
Implementing a low permeability cap/cover over the entire AOD would be moderately difficult as it would first require the removal of all standing vegetation. It would also require substantial fill placed over a low permeability membrane, grading and the establishment of grasses. A concrete or asphalt cap would not require vegetation. The same would apply to localized cap/covers and the same process would need to occur.	Targeted excavation would be moderately difficult to implement as it would require clearing of vegetation, excavating, constructing access roads, handling waste, hauling, transportation and disposal of waste / soil at specific targeted areas.	Cleaning up surface debris piles would be easy to implement.	Ecological cover would be moderately easy to implement, However, the removal of some vegetation would need to occur in localized areas.
A low permeability cap/cover would be likely accepted by the community.	Targeted excavation would likely be accepted by the community.	Removing significant debris piles is an acceptable action.	Providing an ecological cover would likely be accepted by the community.
Caps and or covers are an accepted method of remediation to MDEQ.	Targeted excavation is a widely accepted method by MDEQ.	Surficial cleanup is an activity that would likely be accepted by the MDEQ.	Ecological Cover is an activity that would likely be accepted by MDEQ.
Capital Cost - \$1,026,030 Annual Cost - \$8,784 30 Year Cost - \$1,289,550	Capital Cost - \$1,940,370 Annual Cost - \$3,592 30 Year Cost - \$2,048,130	Capital Cost - \$17,240 Annual Cost - \$0 30 Year Cost - \$17,240	Capital Cost - \$567,785 Annual Cost - \$4,200 30 Year Cost - \$702,785

Notes:
(1) See Appendix A for detailed, backup costs.
(2) The costs for each corrective measure is calculated individually and
(3) The 30 year cost equals annual costs multiplied by 30 plus capital
(2) All cost estimates have been prepared for comparison purposes only and is based on ready available information. Changes in cost are likely to occur as a result of new information and engineering design. This cost

Abbreviations
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Table 4
Corrective Measures Alternatives vs RCRA's Balancing Criteria
Van Buren Landfill Site
Michigan Avenue and Ecorse Road
Van Buren Township, Wayne County, Michigan

AOD			
Ground Water			
Ground Water Use Restrictions	Targeted Pump and Treat	Leachate Collection System	Low Permeability Subsurface Enclosure
Ground water Use Restrictions Includes: Prohibit the construction and use of wells and other devices on the Site to extract ground water for consumption, irrigation, or other purposes, except as part of response activities for the purpose of ground water monitoring and / or remedial activities approved by USEPA.	Pump and Treat Includes: Placing extraction or pumping wells in strategic locations within and surrounding the AOD, and pumping out the water for treatment and disposal (either off-site or on-site similar to Leachate Collection System). This may require a treatment facility be built on the Site or the use of a skid-mounted treatment unit with either its own power supply source (i.e. generator) or having power supply along Ecorse Road extended into the Site to the treatment unit location. Water would need to be discharged per NPDES or to sanitary sewer.	Leachate Collection System includes: A layer of sand or gravel to allow for draining, a geotextile filter, and perforated pipes which would passively collect (i.e. flow by gravity) and transport the waste leachate to designated sumps to be stored for eventual removal, treatment and disposal off-site or for on-site treatment similar to Targeted Pump and Treat.	Low Permeability Subsurface Enclosure (LPSE) would consist of installing a containment system around the perimeter of the Site that would contain leachate within the subsurface enclosure. The leachate would then be collected and properly treated and disposed of or discharged.
Restrictive covenants are legally binding in perpetuity and are a useful tool for restricting future leachate / ground water use at the Site.	The pump and treat system would remove water and contaminated but may need to operate for a very long time given the volume of ground water contaminant source material.	Similar to the Targeted Pump and Treat alternative leachate collection system would remove water and contaminated but may need to operate for a very long time given the volume of ground water contaminant source material.	Similar to Leachate Collection System LPSE system is a proven way to cleanup impacted leachate and continue the prevention of plume migration but would remove water and contaminated but may need to operate for a very long time given the volume of ground water contaminant source material.
Ground water Use Restrictions do not increase or reduce the toxicity, mobility, or volume of any of the wastes on-Site.	Pump and Treat would reduce the mobility, toxicity and volume of contaminated leachate at the Site, thereby reducing off-Site migration.	Leachate collection system would reduce the toxicity, mobility, and volume of contaminated leachate at the Site and reduce/minimize off-Site migration by collecting impacted leachate and treating it in an above ground system or off-Site as needed.	Low Impermeable Subsurface Enclosure would not reduce toxicity or volume of impacted leachate but it would reduce the mobility.
Restrictive covenants are immediate once recorded, and are a useful tool for restricting ground water use at the Site in the short term.	Pump and Treat would not be effective in the short-term.	A Leachate Collection System would be effective in the short term.	A Low Permeability subsurface Enclosure would be effective stopping continued migration in the short term.
Restrictions would be easily implemented as RACER Trust is the Owner of the Site.	The implementability of installing, operating, and maintaining a pump and treat system would be difficult. Waste water treatment facility would need to be built. Also, the waste water after treatment would need to be handled appropriately. Further evaluation of discharge options would need to occur.	The implementability of installing a leachate collection system would be moderately difficult, as the leachate collection system would need to encompass the entire AOD of the Site (due to extent of waste).	The implementability of installing a Low Impermeable Subsurface Enclosure is very difficult as the exact depth needed is unknown. If a pump and treat system is to be incorporated, implementability may become more burdensome.
The restrictions are compatible with current zoning (general industrial) and possible future uses. The restrictions would likely be accepted by the community.	Pump and treat would likely be acceptable by the community.	Leachate collection system would likely reduce off-Site migration of impacted ground water and therefore likely be acceptable by the community.	LPSE treatment would likely be acceptable to the community.
Ground water restrictions are acceptable to MDEQ.	Pump and Treat is widely accepted by MDEQ as a remedial option.	Leachate collection systems are accepted by MDEQ as a remedial option.	LPSE treatment is likely acceptable to MDEQ as a remedial option.
Capital Cost - \$10,478 Annual Cost - \$2,592 30 Year Cost - \$88,238	Capital Cost - \$343,770 Annual Cost - \$52,582 30 Year Cost - \$1,921,230	Capital Cost - \$2,854,062 Annual Cost - \$58,160 30 Year Cost - \$4,598,862	Capital Cost - \$8,688,302 Annual Cost - \$72,160 30 Year Cost - \$10,853,102

Notes:
(1) See Appendix A for detailed, backup costs.
(2) The costs for each corrective measure is calculated individually and separated from other corrective measure influences. The realistic costs may
(3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.
(2) All cost estimates have been prepared for comparison purposes only and is based on readily available information. Changes in cost are likely to occur as a result of new information and engineering design. This cost estimate is expected to be within +/-20% to the actual project cost.

Abbreviations
AOD = Area of Disturbance
BERA = Baseline Ecological
MDEQ = Michigan Department of Environmental Quality
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Table 5
Proposed Comprehensive Corrective Measures
Van Buren Landfill Site
Michigan Avenue and Ecorse Road
Van Buren Township, Wayne County, Michigan

Corrective Measure:	Cost	
Land Use Restriction:	Capital Costs	\$10,478
	Annual Cost	\$2,592
	30 Year Cost	\$88,238
Ground Water Use Restriction:	Capital Costs	\$10,478
	Annual Cost	\$2,592
	30 Year Cost	\$88,238
Off-Site Institutional Controls:	Capital Costs	\$128,660
	Annual Cost	\$2,592
	30 Year Cost	\$206,420
Surficial Waste Cleanup:	Capital Costs	\$17,240
	Annual Cost	\$0
	30 Year Cost	\$17,240
Phytoremediation ¹ :	Capital Costs	\$134,120
	Annual Cost	\$4,388
	30 Year Cost	\$265,760
Ecological Cover ¹ :	Capital Costs	\$576,785
	Annual Cost	\$4,200
	30 Year Cost	\$702,785
Ground Water Monitoring:	Capital Costs	\$13,424
	Annual Cost	\$25,930
	30 Year Cost	\$791,324
Total Costs		
If property remained as a natural area	Capital Cost	\$891,185
	Annual Costs	\$42,294
	30 Year Costs	\$2,160,005
If property does not remain as a natural area	Capital Cost	\$180,280
	Annual Costs	\$33,706
	30 Year Costs	\$1,191,460

Notes

- 1) In the event the property is transferred and the AOD remains a natural area, phytoremediation an ecological cover as a corrective measure would be utilized.
- 2) The costs for each corrective measure is calculated individually and seperated from other corrective measure influences. The realistic costs may actually be less when combining corrective measure sub-tasks particularly for the annual costs.
- 3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.
- 4) All cost estimates have been prepared for comparison purposes only and is based on ready available information. Changes in cost are likely to occur as a result of new information and engineering design. This cost estimate is expected to be within +-20% of the actual project cost.

APPENDIX A

COST BALANCING CRITERIA BACKUP



Van Buren Landfill - Site 11070

Alternative Corrective Measure Description	Unit	Rate	Quantity	Total
No Action				
<i>Includes leaving the Site and associated AOD as is in its existing condition. The fence would be maintained to prevent trespassing. No further monitoring is included. Includes Site inspections to assess security concerns. Assumes semi-annual site visits (i.e. 2 visits per year) with 4 hours per site visit budgeted for the site walk, photograph documentation and follow up summary report.</i>				
Project Director (JSB)	hour	\$ 170	0	\$0
Project Manager (FJB)	hour	\$ 170	6	\$1,020
Project Engineer (CAR)	hour	\$ 111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$ 80	0	\$0
Staff Scientist (ONS)	hour	\$ 67	16	\$1,072
Incidentals/maintenance costs	lump sum	\$ 1,500	1	\$1,500
			Subtotal:	\$3,592
			Capital Costs ¹	\$0
			Annual Cost	\$3,592
			30 Year Cost	\$107,760

Notes:

1) Since the perimeter fence is already in place, no capital costs would be incurred.

2) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

Proposed Corrective Measure Description

Unit

Rate

Quantity

Total

Land Use Restrictions

Includes a Restrictive Covenant that would be recorded on the deed to reduce the risk of potential exposures and may include that the land use of the entire Site be limited to nonresidential, which is understood to include passive recreational uses, and prohibit uses that are not compatible with or are inconsistent with exposure assumptions for the nonresidential cleanup criteria pursuant to MCL 324.20120a(1)(b) of NREPA in accordance with MDEQ. Prohibit the excavation of soils that would exacerbate the migration of contaminants, except for those excavation activities that are associated with remedial activities or other USEPA required activities. Prohibit constructing or occupying structures on the Site unless soil vapor intrusion is properly assessed and/or engineering controls are incorporated into building components to eliminate unacceptable vapors migrating to indoor air. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence. Frequency and scope of inspections would be similar to the "No Action" inspections.

Capital Costs

Project Director (JSB)	hour	\$	170	1	\$170
Project Manager (FJB)	hour	\$	170	16	\$2,720
Project Engineer (CAR)	hour	\$	111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	16	\$1,280
Staff Scientist (ONS)	hour	\$	67	24	\$1,608
Restrictive Covenant Recording	lump sum	\$	100	1	\$100
Surveying in support of Restrictive Covenant	lump sum	\$	4,000	1	\$4,000
Incidentals	lump sum	\$	600	1	\$600
Subtotal:					\$10,478

Annual Costs

Project Director (JSB)	hour	\$	170	0	\$0
Project Manager (FJB)	hour	\$	170	6	\$1,020
Project Engineer (CAR)	hour	\$	94	0	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	0	\$0
Staff Scientist (ONS)	hour	\$	67	16	\$1,072
Incidentals	lump sum	\$	500	1	\$500
Subtotal:					\$2,592

Capital Costs	\$10,478
Annual Cost	\$2,592
30 Year Cost	\$88,238

Notes:

- 1) Capital costs include a one time cost for drafting and recording the Restrictive Covenant and includes surveying costs in support of.
- 2) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

<i>Proposed Corrective Measure Description</i>	<i>Unit</i>	<i>Rate</i>	<i>Quantity</i>	<i>Total</i>
Ground Water Use Restrictions				
<i>Includes prohibiting the construction and use of wells and other devices on the Site to extract ground water for any use, except as part of USEPA approved response activities for the purpose of ground water monitoring and/or remedial activities. Short-term dewatering for construction purposes is permitted provided the management and disposal of ground water is conducted in accordance with all applicable local, state and federal laws and regulations and does not result in a new release or further release of existing contamination. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence. Scope and frequency of site inspections will be similar to the "No Action" and "Land Use Restrictions" categories.</i>				
Capital Costs				
Project Director (JSB)	hour	\$	170	\$170
Project Manager (FJB)	hour	\$	170	\$2,720
Project Engineer (CAR)	hour	\$	111	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	\$1,280
Staff Scientist (ONS)	hour	\$	67	\$1,608
Restrictive Covenant Recording	lump sum	\$	100	\$100
Surveying in support of Restrictive Covenant	lump sum	\$	4,000	\$4,000
Incidentals	lump sum	\$	600	\$600
			Subtotal:	\$10,478
Annual Costs				
Project Director (JSB)	hour	\$	170	\$0
Project Manager (FJB)	hour	\$	170	\$1,020
Project Engineer (CAR)	hour	\$	94	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	\$0
Staff Scientist (ONS)	hour	\$	67	\$1,072
Incidentals	lump sum	\$	500	\$500
			Subtotal:	\$2,592
			Capital Costs	\$10,478
			Annual Cost	\$2,592
			30 Year Cost	\$88,238

Notes

1) Capital costs include a one time cost for drafting and recording the Restrictive Covenant and includes surveying costs in support of.

2) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

<i>Proposed Corrective Measure Description</i>	<i>Unit</i>	<i>Rate</i>	<i>Quantity</i>	<i>Total</i>
Off-Site Institutional Controls				
<i>Includes setting restrictive covenants on neighboring properties to restrict the use of ground water and proposing such actions to those landowners. Thus preventing the risk of exposure on off-site neighboring properties. No additional actions are included to reduce the toxicity, mobility, or volume of any of the wastes on-Site. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence. Scope and frequency of site inspections will be similar to the "No Action", "Land Use Restrictions", etc. categories.</i>				
Capital Costs				
Project Director (JSB)	hour	\$	170	\$340
Project Manager (FJB)	hour	\$	170	\$4,080
Project Engineer (CAR)	hour	\$	111	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	\$2,400
Staff Scientist (ONS)	hour	\$	67	\$8,040
Restrictive Covenant Recording	Parcel	\$	100	\$800
Surveying in support of Restrictive Covenant	Parcel	\$	4,000	\$32,000
Restrictive Covenant Purchase/Legal Fees ²	Parcel	\$	10,000	\$80,000
Incidentals	lump sum	\$	1,000	\$1,000
			Subtotal:	\$128,660
Annual Costs				
Project Director (JSB)	hour	\$	170	\$0
Project Manager (FJB)	hour	\$	170	\$1,020
Project Engineer (CAR)	hour	\$	94	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	\$0
Staff Scientist (ONS)	hour	\$	67	\$1,072
Incidentals	lump sum	\$	500	\$500
			Subtotal:	\$2,592
			Capital Costs	\$128,660
			Annual Cost	\$2,592
			30 Year Cost	\$206,420

Notes

1) Capital costs include a one time cost for drafting and recording the Restrictive Covenant and includes public relations, mailings, and individual customized recordings.

2) In the case a landowner requests monetary compensation in return for a restrictive covenant, or other legal measures need to be taken, an estimated cost per parcel was developed based on the fact that each of the adjacent parcels are on city water and do not require a well for drinking purposes.

3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

Proposed Corrective Measure Description	Unit	Rate	Quantity	Total
Phytoremediation				
<i>Includes using existing vegetation to stabilize, extract, and / or contain contaminants and limit migration within the soil and ground water. Assumes that Phytoremediation will consist of phytosequestration to stabilize certain metals within the root zone, limiting migration and phytohydraulics as a means to remove ground water and limit both vertical and horizontal migration (acting as a passive hydraulic control). Given the condition of the existing vegetation, this option assumes its use in lieu of new select plantings. An allowance is provided for limited, localized planting of selective plant species in isolated areas to enhance the existing phytoremediation activities that are occurring. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence. Frequency and scope of inspections are similar to those in other categories. Inspections will also include documentation of existing vegetation conditions (via use of personnel with botany experience/training).</i>				
Capital Costs				
Project Director (JSB)	hour	\$ 170	2	\$340
Project Manager (FJB)	hour	\$ 170	14	\$2,380
Project Engineer (CAR)	hour	\$ 111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$ 80	24	\$1,920
Staff Scientist (ONS)	hour	\$ 67	140	\$9,380
Incidentals	lump sum	\$ 100	1	\$100
New Plantings Allowance	lump sum	\$ 120,000	1	\$120,000
			Subtotal:	\$134,120
Annual Costs				
Project Director (JSB)	hour	\$ 170	0	\$0
Project Manager (FJB)	hour	\$ 170	12	\$2,040
Project Engineer (CAR)	hour	\$ 94	0	\$0
Project Scientist/Geologist (JPM)	hour	\$ 80	8	\$640
Staff Scientist (ONS)	hour	\$ 67	24	\$1,608
Incidentals	lump sum	\$ 100	1	\$100
			Subtotal:	\$4,388
			Capital Costs	\$134,120
			Annual Cost	\$4,388
			30 Year Cost	\$265,760

Notes

1) New Plantings Allowance would be a one time allowance and any funds left over would carry over to the next year for plantings to be implemented on an as needed basis.

2) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

Proposed Corrective Measure Description	Unit	Rate	Quantity	Total	
Ground Water Monitoring					
Includes continued sampling of selected monitoring wells (in order to build a more robust data set to further evaluate trends and confirm the stability of ground water impacts) associated with the Site (includes off-Site locations) as part of the semi-annual sampling events (typically conducted in March and November) in accordance with the SAP/QAPP prepared by CRA , dated June 2012, and the modified ground water analytical suite, dated July 2015; and, task incidentals (i.e., sample shipping, field equipment/supplies, decontamination equipment/supplies, PPE etc.). Monitoring would also entail Site inspections on a regular basis to assess and document changes to the property including any surface disturbances, damage to or maintenance needed to wells. Scope also includes well abandonment at end of monitoring period and reporting.					
Ground Water Monitoring					
Project Director (JSB)	hour	\$	170	1	\$170
Project Manager (FJB)	hour	\$	170	4	\$680
Project Engineer (CAR)	hour	\$	111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	84	\$6,720
Staff Scientist (ONS)	hour	\$	67	120	\$8,040
Equipment ¹	lump sum	\$	1,700	1	\$1,700
Laboratory (ALS)	lump sum	\$	6,120	1	\$6,120
Incidentals	lump sum	\$	500	1	\$500
Well Maintenance ³	lump sum	\$	2,000	1	\$2,000
Subtotal:					\$25,930
Well Abandonment					
Project Manager (FJB)	hour	0 \$	170	0 3 0	\$2,720 0
Project Engineer (CAR)	hour	0 \$	170	0 8 0	\$0 0
Project Scientist/Geologist (JPM)	hour	\$	94	2	\$188
Technician IV	hour	\$	80	20	\$1,600
Technician II	hour	\$	67	48	\$3,216
Incidentals	lump sum	\$	1,300	1	\$1,300
Drill Rig	Day	\$	1,100	4	\$4,400
Subtotal:					\$13,424
Capital Costs ²					\$13,424
Annual Cost					\$25,930
30 Year Cost					\$791,324

Notes

- 1) Includes off-road rental, well development/sampling/monitoring equipment, expendables (tubing, etc.).
- 2) Since all monitoring wells are built in-place, no capital costs to install any wells will be incurred. However, well abandonment is one time cost similar to capital that may take place near the end of the monitoring period.
- 3) Well maintenance includes activities associated with replacing wells, caps, lids, redevelopment and installation of new wells.
- 4) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

<i>Alternative Corrective Measure Description</i>	<i>Unit</i>	<i>Rate</i>	<i>Quantity</i>	<i>Total</i>
Low Permeability Cap/Cover				
A cover would consist of placing a clean cover (soil, clay) and establishing short vegetation over time, or constructing an asphalt or concrete cap over the area to prevent surface water from infiltrating the waste. A lot of removal of vegetation would need to occur. A low permeability cap of the entire AOD would consist of placing clean cover (topsoil, clay) over a low permeability membrane and establishing vegetation over time, constructing an asphalt or concrete cap over the entire AOD. Includes identifying segmented areas proper for capping and removal of vegetation of such areas. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence. Hourly professional effort is for consultant plan/bid development, bidding assistance and contractor oversight for localized impermeable cap/cover installation. Assumes 1/4 of area containing waste will be covered; area with waste is approximately 2/3 of total 68 acre site (or 11.5 acres).				
Capital Costs				
Project Director (JSB)	hour	\$ 170	0	\$0.00
Project Manager (FJB)	hour	\$ 170	38	\$6,460.00
Project Engineer (CAR)	hour	\$ 111	100	\$11,100.00
Project Scientist/Geologist (JPM)	hour	\$ 80	60	\$4,800.00
Staff Scientist (ONS)	hour	\$ 67	140	\$9,380.00
Incidentals	lump sum	\$ 5,000	1	\$5,000.00
General Requirements ¹	lump sum	\$ 300,000	1	\$300,000.00
Site Prep, Clearing & Grubbing ²	lump sum	\$ 135,000	1	\$135,000.00
Geomembrane	acre	\$ 24,000	45	\$1,080,000.00
Import, place, spread and compact 1' clay ²	CY	\$ 17	18553	\$315,401.00
Import, place and spread 5" topsoil ²	CY	\$ 19	7731	\$146,889.00
Seed and mulch	lump sum	\$ 92,000	1	\$92,000.00
			Subtotal:	\$2,106,030.00
Annual Costs				
Project Director (JSB)	hour	\$ 170	0	\$0.00
Project Manager (FJB)	hour	\$ 170	12	\$2,040.00
Project Engineer (CAR)	hour	\$ 111	0	\$0.00
Project Scientist/Geologist (JPM)	hour	\$ 80	12	\$960.00
Staff Scientist (ONS)	hour	\$ 67	52	\$3,484.00
Mowing	lump sum	\$ 500	1	\$500.00
Maintenance and Repair as Needed	lump sum	\$ 1,000	1	\$1,000.00
Incidentals	lump sum	\$ 800	1	\$800.00
			Subtotal:	\$8,784.00
			Capital Costs	\$2,106,030.00
			Annual Cost	\$8,784.00
			30 Year Cost	\$2,369,550.00

Notes

1) General requirements cover items such as mobilization, permits, topo and other.

2) Values are based on Min Part 201 cover 2015 bid summary from former Ford Wixom Landfill.

3) Monitoring the caps integrity would be completed on a monthly basis. A yearly report of all the inspections would be completed at the end of each year.

4) Capital, annual and 30 year costs are for a low permeability cap/cover over entire AOD. Localized cap/cover would likely be a lower cost.

CY = Cubic Yard

5) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

<i>Alternative Corrective Measure Description</i>	<i>Unit</i>	<i>Rate</i>	<i>Quantity</i>	<i>Total</i>
Targeted Excavation				
<i>Targeted excavation includes excavating targeted areas of contaminated soils and replacing the area with backfill. Excavated soils and associated materials will be characterized, transported and disposed of accordingly (assumed to be Michigan Part 115 Type II landfill). Target excavation includes clearing of vegetation, excavating, hauling, and disposal of soils and materials. Access to the selected locations impacts the ease of targeted excavation. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence. Hourly professional effort is for consultant plan/bid development, bidding assistance and contractor oversight for targeted excavation. For targeted excavation, assumes 1/32 of area containing waste will be covered; area with waste is approximately 2/3 of total 68 acre site (or approximately 1.45 acres) and a maximum targeted soil-waste removal depth of 15 feet. Assume waste density of 85 lbs per cubic foot. Excavation backfilled with sand and 5" topsoil. Disturbed areas seeded, mulched and fertilized.</i>				
Targeted Excavation				
Project Director (JSB)	hour	\$	170	\$0
Project Manager (FJB)	hour	\$	170	\$5,780
Project Engineer (CAR)	hour	\$	111	\$7,770
Project Scientist/Geologist (JPM)	hour	\$	80	\$4,000
Staff Scientist (ONS)	hour	\$	67	\$10,050
Incidentals	lump sum	\$	800	\$800
Clearing and Grubbing	lump sum	\$	10,000	\$100,000
Excavation ¹	ton	\$	27	\$1,067,049
Backfill ¹	ton	\$	19	\$744,921
Import, place and spread 5" topsoil ²	CY	\$	18	\$17,550
			Subtotal:	\$1,940,370
Annual Costs				
Project Director (JSB)	hour	\$	170	\$0
Project Manager (FJB)	hour	\$	170	\$1,020
Project Engineer (CAR)	hour	\$	111	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	\$0
Staff Scientist (ONS)	hour	\$	67	\$1,072
Incidentals/maintenance costs	lump sum	\$	1,500	\$1,500
			Subtotal:	\$3,592
			Capital Costs	\$1,940,370
			Annual Cost	\$3,592
			30 Year Cost	\$2,048,130

Notes

1) Values are based on recent (2015) Part 201 excavation/backfill project in local SE Michigan area.

2) Values are based on Min Part 201 cover 2015 bid summary from former Ford Wixom Landfill.

3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

<i>Proposed Corrective Measure Description</i>	<i>Unit</i>	<i>Rate</i>	<i>Quantity</i>	<i>Total</i>
Surficial Waste Cleanup				
<i>Includes removing significant surficial debris piles from the entire AOD and disposing off-Site. Four waste/debris piles are documented (locations identified/stored via GPS). Piles consist of metal scrap, tires and miscellaneous debris. Hourly professional effort is for consultant plan/bid development, bidding assistance and contractor oversight for surficial waste cleanup.</i>				
Surficial Waste Cleanup				
Project Director (JSB)	hour	\$ 170	0	\$0
Project Manager (FJB)	hour	\$ 170	8	\$1,360
Project Engineer (CAR)	hour	\$ 111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$ 80	14	\$1,120
Staff Scientist (ONS)	hour	\$ 67	30	\$2,010
Incidentals	lump sum	\$ 250	1	\$250
Sub-Contractor Cleanup ¹	lump sum	\$ 12,500	1	\$12,500
			Subtotal:	\$17,240
Annual Costs²				
Project Director (JSB)	hour	\$ 170	0	\$0
Project Manager (FJB)	hour	\$ 170	0	\$0
Project Engineer (CAR)	hour	\$ 111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$ 80	0	\$0
Staff Scientist (ONS)	hour	\$ 67	0	\$0
Incidentals	lump sum	\$ 250	0	\$0
Sub-Contractor Cleanup	lump sum	\$ 3,000	0	\$0
			Subtotal:	\$0
			Capital Costs	\$17,240
			Annual Cost	\$0
			30 Year Cost	\$17,240

Notes

1) Value based on 2013 cleanup of similar scope, site conditions and magnitude.

2) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

<i>Alternative Corrective Measure Description</i>	<i>Unit</i>	<i>Rate</i>	<i>Quantity</i>	<i>Total</i>
Targeted Pump and Treat				
<i>Includes placing extraction or pumping wells in strategic locations within and surrounding the AOD, and pumping out the water for treatment. A treatment facility may be required to be built on Site. This would reduce the toxicity, mobility, and volume of contaminated ground water at the Site and prevent off-Site migration by extracting impacted ground water and treating it in an above ground system. Assumes five (5) 4-inch extraction wells installed on-site with skid-mounted treatment system. Hourly professional effort is for consultant plan/bid development, bidding assistance and contractor oversight for pump/treat installation and operation for ten (30) years. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence.</i>				
Project Director (JSB)	hour	\$ 170	1	\$170
Project Manager (FJB)	hour	\$ 170	85	\$14,450
Project Engineer (CAR)	hour	\$ 111	130	\$14,430
Project Scientist/Geologist (JPM)	hour	\$ 80	60	\$4,800
Staff Scientist (ONS)	hour	\$ 67	260	\$17,420
Incidentals	lump sum	\$ 2,500	1	\$2,500
Pilot test, flow rate test	lump sum	\$ 100,000	1	\$100,000
Treatment System ^{1,2}	lump sum	\$ 190,000	1	\$190,000
			Subtotal:	\$343,770
Annual Costs				
Project Director (JSB)	hour	\$ 170	1	\$170
Project Manager (FJB)	hour	\$ 170	12	\$2,040
Project Engineer (CAR)	hour	\$ 94	0	\$0
Project Scientist/Geologist (JPM)	hour	\$ 80	12	\$960
Staff Scientist (ONS)	hour	\$ 67	36	\$2,412
Power ²	year	\$ 7,000	1	\$7,000
Carbon Change Out ²	year	\$ 7,000	1	\$7,000
Carbon Exchange Back Flush Disposal ²	year	\$ 7,000	1	\$7,000
Monitoring ²	year	\$ 24,000	1	\$24,000
Incidentals	lump sum	\$ 2,000	1	\$2,000
			Subtotal:	\$52,582
			Capital Costs	\$343,770
			Annual Cost	\$52,582
			30 Year Cost	\$1,921,230

Notes

1) Treatment system includes Five 4-inch extraction wells @ 25 foot depth each w/two observation monitoring wells, treatment system enclosure, cation exchange treatment system, two GAC vessels, installation, utility electric drop, piping and permitting.

2) Pump & Treat Capital and O&M Costs based off of ongoing Gould (Howell, MI site) and remedial activities. Based on 60 gallons per minute flow.

3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

<i>Alternative Corrective Measure Description</i>	<i>Unit</i>	<i>Rate</i>	<i>Quantity</i>	<i>Total</i>
Leachate Collection System				
<i>Includes installing a layer of sand or gravel to allow for draining, a geotextile filter, and perforated pipes which would collect and transport the waste leachate to designated sumps to be stored. Such a system would reduce the toxicity, mobility, and volume of contaminated ground water at the Site and prevent off-Site migration by collecting impacted ground water and treating it. Installing a leachate collection system would be moderately difficult as it would need to encompass the entire AOD of the Site (due to radial ground water flow). Entire perimeter around waste placement area is approximately 6,500 lineal feet. Waste is approximately 20 feet deep. Hourly professional effort is for consultant plan/bid development and bidding assistance. Consultant oversight costs during construction are included in per lineal construction cost for leachate collection system. Includes Site inspections to assess and document changes to the Site including any surface disturbances, damage to current monitoring wells, and the integrity of the Site's perimeter fence. Treatment costs from "Pump & Treat" category increased by a factor of two due to the significant increase in water volume collected over the entire site in lieu of five localized areas</i>				
Capital Costs				
Project Director (JSB)	hour	\$	170	\$680
Project Manager (FJB)	hour	\$	170	\$10,200
Project Engineer (CAR)	hour	\$	111	\$18,870
Project Scientist/Geologist (JPM)	hour	\$	80	\$3,600
Staff Scientist (ONS)	hour	\$	67	\$2,412
Incidentals	lump sum	\$	1,300	\$1,300
Leachate Collection System ¹	Lineal Foot	\$	365	\$2,409,000
Treatment System Purchase, Installation ²	lump sum	\$	408,000	\$408,000
			Subtotal:	\$2,854,062
Annual Costs				
Project Director (JSB)	hour	\$	170	\$0
Project Manager (FJB)	hour	\$	170	\$3,400
Project Engineer (CAR)	hour	\$	111	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	\$2,400
Staff Scientist (ONS)	hour	\$	67	\$5,360
Monitoring ²	year	\$	24,000	\$24,000
Power ²	year	\$	7,000	\$7,000
Carbon Change Out ²	year	\$	7,000	\$7,000
Carbon Exchange Back Flush Disposal ²	year	\$	7,000	\$7,000
Incidentals	lump sum	\$	2,000	\$2,000
			Subtotal:	\$58,160
			Capital Costs	\$2,854,062
			Annual Cost	\$58,160
			30 Year Cost	\$4,598,862

Notes

1) Based on EQ landfill toe drain/leachate collection system construction costs (2015 project). Installation had similar landfill conditions including lineal footage of perimeter toe drain and depth of waste. EQ project included pumping manhole stations gas vents, collection and forcemain cleanouts, and a transition vault for the forcemain to a WWTP. Project costs (on which cost per LF is based) also included CQA and all electrical for pump controls.

2) Costs from "Targeted Pump & Treat" category increase two-fold to account for significant increase in volume to be treated. And based off of ongoing Gould (Howell, MI site) and remedial activities. Based on 60 gallons per minute flow.

3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

Alternative Corrective Measure Description	Unit	Rate	Quantity	Total	
Ecological Cover					
Ecological Cover consists of placing 6 inches of topsoil over two eco-zones as delineated in the RACER Van Buren Landfill Ecological Risk Mitigation Evaluation Memorandum. Includes efforts for preperation of work plan, design plans (grading plan, Soil Erosion Sediment Control (SESC) plan, temporary road design plan and possibly planting plan. Some removal of vegetation would need to occur. Also includes costs associated with constructions management, oversight and permitting efforts; however, permit fees included in construction costs. Monitoring and maintenance of the ecological cover would be part of the annual costs. Finally, effort includes preperation of a project summary report submitted to the USEPA meetings and associated discussions with EPA.					
Design					
Project Director (JSB)	hour	\$	170	1	\$170
Project Manager (FJB)	hour	\$	170	20	\$3,400
Project Engineer (CAR)	hour	\$	111	35	\$3,885
Project Scientist/Geologist (JPM)	hour	\$	80	30	\$2,400
Staff Scientist (ONS)	hour	\$	94	65	\$6,110
Incidentals	lump sum	\$	500	1	\$500
Subtotal:				\$16,465	
Construction					
Project Director (JSB)	hour	\$	170	1	\$170
Project Manager (FJB)	hour	\$	170	40	\$6,800
Project Engineer (CAR)	hour	\$	111	20	\$2,220
Project Scientist/Geologist (JPM)	hour	\$	94	24	\$2,256
Staff Scientist (ONS)	hour	\$	80	120	\$9,600
Survey Crew	hour	\$	153	40	\$6,120
Construction/ Contractor Fees ^o	Lump Sum	\$	533,154	1	\$533,154
Subtotal:				\$560,320	
Annual Costs					
Project Director (JSB)	hour	\$	170	0	\$0
Project Manager (FJB)	hour	\$	170	8	\$1,360
Project Engineer (CAR)	hour	\$	111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$	80	0	\$0
Staff Scientist (ONS)	hour	\$	67	20	\$1,340
Incidentals/maintenance costs	lump sum	\$	1,500	1	\$1,500
Subtotal:				\$4,200	
Capital Costs				\$576,785	
Annual Cost				\$4,200	
30 Year Cost				\$702,785	

Notes

- 1) Permits would include permit of temporary access road and permit of SESC.
- 2) Temporary road will utilize the current access road/trail system to the extent possible.
- 3) The temporary road will include a fabric underlayment and gravel.
- 4) Supply and Delivery of fill is based on a 83,000 sft x 2 ft. area to be covered, totalling roughly 6,150 cubic yards of fill.
- 5) Culvert installed for fire hydrant access near proposed construction drive, pending county approval may be possible to utilize this crossing for drive
- 6) Construction/ Contractor Fees estimated using the Michigan Engineers Resource Library (MERL) cost estimating tool available from MDOT.
- 7) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

Van Buren Landfill - Site 11070

Alternative Corrective Measure Description	Unit	Rate	Quantity	Total
Low Permeability Subsurface Enclosure				
<i>Includes installing a containment system around the perimeter of the Site that would contain leachate within the subsurface enclosure. Containment system includes slurry wall of jet grout and sheet piles (around perimeter of Site at approximate depth of 20 feet below ground surface). Leachate would need to be captured (likely with an associated pump and treat system) and treated. Capital costs incorporate design, permitting and construction oversight.</i>				
Capital Costs				
Project Director (JSB)	hour	\$ 170	6	\$1,020
Project Manager (FJB)	hour	\$ 170	120	\$20,400
Project Engineer (CAR)	hour	\$ 111	240	\$26,640
Project Scientist/Geologist (JPM)	hour	\$ 80	170	\$13,600
Staff Scientist (ONS)	hour	\$ 67	90	\$6,030
Incidentals	lump sum	\$ 2,000	1	\$2,000
General Conditions	lump sum	\$ 250,000	1	\$250,000
Clearing and Grubbing	acre	\$ 10,000	10	\$100,000
Excavation, erosion control	ton	\$ 28	21379	\$598,612
Slurry Wall Construction ¹	lump sum	\$ 7,380,000	1	\$7,380,000
Treatment System Purchase, Installation ²	lump sum	\$ 290,000	1	\$290,000
Subtotal:				\$8,688,302
Annual Costs				
Project Director (JSB)	hour	\$ 170	0	\$0
Project Manager (FJB)	hour	\$ 170	20	\$3,400
Project Engineer (CAR)	hour	\$ 111	0	\$0
Project Scientist/Geologist (JPM)	hour	\$ 80	30	\$2,400
Staff Scientist (ONS)	hour	\$ 67	80	\$5,360
Incidentals	lump sum	\$ 3,000	1	\$3,000
Treatment, disposal	lump sum	\$ 13,000	1	\$13,000
Power ²	year	\$ 7,000	1	\$7,000
Carbon Change Out ²	year	\$ 7,000	1	\$7,000
Carbon Exchange Back Flush Disposal ²	year	\$ 7,000	1	\$7,000
Monitoring ³	year	\$ 24,000	1	\$24,000
Subtotal:				\$72,160
Capital Costs				\$8,688,302
Annual Cost				\$72,160
30 Year Cost				\$10,853,102

Notes

The 30 year cost equals annual costs multiplied by 30 plus capital

1) Slurry wall construction includes, cutoff wall of jet grout wall and sheet pile wall, drainage features. Based on Feather River West Levee Project, 2014.

2) Treatment system costs and annual disposal costs taken from "Pump and Treat" alternative costs, reduced as installation is included in slurry wall construction

3) The 30 year cost equals annual costs multiplied by 30 plus capital costs.

APPENDIX B

RACER VAN BUREN LANDFILL ECOLOGICAL RISK MITIGATION EVALUATION MEMORANDUM



Memorandum

February 8, 2018

To: Brandon Pursel, USEPA-Region 5

From: Joseph Volosin and David Haury, Anchor QEA, LLC

cc: Dave Favero, RACER Trust; Francis Biehl and Jason Martinez, Mannik-Smith Group

Re: RACER Van Buren Landfill Ecological Risk Mitigation Evaluation

A Baseline Ecological Risk Assessment (BERA¹) has been completed for the RACER Van Buren Landfill (Site) in accordance with the 8-step U.S. Environmental Protection Agency (USEPA) Ecological Risk Assessment process. The BERA included the development of a conceptual site model to accomplish the following: 1) identify receptors of concern and potentially complete exposure pathways; 2) complete a screening level risk assessment to identify constituents of potential ecological concern; 3) identify data gaps and develop and implement a Sampling and Analysis Plan to fill the data gaps; and 4) complete a risk characterization and uncertainty analysis. The risk characterization step of the BERA identified some potential risks to avian and mammalian wildlife receptors, soil invertebrates, and plants within the area of the Site where historical landfilling activities occurred (Zones 1 through 9) (Figure 1). These potential risks varied by receptor and zone.

Site-wide potential risks due to exposure to metals were greatest for the shrew, robin, woodcock, earthworms, and plants based on the hazard indices (HIs; Table 1²). Potential risks due to exposure to organic chemicals were greatest for the shrew and earthworms, also based on the HIs (Table 2). In addition to showing Site-wide potential risks, Tables 1 and 2 also show HIs by zone. Table 3 includes information on chemical-specific hazard quotients (HQs) by zone and provides an indication, by zone, of which chemical contributes the most to potential risks due to exposure to metals or organics. In general, individual chemicals in Zones 1, 4, 5, and 7 contribute the greatest Site-wide risks. This finding is consistent with the risk summaries included in Tables 1 and 2.

In order to evaluate the effectiveness of implementing remedial actions at the Site to reduce exposure and risk due to metals and organics in surficial soils, a number of different remedial scenarios were evaluated. The overall objectives were to accomplish the greatest amount of Site-wide risk reduction with the least amount of habitat destruction at the Site and to only implement remedial actions to the degree that measurable risk reduction could be achieved. As a result, there was a focus on evaluating remedial alternatives within Zones that are located close to

¹ Anchor QEA, LLC, 2017. *Baseline Ecological Risk Assessment*. July 2017.

² This table was presented as Table 11 in the Baseline Ecological Risk Assessment (BERA; Anchor QEA 2017)

each other and to limit any remedial actions to only those Zones where the optimum degree of risk reduction can be accomplished.

To evaluate different remedial scenarios, certain assumptions were incorporated into the analysis, as follows:

- A clean soil cover of 6 inches was placed in the Zone.
- The post-remedial soil concentration for each chemical was assumed to be the lower of the minimum value from Zone 10 or Michigan background³.
- Site-wide risks were calculated using revised soil concentrations consistent with the calculations used in the BERA.

In summary, if a Zone was included in a remedial scenario, it was assumed the new concentration was the lowest concentration between Michigan background and Zone 10 (Table 4). For most metals, the cleanup concentration is based on the lowest concentration from Zone 10, and all assumptions for organic chemicals are based on Zone 10.

Several different remedial scenarios were evaluated, as follows:

- Cleanup of Zone 7 only
- Cleanup of Zones 4 and 7
- Cleanup of Zones 5 and 7
- Cleanup of Zones 1 and 7
- Cleanup of Zones 4, 5, and 7
- Cleanup of Zones 1, 4, and 7
- Cleanup of Zones 1, 5, and 7

The results for these seven scenarios are presented in Table 5 and Figures 2 through 8. For comparison purposes, current Site risks and Michigan background risks are also included in the table and the figures. For organic chemicals, background risk is based entirely on Zone 10 concentrations because there are no Michigan background values published for organics. The overall risks for metals and organics, as measured by HIs, are generally lowest for the Zones 5 and 7 cleanup scenarios (Table 5 and Figures 2 through 8). It should be noted there is only a limited amount of additional risk reduction that occurs when increasing the number of remediated zones from one to two and this additional risk reduction is greatest for the organics. Increasing the number of remediated zones from two to three results in only a very modest amount of additional risk reduction when compared to the Zones 5 and 7 cleanup scenario (the other scenarios are presented in Table 5 and Figures 2 through 8).

³ Department of Environmental Quality, Remediation and Redevelopment Division, Environmental Contamination Response Activity, Cleanup Criteria Requirements for Response Activity. Cited: March 2015. Available from: http://www.michigan.gov/documents/deq/deq-rrd-2015-094EQ10-5-2016CriteriaRulesHighlightedChanges_599568_7.pdf.

Tables

Table 1
LOAEL-Based Wildlife, Earthworm, and Plant Hazard Indices, Metals Only.
(Identical to Table 11 in the BERA)

Surface Soil Zone ^{1,2,3}	Shrew	Vole	Robin	Woodcock	Dove	Earthworms	Plants
7	10.5, 3.1	0.7	12.5, 3.6	9.2, 2.8	2.1	17.8	22.3
4	4.9, 2.7	0.7	4.7, 2.3	3.5, 1.8	1.2	5.2	10.9
1	5.5, 2.9	0.6	5.7, 3.7	4.2, 2.2	1.2	5.5	10.1
5	4.9, 2.5	0.5	5.1, 2.6	3.8, 2.0	1.1	4.9	9.1
8	6.4, 3.0	0.6	6.7, 3.2	4.9, 2.5	1.3	4.2	8.7
2	4.6, 2.6	0.5	4.5, 2.3	3.3, 1.8	1	3.3	6.6
6	3.9, 2.0	0.4	3.9, 1.8	2.9, 1.4	0.8	3.3	6.1
9	3, 1.7	0.4	2.9, 1.5	2.1, 1.2	0.7	3	4.2
3	1.9, 1.1	0.2	1.8, 1.0	1.4, 0.8	0.4	1	2.1
10	1.4, 0.9	0.2	1.4, 0.9	1, 0.7	0.4	1	2
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers and slag adjustment	3.10, 1.72	0.39	3.11, 1.72	2.29, 1.26	0.74	2.42	4.76

Notes:

1. Sorted on plant HIs, high to low.
2. Two HIs are presented for the shrew, robin, and woodcock to present the range in HIs for the two modeling approaches.
3. Regardless of the percent slag in samples, the HIs are based on an assumption of 50% slag in all samples.

BERA: Baseline Ecological Risk Assessment

HI: hazard index

LOAEL: lowest observed adverse effects level

Table 2
LOAEL-Based Wildlife, Earthworm, and Plant Hazard Indices, for Phthalates, HPAHs, and PCBs

Surface Soil Zone ¹	Shrew	Vole	Robin	Woodcock	Dove	Earthworms	Plants
7	10.3	0.3	0.2	0.2	0.01	4.7	<0.01
4	1.3	0.05	0.1	0.1	0.02	0.4	0.03
1	9.8	0.2	1.3	1.1	0.05	1.1	0.03
5	32.3	1	0.7	0.6	0.1	14.8	0.1
8	0.7	0.03	0.1	0.1	0.03	0.3	0.02
2	0.7	0.03	0.1	0	0.01	0.3	0.02
6	6.6	0.2	0.3	0.2	0.02	2.6	0.01
9	2.8	0.1	0.1	0.1	0.02	1.3	0.02
3	1	0.04	0.1	0.1	0.01	0.3	<0.01
10	0.1	<0.01	<0.01	<0.01	<0.01	0.04	<0.01
Site-Wide, Zones 1 to 10 with area-weighted averaging and no outliers	2.8	0.1	0.08	0.06	0.01	1.2	0.01

Notes:

1. Sorted in same order as Table 1.

HPAH: high-molecular-weight polycyclic aromatic hydrocarbon

LOAEL: lowest observed adverse effects level

PCB: polychlorinated biphenyl

Table 3
Summary by Zone for Chemicals with HQ greater than 1.0 for Avian, Mammals, Earthworm, and Plants Using the LOELs
(Identical to Table 6 in the BERA)

Zone	Chemical	Midpoint, 95% UCL (µg/kg)	Shrew, LOAEL TRV HQ	Vole, LOAEL TRV HQ	Robin, LOAEL TRV HQ	Woodcock, LOAEL TRV HQ	Dove, LOAEL TRV HQ	Earthworm, EC10 and MATC, Low Bioavailability Class, HQ	Plants, EC10 and MATC, Low Bioavailability Class, HQ
1	Barium	408,520	0.03	0.03	<0.01	<0.01	0.02	1.2	NC
1	Cadmium ¹	10,776	3.3, 1.0	0.1	3.2, 1.0	2.3, 0.7	0.2	0.1	0.3
1	Copper ¹	578,470	1.3, 0.2	0.1	1.8, 0.3	1.3, 0.2	0.3	3.8	3.3
1	HPAHs	20,052	2.3	0.1	0.02	0.02	<0.01	1.1	NC
1	Lead	919,942	0.6	0.1	1.7	1.3	0.7	0.5	3.8
1	Manganese	878,503	0.1	0.1	0.03	0.02	0.04	2	4
1	Nickel	80,174	1.6	0.04	0.9	0.7	0.1	0.3	0.8
1	PCBs, Total	5,141	7.5	0.1	1.4	1.1	<0.01	NC	<0.01
1	Selenium	1,616	0.3	0.2	0.4	0.3	0.3	0.4	1.1
1	Zinc ¹	1,142,686	1.1, 0.1	0.2	1.1, 0.1	0.8, 0.1	0.4	2.4	6.9
2	Cadmium ¹	9,359	2.9, 0.9	0.1	2.8, 0.9	2.1, 0.6	0.2	0.1	0.3
2	Copper ¹	279,392	0.6, 0.2	0.1	0.9, 0.2	0.6, 0.1	0.2	1.9	1.6
2	Lead	530,295	0.4	0.04	1.1	0.8	0.4	0.3	2.2
2	Manganese	450,365	0.1	0.04	0.02	0.01	0.02	1	2.1
2	Nickel	62,175	1.2	0.03	0.7	0.5	0.04	0.2	0.6
2	Zinc ¹	902,777	1, 0.08	0.2	1, 0.1	0.8, 0.08	0.3	1.9	5.4
3	Manganese	227,519	0.04	0.02	0.01	<0.01	0.01	0.5	1
3	Zinc ¹	195,418	0.6, 0.1	0.1	0.6, 0.1	0.5, 0.04	0.1	0.4	1.2
4	Cadmium ¹	6,553	2.2, 0.7	0.1	2.1, 0.7	1.6, 0.5	0.1	0.1	0.2
4	Copper ¹	439,549	1, 0.2	0.1	1.3, 0.3	1, 0.2	0.3	2.9	2.5
4	Lead	478,214	0.4	0.04	1	0.7	0.4	0.3	2

Zone	Chemical	Midpoint, 95% UCL (µg/kg)	Shrew, LOAEL TRV HQ	Vole, LOAEL TRV HQ	Robin, LOAEL TRV HQ	Woodcock, LOAEL TRV HQ	Dove, LOAEL TRV HQ	Earthworm, EC10 and MATC, Low Bioavailability Class, HQ	Plants, EC10 and MATC, Low Bioavailability Class, HQ
4	Manganese	511,725	0.1	0.1	0.02	0.02	0.03	1.1	2.3
4	Mercury	3,763	1.2	0.4	0.6	0.5	0.3	NC	NC
4	Nickel	58,197	1.1	0.03	0.7	0.5	0.04	0.2	0.6
4	Zinc ¹	2,253,510	1.4, 0.1	0.3	1.5, 0.2	1.1, 0.1	0.6	4.7	13.6
5	Barium	575,572	0.04	0.04	0.01	<0.01	0.02	1.7	NC
5	Cadmium ¹	10,517	3.2, 1.0	0.1	3.1, 0.9	2.3, 0.7	0.2	0.1	0.3
5	Copper ¹	380,373	0.9, 0.1	0.1	1.2, 0.2	0.9, 0.2	0.2	2.5	2.2
5	HPAHs	265,540	30.3	1	0.3	0.2	0.02	14.8	NC
5	Lead	861,164	0.6	0.1	1.7	1.2	0.7	0.5	3.5
5	Manganese	916,497	0.1	0.1	0.03	0.02	0.1	2	4.2
5	PCBs, Total	1,976	2	<0.01	0.4	0.3	<0.01	NC	<0.01
5	Zinc ¹	1,129,678	1.1, 0.1	0.2	1.1, 0.1	0.8, 0.1	0.4	2.4	6.8
6	Cadmium ¹	7,321	2.4, 0.8	0.1	2.3, 0.7	1.7, 0.5	0.1	0.1	0.2
6	Copper ¹	337,188	0.8, 0.1	0.1	1, 0.2	0.8, 0.2	0.2	2.2	1.9
6	HPAHs	46,241	5.3	0.2	0.1	0.04	<0.01	2.6	NC
6	Lead	465,530	0.3	0.04	1	0.7	0.4	0.3	1.9
6	Manganese	421,943	0.1	0.04	0.02	0.01	0.02	0.9	1.9
6	PCBs, Total	1,464	1.4	<0.01	0.3	0.2	<0.01	NC	<0.01
6	Zinc ¹	845,979	1, 0.1	0.2	1, 0.1	0.8, 0.1	0.3	1.8	5.1
7	Barium	353,752	0.02	0.03	<0.01	<0.01	0.01	1.1	NC
7	Cadmium ¹	18,343	5, 1.4	0.1	4.8, 1.4	3.6, 1	0.3	0.1	0.6
7	Copper ¹	4,227,758	9.6, 0.5	0.3	12.9, 1.3	9.5, 0.9	1.6	28	24.1
7	HPAHs	84,645	9.6	0.3	0.1	0.1	<0.01	4.7	NC
7	Lead	1,255,225	0.8	0.1	2.3	1.7	0.9	0.7	5.1

Zone	Chemical	Midpoint, 95% UCL (µg/kg)	Shrew, LOAEL TRV HQ	Vole, LOAEL TRV HQ	Robin, LOAEL TRV HQ	Woodcock, LOAEL TRV HQ	Dove, LOAEL TRV HQ	Earthworm, EC10 and MATC, Low Bioavailability Class, HQ	Plants, EC10 and MATC, Low Bioavailability Class, HQ
7	Manganese	547,100	0.1	0.1	0.02	0.02	0.03	1.2	2.5
7	Nickel	59,101	1.1	0.03	0.7	0.5	0.04	0.2	0.6
7	Selenium	1,491	0.3	0.1	0.4	0.3	0.3	0.4	1
7	Zinc ¹	1,771,947	1.3, 0.1	0.3	1.3, 0.2	1, 0.1	0.5	3.7	10.7
8	Barium	539,052	0.04	0.04	0.01	<0.01	0.02	1.6	NC
8	Cadmium ¹	22,662	5.9, 1.6	0.1	5.7, 1.6	4.2, 1.2	0.3	0.2	0.7
8	Copper ¹	270,989	0.6, 0.1	0.1	0.8, 0.2	0.6, 0.1	0.2	1.8	1.5
8	Lead	1,299,971	0.8	0.1	2.3	1.7	1	0.8	5.3
8	Manganese	516,268	0.1	0.1	0.02	0.02	0.03	1.2	2.4
8	Selenium	1,847	0.4	0.2	0.4	0.3	0.4	0.5	1.3
8	Zinc ¹	962,055	1.1, 0.1	0.2	1.1, 0.1	0.8, 0.1	0.3	2	5.8
9	Barium	599,561	0.04	0.1	0.01	<0.01	0.02	1.8	NC
9	Cadmium ¹	3,110	1.2, 0.4	0.1	1.2, 0.4	0.9, 0.3	0.1	0.02	0.1
9	Copper ¹	277,704	0.6, 0.1	0.1	0.9, 0.2	0.6, 0.1	0.2	1.8	1.6
9	HPAHs	22,549	2.6	0.1	0.03	0.02	<0.01	1.3	NC
9	Lead	250,978	0.2	0.02	0.6	0.4	0.2	0.2	1
9	Manganese	331,921	0.1	0.03	0.01	0.01	0.02	0.7	1.5
9	Zinc ¹	466,338	0.8, 0.1	0.1	0.8, 0.1	0.6, 0.1	0.2	1	2.8

Notes:

1. Two HQs are presented for the shrew, robin, and woodcock; the first, Approach 1, is based on Eco-SSL earthworm uptake models, and the second, Approach 2, is based on the alternative models presented in Table 4 of the BERA (Anchor QEA, LLC, 2017).

µg/kg: micrograms per kilogram

BERA: Baseline Ecological Risk Assessment

EC: effective concentration

HPAH: high-molecular-weight polycyclic aromatic hydrocarbon

HQ: hazard quotient

LOAEL: lowest observed adverse effects level

MATC: Maximum Acceptable Toxicant Concentration

NC: not calculated as no TRV available

PCB: polychlorinated biphenyl

TRV: toxicity reference value

UCL: upper confidence limit

Table 4
Soil Concentrations Used for Cleanup Models

Chemical	Michigan Background, Soil Concentration (mg/kg)	Concentrations used for Cleanup models (mg/kg)	Source of Soil Concentration for Cleanup Models
Metals			
Antimony	NA, no antimony	0.37	Z10
Barium	75	22	Z10
Cadmium	1.2	0.17	Z10
Chromium (total)	18	6.6	Z10
Copper	32	4.7	Z10
Lead	21	13	Z10
Manganese	440	97	Z10
Mercury	0.13	0.032	Z10
Nickel	20	4.8	Z10
Selenium	0.41	0.41	Michigan background
Silver	1	0.021	Z10
Vanadium	9.4	9.4	Michigan background
Zinc	47	22	Z10
Organic Chemicals			
Bis(2-ethylhexyl) phthalate	NA	11	Z10
Butyl benzyl phthalate	NA	12	Z10
Di-n-butyl phthalate	NA	4.7	Z10
HPAHs	NA	550	Z10
PCBs, total	NA	31	Z10

Notes:

HPAH: high-molecular-weight polycyclic aromatic hydrocarbon
mg/kg: milligram per kilogram

NA: there are no Michigan background values for organics

PCB: polychlorinated biphenyl
Z10: Zone 10

Table 5
Metals and Organic Chemicals, LOAEL-Based Wildlife, Earthworm, and Plant Hazard Indices for RACER Van Buren Landfill
Alternative Cleanup Models

Surface Soil Zone ^{1,2}	Shrew	Vole	Robin	Woodcock	Dove	Earthworms	Plants	Remediated Area	Group
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers and slag adjustment	3.1, 1.7	0.4	3.1, 1.7	2.3, 1.3	0.7	2.4	4.8	No Change	Metals
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers	2.8	0.1	<0.1	<0.1	<0.1	1.2	<0.1	No Change	Organics
Zones 1 to 10 with area-weighted averaging, no outliers, and slag adjustment. Zone 7 clean	2.9, 1.6	0.4	2.8, 1.6	2.1, 1.2	0.7	2.2	4.3	Zone 7	Metals
Zones 1 to 10 with area-weighted averaging, no outliers. Zone 7 clean	2.0	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	Zone 7	Organics
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers and slag adjustment. Zones 4 and 7 clean	2.7, 1.5	0.3	2.7, 1.5	2, 1.1	0.6	2.0	4.0	Zones 4 and 7	Metals
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers. Zones 4 and 7 clean	1.9	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	Zones 4 and 7	Organics
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers and slag adjustment. Zones 5 and 7 clean	2.7, 1.6	0.4	2.7, 1.5	2, 1.1	0.6	2.0	3.9	Zones 5 and 7	Metals
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers. Zones 5 and 7 clean	1.0	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	Zones 5 and 7	Organics
Zones 1 to 10 with area-weighted averaging, no outliers, and slag adjustment. Zones 1 and 7 clean	2.7, 1.5	0.4	2.7, 1.5	2, 1.1	0.6	2.0	3.9	Zones, 1 and 7	Metals
Zones 1 to 10 with area-weighted averaging, no outliers. Zones 1 and 7 clean	1.9	<0.1	<0.1	<0.1	<0.1	0.9	<0.1	Zones, 1 and 7	Organics

Surface Soil Zone ^{1,2}	Shrew	Vole	Robin	Woodcock	Dove	Earthworms	Plants	Remediated Area	Group
Zones 1 to 10 with area-weighted averaging, no outliers, and slag adjustment. Zones 4, 5, and 7 clean	2.5, 1.4	0.3	2.5, 1.4	1.8, 1	0.6	1.9	3.6	Zones, 4, 5, and 7	Metals
Zones 1 to 10 with area-weighted averaging, no outliers. Zones 4, 5, and 7 clean	1.0	<0.1	<0.1	<0.1	<0.1	0.4	<0.1		Organics
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers and slag adjustment. Zones 1, 4, and 7 clean	2.5, 1.4	0.3	2.5, 1.4	1.8, 1	0.6	1.8	3.6	Zones, 1, 4, and 7	Metals
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers. Zones 1, 4, and 7 clean	1.9	<0.1	<0.1	<0.1	<0.1	0.8	<0.1		Organics
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers and slag adjustment. Zones 1, 5, and 7 clean	2.5, 1.5	0.3	2.5, 1.4	1.8, 1	0.6	1.8	3.5	Zones, 1, 5, and 7	Metals
Site-Wide, Zones 1 to 10 with area-weighted averaging, no outliers. Zones 1, 5, and 7 clean	0.9	<0.1	<0.1	<0.1	<0.1	0.4	<0.1		Organics
Michigan background, metals ³	2.1, 1.4	0.3	1.9, 1.2	1.4, 0.9	0.4	1.7	3.1	Michigan Background	Metals
Zone 10 ⁴	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Zone 10	Organics

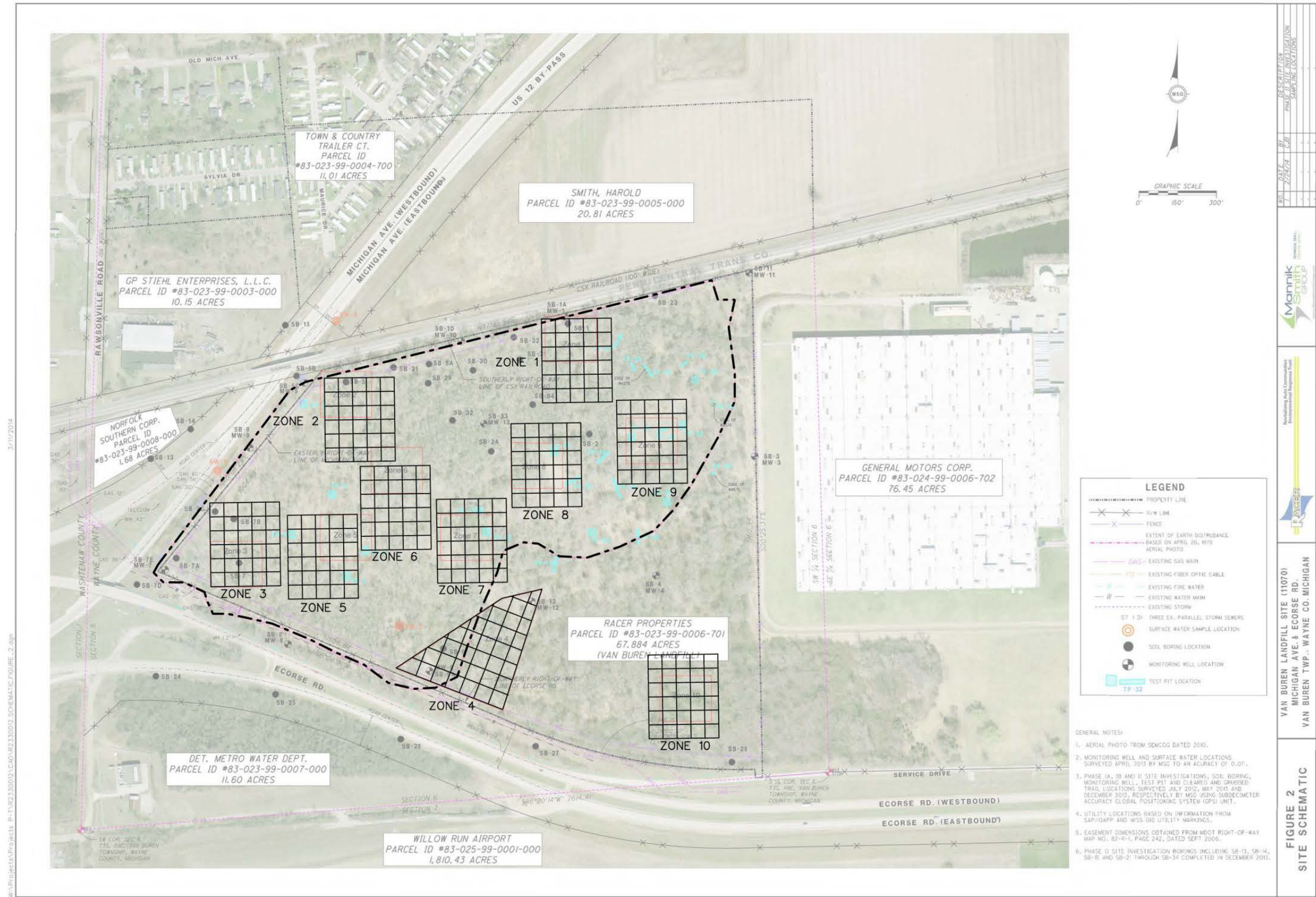
Notes:

1. Two HIs are presented for the shrew, robin, and woodcock to present the range in HIs for the two modeling approaches.
2. Regardless of the percent slag in samples, the HIs are based on an assumption of 50% slag in all samples.
3. Michigan background, except for antimony.
4. There are no Michigan background values for organics

HI: hazard index

LOAEL: lowest observed adverse effects level

Figures



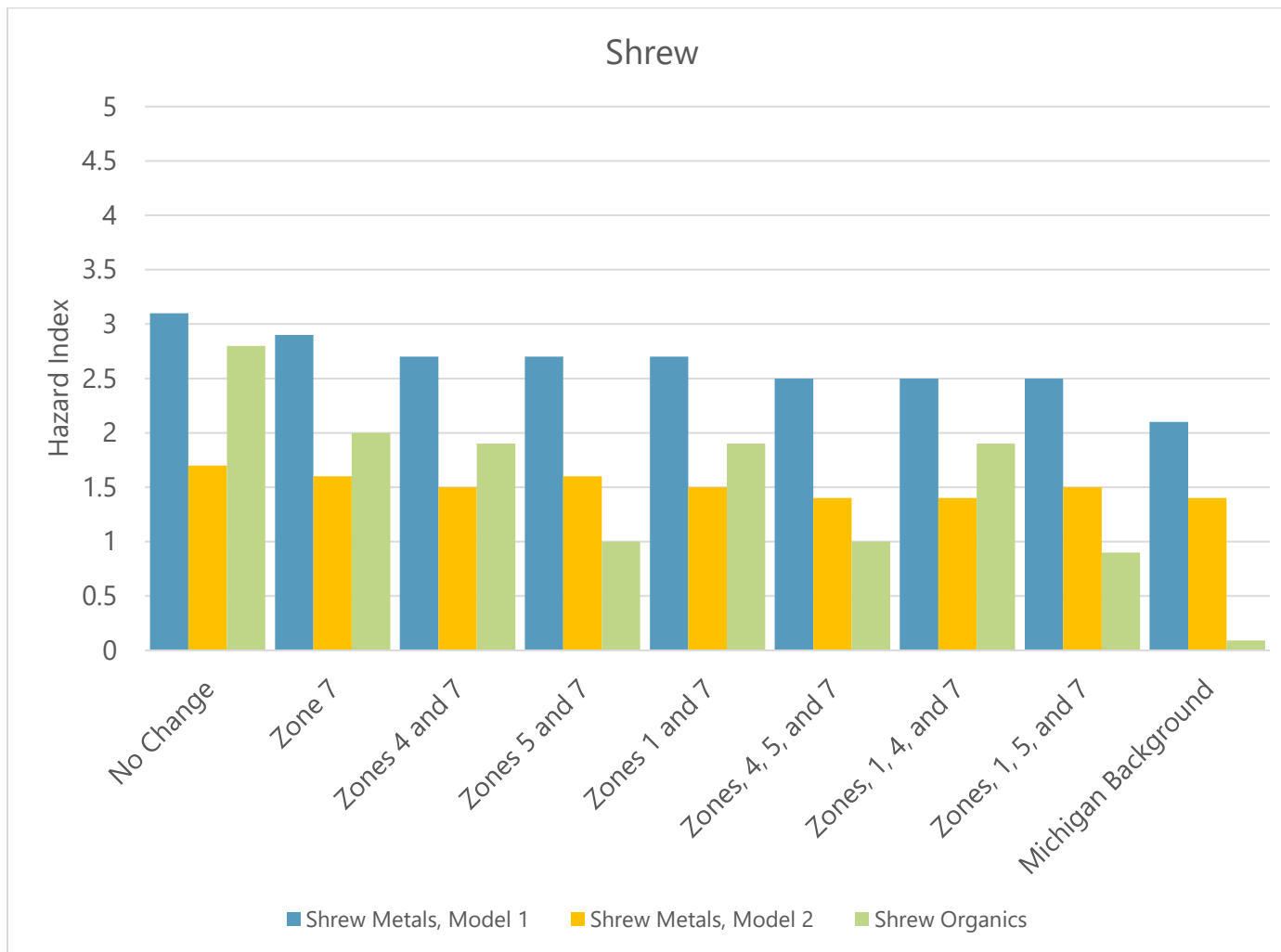
Note: Adapted from: Mannik & Smith Group, Inc., 2013. *Phase IB Site Investigation*. RACER Van Buren Landfill Site. October 2013.

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Figure 1
Sample Zones for the Landfill
Cleanup Models for the RACER Van Buren Landfill

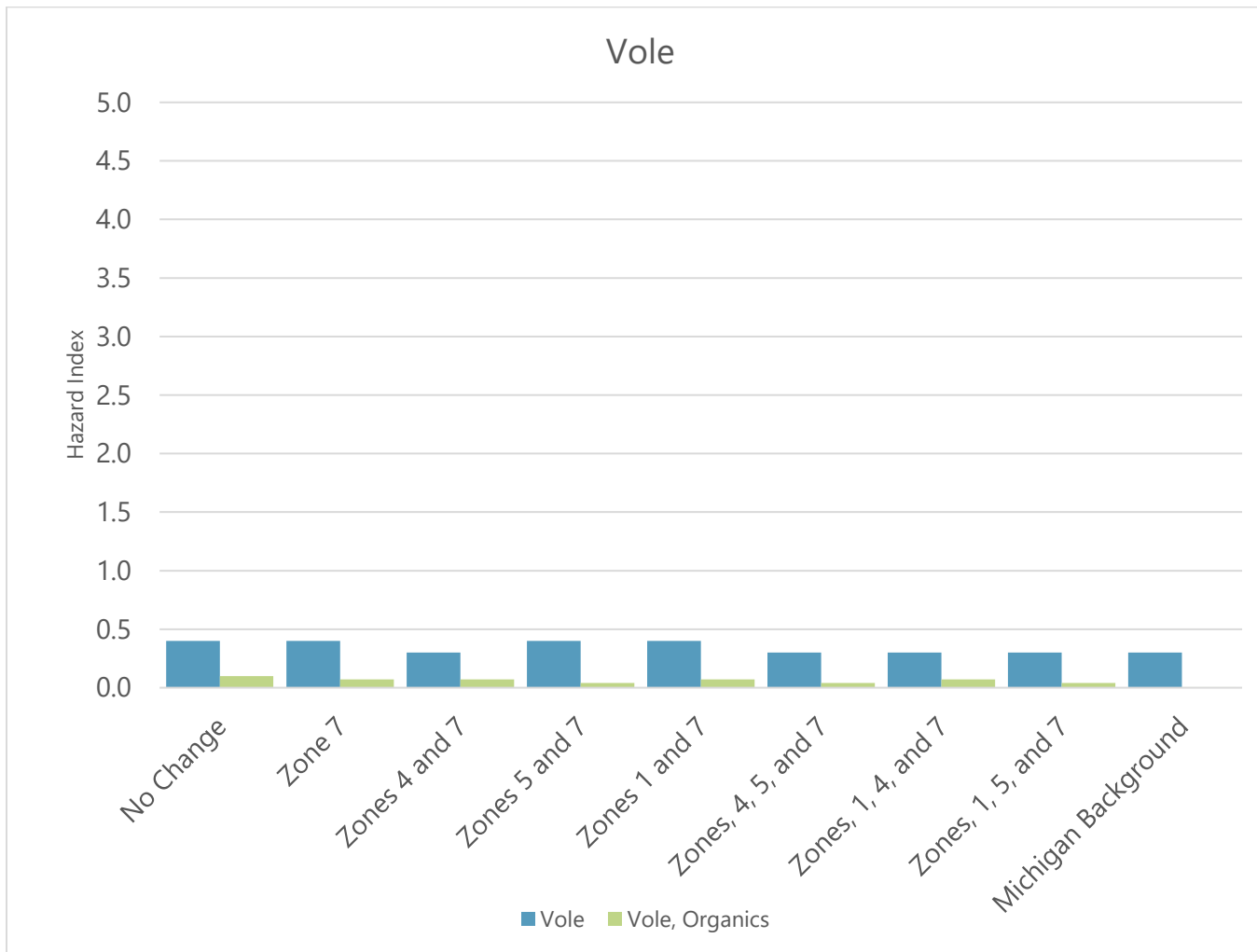
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Van Buren Landfill



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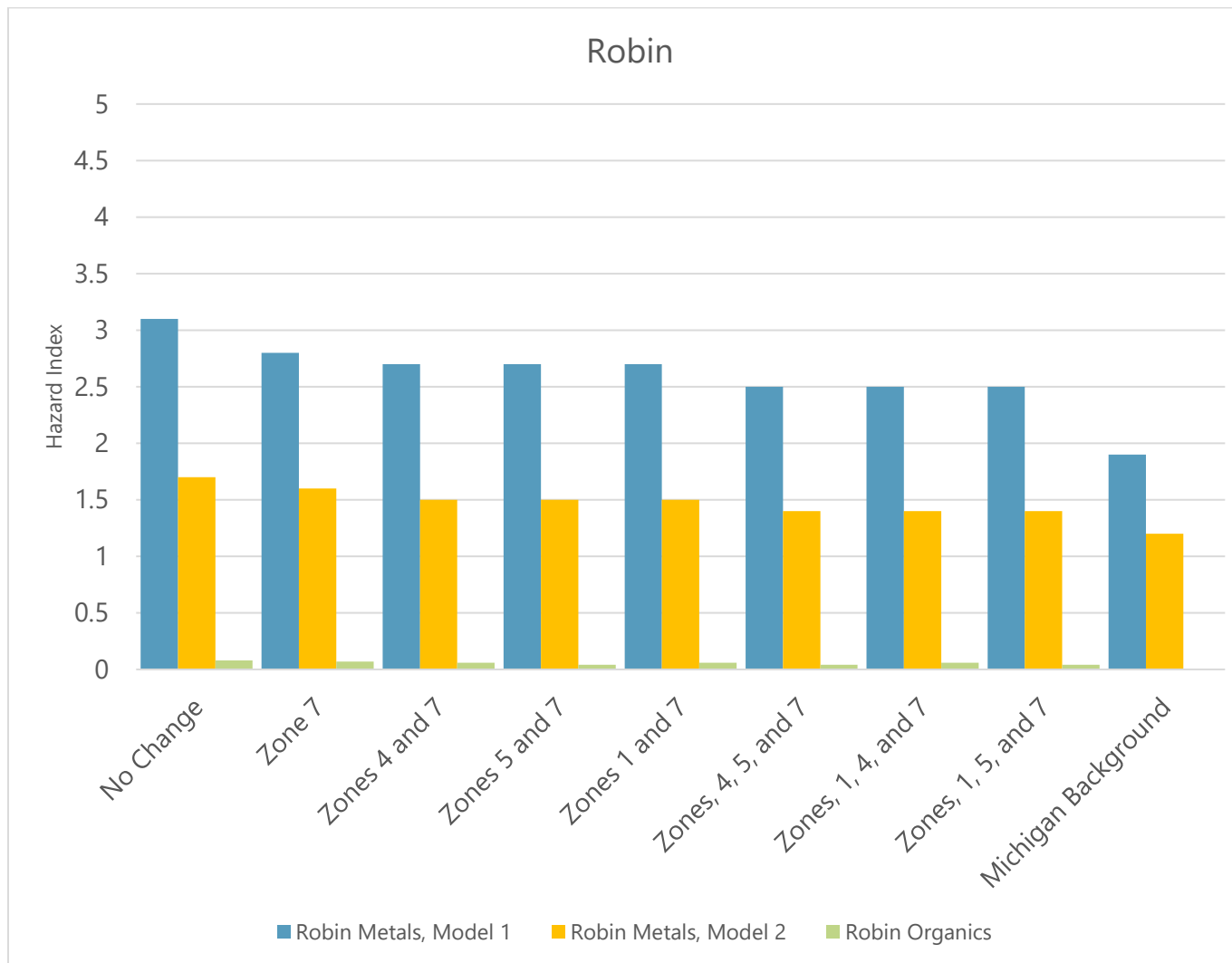
Figure 2
Cleanup Models for the RACER Van Buren Landfill, Results for Shrew
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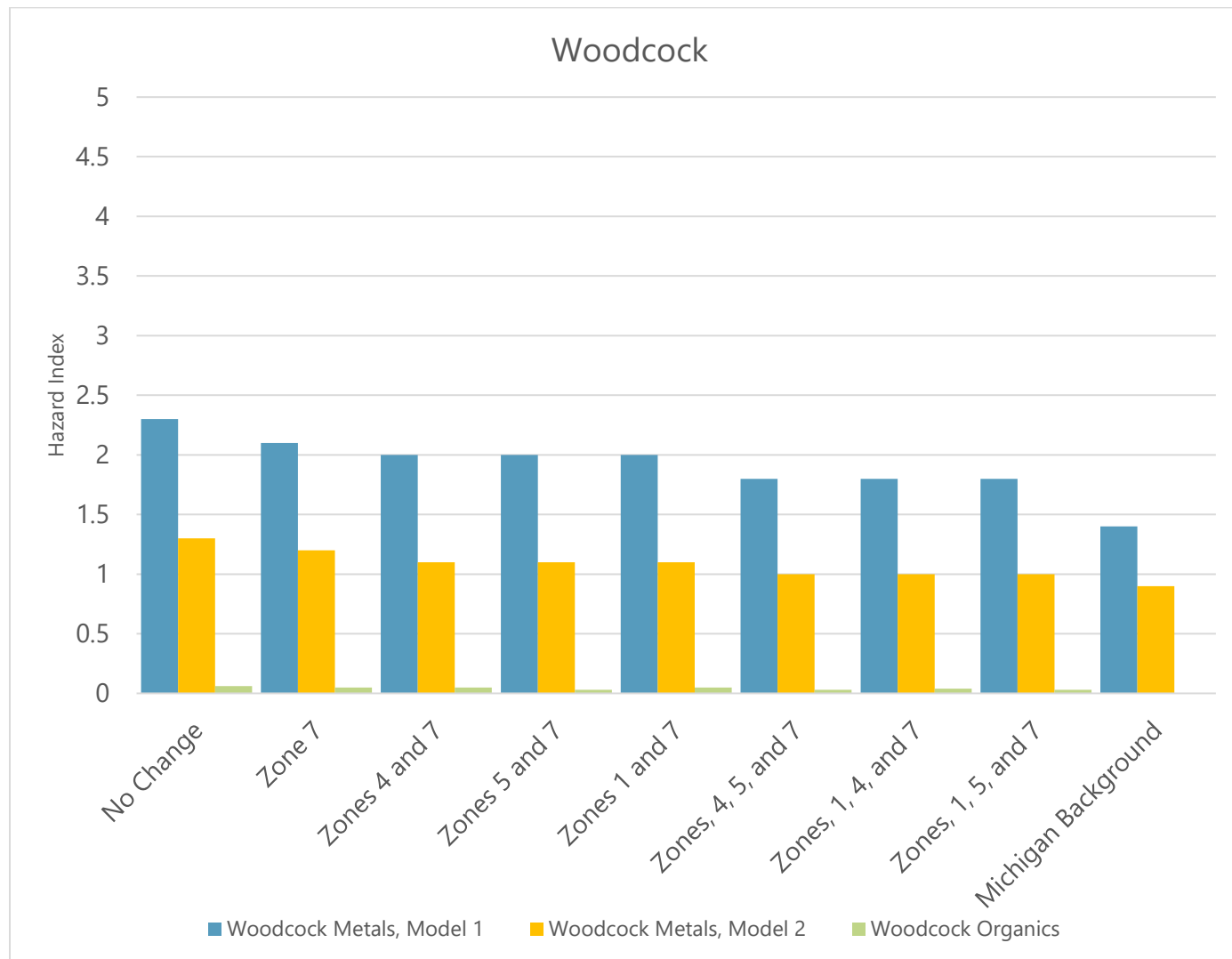
Figure 3
Cleanup Models for the RACER Van Buren Landfill, Results for Vole
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Figure 4
Cleanup Models for the RACER Van Buren Landfill, Results for Robin
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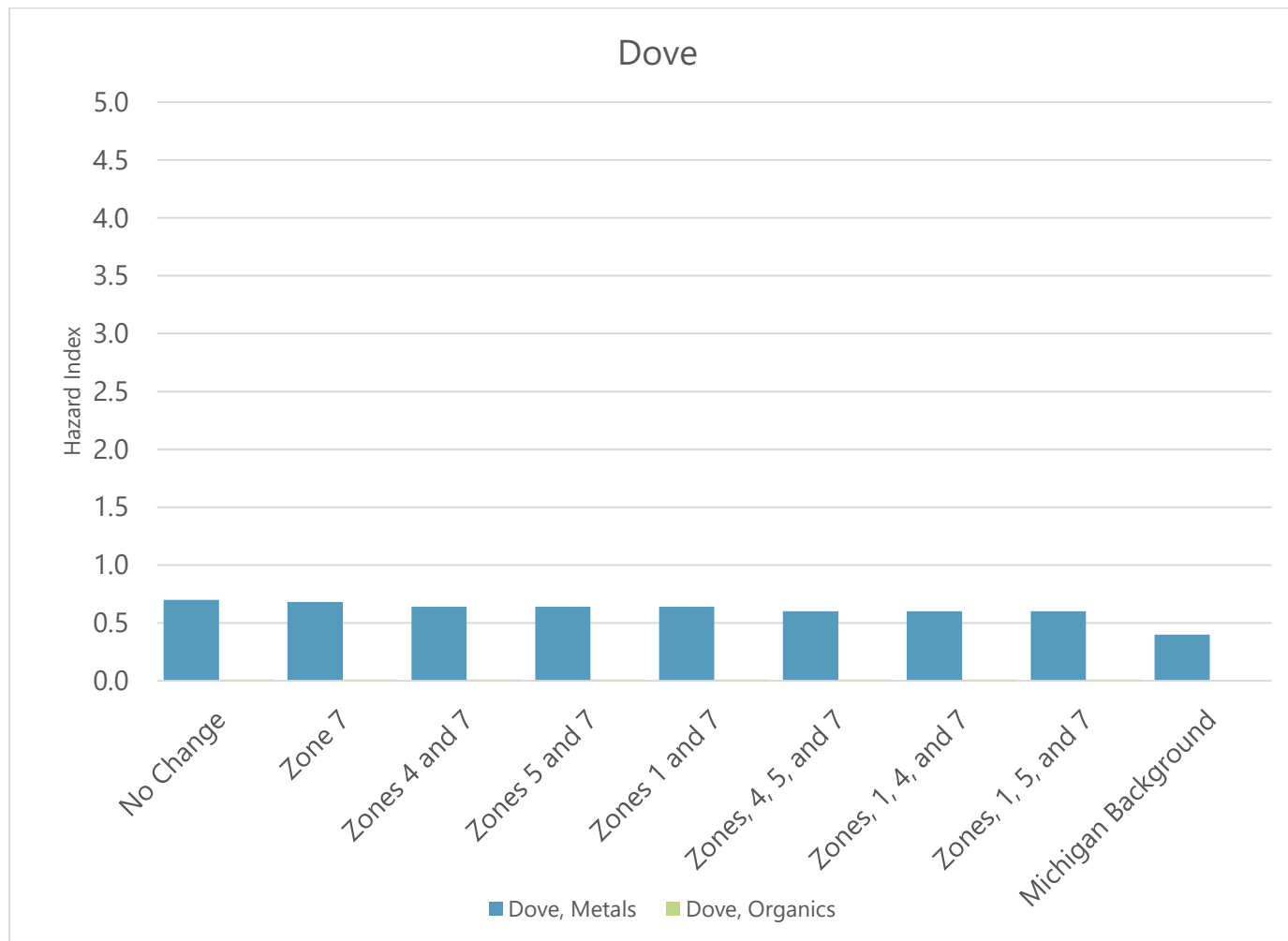


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Figure 5
Cleanup Models for the RACER Van Buren Landfill, Results for Woodcock

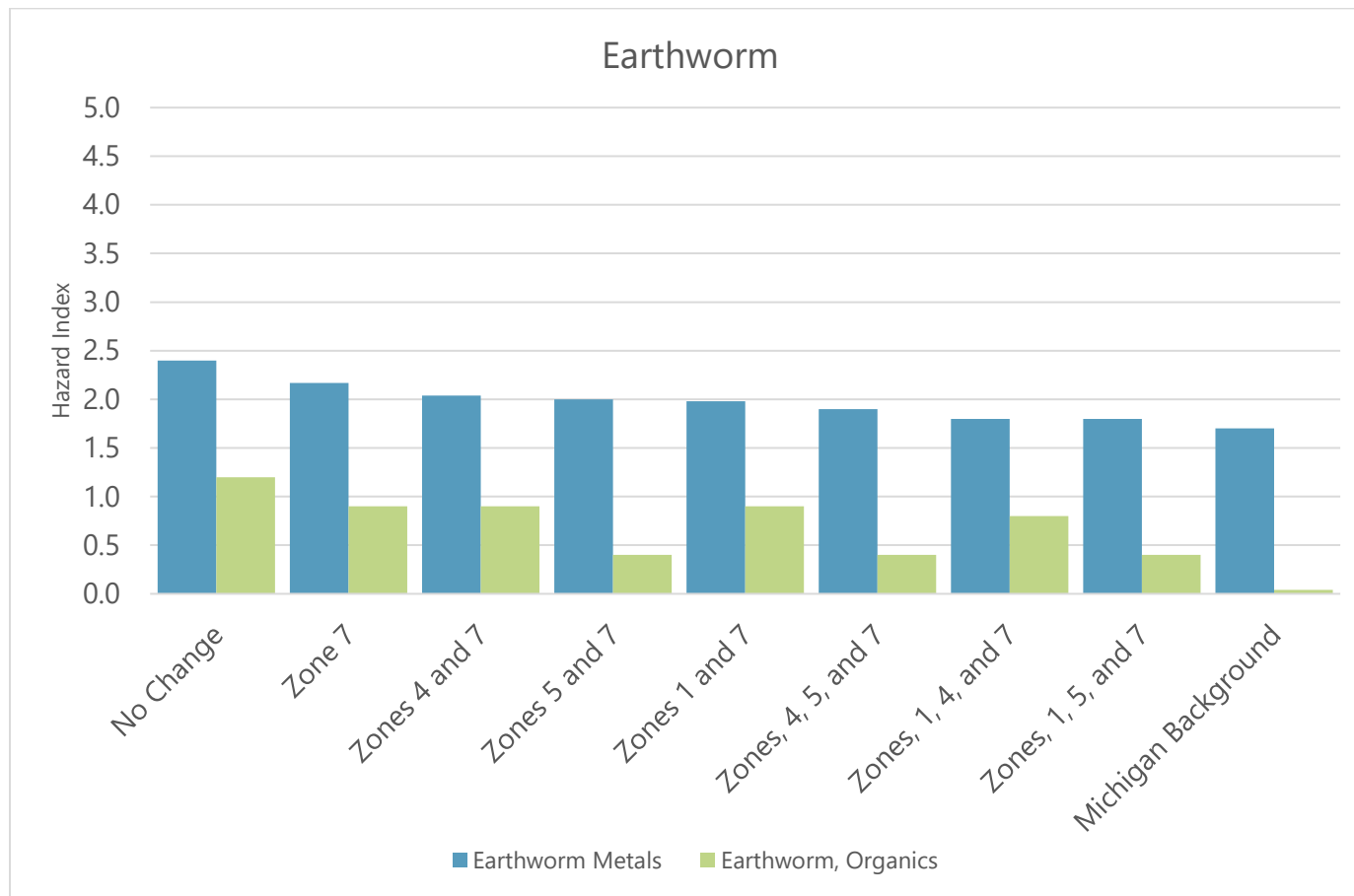
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 Van Buren Landfill



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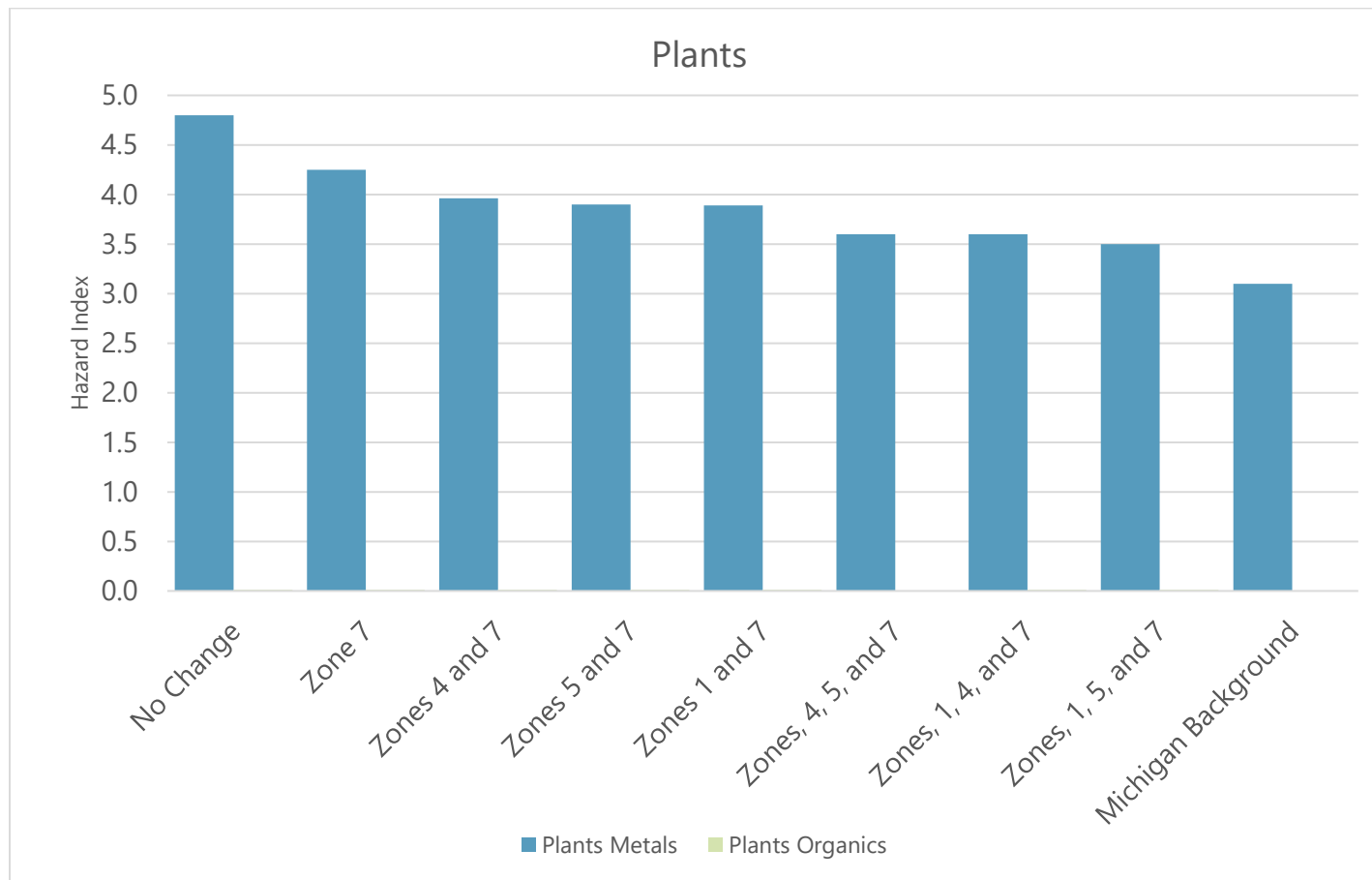
Figure 6
Cleanup Models for the RACER Van Buren Landfill, Results for Dove
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Van Buren Landfill



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Figure 7
Cleanup Models for the RACER Van Buren Landfill, Results for Earthworm
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Figure 8
Cleanup Models for the RACER Van Buren Landfill, Results for Plants
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