(947926)

976138

December 14, 2018 Reference No. 038443-330

Ms. Leslie Patterson
Remedial Project Manager
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Mail Code SR-6J
Chicago, Illinois
60604

Ms. Tamara McPeek
Environmental Response and Revitalization
Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio
45402

Dear Ms. Patterson and Ms. McPeek:

Re: Phase 1 Soil Gas Investigation Activities and Results
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)

This letter provides a summary and discussion of results from the Phase 1 soil gas investigation activities conducted at the South Dayton Dump and Landfill Site (Site) and vicinity, from January to November 2018. This letter is submitted as an interim deliverable for the purpose of providing the results of field monitoring and sampling of existing and new soil gas probes, pending completion of the remaining RI field sampling activities. GHD has prepared this letter on behalf of the Respondents to the Administrative Settlement Agreement and Order on Consent (ASAOC) for Remedial Investigation/Feasibility Study (RI/FS) of the Site, Docket No. V-W-16-C-011 (Respondents).

Soil Gas Probe Installation

GHD proposed installation of 18 soil gas probes in the Remedial Investigation/Feasibility Study (RI/FS) Work Plan for Operable Units 1 and 2 (RI/FS Work Plan), including 12 new soil gas probes and 6 soil gas probes reinstalled at existing locations to depths greater than 5 feet below ground surface (BGS).

A total of 10 new soil gas probe installations were completed from January to August 2018 as described in the RI/FS Work Plan. In addition, four gas probes were re-installed at existing locations. The 14 completed gas probe locations (shown on Figure 1) include, in sequence, the following:

- Soil gas probe GP32-18 was installed on January 10, 2018
- Soil gas probe GP30-18 was installed on January 17, 2018

- Soil gas probe GP33-18 was installed on January 23, 2018
- Existing soil gas probes GP19-09 and GP20-09 were abandoned and reinstalled at deeper depths as GP19-18 and GP20-18 on January 24, 2018
- Soil gas probe GP31-18 was installed on January 25, 2018
- Soil gas probe GP25-18 was installed on January 29, 2018
- Soil gas probe GP01-18 was installed on January 29, 2018, at an offset location to replace GP01-09
- Soil gas probes GP26-18 and GP28-18 were installed on January 31, 2018
- Soil gas probes GP27-18 and GP29-18 were installed on February 1, 2018
- Soil gas probe GP34-18 was installed on July 31, 2018
- Soil gas probe GP07-09 could not be located and was re-installed as GP07-18 on August 1, 2018 (in addition to the probes identified in the RI/FS Work Plan)

The soil gas probes proposed in the RI/FS Work Plan that remain to be completed include two locations at non responsive [redacted] pending Site access. Three soil gas probes that were proposed to be reinstalled at depths greater than 5 feet BGS were not completed. Two of these locations (GP17-09 and GP18-09) at Valley Asphalt property are inaccessible due to ongoing operations at Valley Asphalt. These soil gas probes were originally installed to monitor conditions near two structures that have been demolished by Valley Asphalt, and they are therefore no longer required for that purpose. GHD attempted to reinstall existing soil gas probe GP03-09 (located on the central portion of the Site in Parcel 5177) at a depth greater than 5 feet BGS; however, this was not completed because the water table was present at a depth of 6.0 feet BGS. The soil gas probe locations completed to date and the two remaining proposed locations per the RI/FS Work Plan are shown on Figure 1. A summary of the soil gas probe completion details are provided in Table 1.

For each new and replacement soil gas probe, drilling and installation was completed using direct push technology, with GHD oversight. The soil core retrieved from each location was logged to determine stratigraphy to the required depth, approximately 20 feet BGS, and was used to establish the soil gas probe screen interval. The stratigraphic and instrumentation logs for each soil gas probe location are included listed above are included in Attachment 1.

In accordance with the RI/FS Work Plan, GHD collected 14 soil samples from the gas probe borings (at the screen depth) and submitted to TestAmerica Laboratories in North Canton, Ohio Test for laboratory analysis of volatile organic compounds (VOCs), fraction of organic carbon (Foc) and grain size sieve analysis. Validated analytical results for VOCs and physical testing parameters are summarized in Table 2.

VOCs were detected in soil samples collected from each of the 14 soil gas probe locations. Collectively, the detected VOCs include benzene, toluene, ethylbenzene, xylenes, vinyl chloride,

cis-1,2-dichloroethene, trichloroethene, tetrachloroethene, 1,2,4-tricholorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 2-butanone, acetone, carbon disulfide, chlorobenzene, isopropyl benzene, methyl acetate, and methyl cyclohexane. The total detected VOC concentrations at 12 of 14 borings were less than 10 mg/kg. The total detected VOC concentrations at the other two borings were 100 mg/kg at GP01-18 (at Valley Asphalt property) and 3,335 mg/kg at GP28-18 (in the central portion of the Site).

Field Parameter Monitoring

Field parameter monitoring for organic vapors, carbon dioxide, oxygen, methane, hydrogen sulfide, and explosive gases/lower explosive limit were completed in three monitoring rounds in 2018, as described in the RI/FS Work Plan. Field monitoring includes all accessible soil gas probes installed by GHD. The monitoring program identified in the RI/FS Work Plan also includes USEPA soil gas probes at six locations, identified as GP-1 and GP-3 through GP-7[1]. These locations include multi-level probes, totaling 17 discrete gas probe screen intervals.

The field parameter monitoring rounds are described below:

Round 1 – March 2018

- Field parameter monitoring was completed at 28 GHD soil gas probes and 12 USEPA soil gas probes on March 21, 2018.
- Four soil gas probes (GP06-09, GP07-09, GP08-09, and USEPA GP-7) were inaccessible due to the presence of snow, vegetation, or stockpiled debris, and one soil gas probe (GP21-09) had insufficient gas flow. Two soil gas probes (GP17-09 and GP18-09) located on Valley Asphalt property were excluded since they are inaccessible, and were constructed to a depth less than 5 feet BGS.
- The results of the March 2018 soil gas field parameter monitoring round are provided in Attachment 2 - Table 1.

Round 2 – August/September 2018

- Field parameter monitoring was completed at 32 GHD soil gas probes and 9 USEPA soil gas probes on August 24, 2018.
- Pressure readings were completed at 33 GHD soil gas probe locations and 15 USEPA soil gas probes from September 4 to September 6, 2018. Supplementary field monitoring was completed at 8 GHD soil gas probe locations and 5 USEPA soil gas probes from September 4 to September 6, 2018 including field filtered methane monitoring to confirm the unfiltered methane monitoring readings from August 24, 2018.

---

[1] One USEPA soil gas probe location (GP-2) located adjacent to the DP&L transportation building and former UST area was not included in the field monitoring program based on USEPA approval of GHD's Technical Report: GP-2 Methane Monitoring Summary & Assessment, South Dayton Dump and Landfill Site and Revision 1, Addendum 2 of the VI Mitigation Work Plan, provided on December 12, 2016.

- One soil gas probe (GP08-09) had insufficient gas flow and was not monitored. Two GHD soil gas probes (GP17-09 and GP18-09) located on Valley Asphalt property were not included for the same reasons noted above for the first monitoring round.
- The results of the October/September 2018 soil gas field parameter monitoring round are provided in Attachment 2 - Tables 2a and 2b.

Round 3 – November 2018

- Field parameter monitoring was completed at 30 GHD soil gas probes and 12 USEPA soil gas probes on November 12 to November 14, 2018.
- Two soil gas probes (GP09-09 and USEPA GP-6) were inaccessible due to the presence of vegetation or stockpiled debris and four soil gas probes (GP03-09, GP08-09, USEPA GP-1 (south), and USEPA GP-3 (southeast)) had insufficient gas flow and were not monitored. Two GHD soil gas probes (GP17-09 and GP18-09) located on Valley Asphalt property were not included for the same reasons noted above for the first and second monitoring round.
- The results of the November 2018 soil gas field parameter monitoring round are provided in Attachment 2 - Table 3.

GHD conducted a review of previous and current field monitoring results for methane. Figures 2 and 3 illustrate monitoring results for methane readings (unfiltered and filtered) from 2009 through 2016, and from 2018, respectively. Each figure shows monitoring results for locations where methane readings were greater than the lower explosive limit (5%), on at least one occasion. As shown on Figure 2, the pre-2018 results indicate presence of methane at six on-site soil gas probes, and one off-site soil gas probe[2] (GP-2) exceeding the 5% threshold. The 2018 results shown on Figure 3 indicate the presence of methane exceeding 5% at three locations within the northern and central portions of the Site, including GP01-18 (at Valley Asphalt property), GP02-09 and GP28-18 (both located in the central portion of the site). Methane was not detected above the 5% threshold at any of the remaining soil gas probe locations, with the exception of GP07-18 (at Jim City property). At GP07-18 a significant difference between the unfiltered and filtered results was identified, and the filtered results are well below the 5% threshold for methane. This finding indicates that the instrument readings for methane are affected by the presence of other substances, and methane is not present above the 5% threshold, at GP07-18.

Field parameter monitoring for organic vapors, carbon dioxide, oxygen, and hydrogen sulfide completed in three monitoring rounds in 2018 are summarized below:

- Organic vapor readings, measured using a photoionization detector (PID), were typically less than 25 ppm during all three rounds. The greatest readings were recorded at GP07-18 located at Jim City property (up to 205 ppm, in August/September 2018).

---

[2] The off-site location (GP-2) is situated adjacent to the Dayton Power & Light facility. The soil gas impacts measured at GP-2 were determined to be unrelated to the SDD Site. See GHD's Technical Report: GP-2 Methane Monitoring Summary & Assessment, South Dayton Dump and Landfill Site, provided on December 12, 2016.

- Carbon dioxide levels ranged from 0 to 16.4%, and oxygen levels ranged from 0 to 21.4%.
- Hydrogen sulfide was detected at 8 soil gas probe locations in the August/September monitoring round (max of 8 ppm at GP02-09), and at 5 soil gas probe locations in the November 2018 monitoring round (max of 4.3 ppm at USEPA GP-7[west]). Hydrogen sulfide was not detected during the March 2018 monitoring round.

Soil Gas Probe Sampling and Analysis

GHD completed soil gas sampling from August 14 to August 24, 2018 using 32 GHD soil gas probes in accordance with RI/FS Work Plan procedures. GHD submitted 38 samples (including one trip blank, one ambient air sample, and 4 field duplicates), to TestAmerica Knoxville for VOC (TO-15) analysis. GHD did not collect a sample from one GHD soil gas probe (GP08-09) due to insufficient gas flow.

The validated analytical results are included in Tables 3 and 4, with screening criteria for commercial and residential land use, respectively. The analytical results indicate variable presence of VOCs, as indicated by the following. The locations that exhibit the greatest total detected VOC concentrations (>10 mg/m^3) are listed below:

- GP07-18, located at parcel 3753 (Jim City), total VOC = approx. 7274 mg/m^3
- GP01-18 located at parcel 5054 (Valley Asphalt), total VOC = approx. 127 mg/m^3
- GP31-18 located at parcel 5172 (Dryden Road, near building 12), total VOC = approx. 29 mg/m^3
- GP27-18 located at parcel 5177 (central portion of site), total VOC = approx. 26 mg/m^3
- GP16-09 located at parcel 5171 (Dryden Road, near building 9), total VOC = approx. 11 mg/m^3

The total VOC concentrations at the remaining 27 soil gas samples are less than 10 mg/m^3, and 15 of the 27 locations have total VOC concentrations less than 1 mg/m^3. As indicated above, the locations with the greatest detected VOC concentrations include GP07-18 (Jim City) and GP01-18 (Valley Asphalt), and significantly lower concentrations were detected at the remaining locations. The spatial distribution of the VOC results is indicative of localized areas of soil gas impact at GP01-18 and GP07-18 potentially related to operations being conducted within the respective properties.

Comparison of Analytical Results to Screening Criteria

As noted above, Tables 3 and 4 also include generic screening criteria for commercial land use and residential land use, respectively. The screening criteria include:

- USEPA sub-slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) conservatively calculated at the lower of a target cancer risk of 1x10^{-6} and a hazard quotient (HQ) of 0.1.
- Ohio EPA response action levels and removal management levels, from the Ohio EPA Guidance Document titled "*Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio"*, dated August 2016.

As shown in Table 3, detected VOC concentrations exceeded the generic commercial criteria at the following locations:

- Valley Asphalt property: GP01-18 and GP32-18
- Dryden Road businesses:
  - GP16-09, GP19-18 and GP20-19 at parcel 5171 (B&G Equipment & Truck Repair)
  - GP15-09 and GP31-18 at parcel 5172 (tenants - S&J Precision, Overstreet Painting, NexGen Vending)
  - GP14-09 at parcel 5173 (tenant - Sim Trainer)
  - GP13-09 at parcel 5174 (tenant - Command Roofing)
  - GP12-09 and GP23-13 at parcel 5175 (tenant – D. Dickinson Construction)
- The undeveloped central portion of the site, being part of parcel 5177: GP03-09, GP26-18, GP27-18, GP28-18
- Southern portion of site:
  - GP07-18 at Jim City property
  - GP09-09 and GP10-09 at [redacted]

The soil gas probes that were sampled and had no detections that exceeded the generic commercial criteria include: GP02-09, GP04-09, GP05-09, GP06-09, GP11-09, GP21-09, GP22-13, GP24A-13, GP24B-13, GP25-18, GP29-18, GP30-18, GP33-18 and GP34-18 (see Table 3).

In addition to the above locations, eight other locations had detected concentrations exceeding the generic residential criteria (see Table 4), i.e., 26 of 32 soil gas probe locations had detected concentrations exceeding the generic residential criteria. The soil gas probes that were sampled and had no detections that exceeded the generic residential criteria include: GP04-09, GP06-09, GP11-09, GP24B-13, GP30-18, and GP34-18.

Discussion and Recommendations

Based on current land use, commercial activities are conducted on various property parcels within OU1. Potential residential exposure within OU1 is limited to one location, i.e., the elevated mobile home structure located on parcel [redacted] and the nearest soil gas probe is GP09-09. The soil gas sample collected in August 2018 from GP09-09 contained TCE at a concentration of 690 µg/m^3, which exceeds the USEPA VISL and the Ohio action levels for commercial residential use. No other VOCs were detected at concentrations above commercial or residential screening criteria at GP09-09 in the August 2018 sample. The 2018 soil gas results at GP09-09 are lower than those detected in in September 2009, i.e., TCE was detected at a concentration of 2,000 µg/m^3. In 2009 Respondents and USEPA agreed that no further action was required for any of the residential and/or commercial buildings on [redacted] The results from the 2012 crawl space sampling at the mobile home structure (CRA, Vapor Intrusion Investigation Summary Report. December

2012) did not exceed the then-current indoor air criteria that were conservatively identified as the applicable criteria[3], which supported the prior conclusions. GHD notes that Building 25 (Middleton Trucking, Parcel 3254), non responsive [redacted] The results of the evaluation in the 2012 VI study (CRA, Vapor Intrusion Investigation Summary Report. December 2012) using multiple lines of evidence led Respondents and USEPA to conclude that no further action was required for Buildings 25, non [redacted] (CRA, VI Mitigation Work Plan, May 2013). The decreasing concentrations in the 2018 sample results further supports the prior conclusions that no additional vapor intrusion investigations are necessary non [redacted]

As noted above, other soil gas probe sample locations within areas of commercial land use in OU1 have detected VOC concentrations above screening criteria based on commercial land use, i.e., Valley Asphalt, Dryden Road businesses, and Jim City. Valley Asphalt has already implemented a VI mitigation program within their property, with USEPA oversight. The VI mitigation program implemented by the Respondents in 2013 addresses the Dryden Road business locations.

Jim City property was not included in the 2012 VI study conducted by the Respondents. The 2009 analytical results for GP07-09 did not indicate any exceedances of applicable criteria[4], which included comparison to residential criteria. Landfill gas/soil vapor probe GP07-09 could not be located in 2018, and was replaced with GP07-18. Unlike GP07-09, the soil vapor sample from GP07-18 contained benzene, toluene, ethylbenzene, xylenes (BTEX), hexane, and n-heptane at concentrations greater than USEPA VISLs for sub-slab from commercial structures; these compounds/contaminants are related to fuels.

The 2018 results for GP07-18 (located on parcel 3753) identified detected concentrations of constituents above screening levels for multiple compounds; however, these appear to be unrelated to the SDD site. Specifically, the constituents that exceeded the screening criteria are petroleum hydrocarbons (i.e., fuels).. GHD confirmed with the property owner that the building adjacent to GP07-18 (located on parcel 3256) is used for equipment storage only.

Based on the above, GHD recommends the following:

- non responsive [redacted]
- Regarding parcel 3753 (Jim City property), inform the property owner of the findings based on the 2018 soil gas sampling results
- Replace GP08-09 which appears to be unusable, and complete installation of proposed soil gas probes within East River Road properties subject to obtaining property access
- Complete the soil gas data assessment in accordance with the RI/FS Work Plan

---

3 Vapor Intrusion Investigation Summary Report. CRA, December 2012 (38443 Report 17)

4 "Results of the Landfill Gas/Soil Vapor Investigation", Conestoga-Rovers & Associates (CRA, now GHD), January 11, 2010 (038443Cibu-69)

Should you have any questions on the above, please do not hesitate to contact us.

Sincerely,

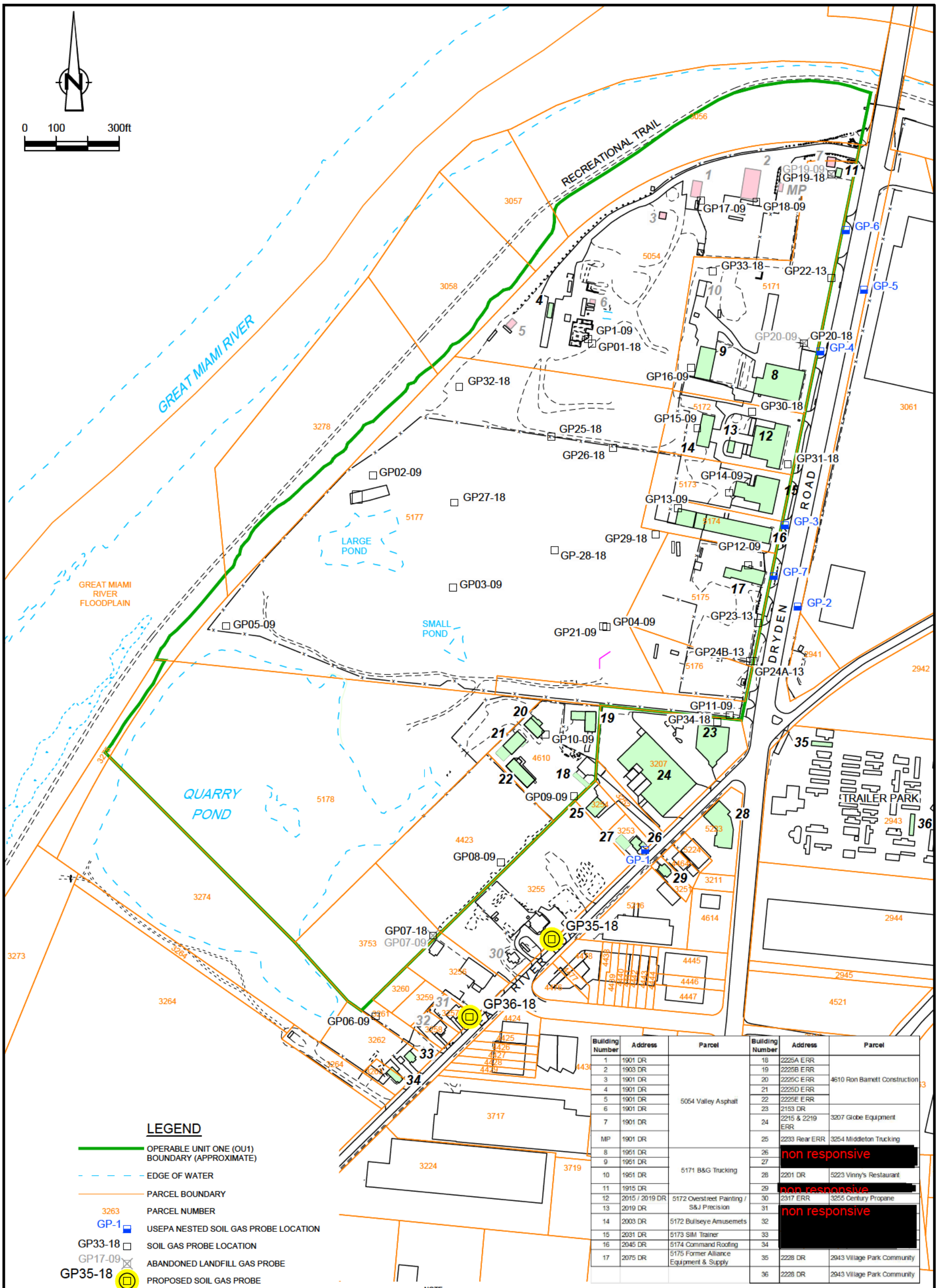
GHD

Julian Hayward

JH/cb/5

Encl.

cc: (all by pdf) Ken Brown, ITW
Bryan Heath, NCR
Wendell Barner, Barner Consulting
Jim Campbell, EMI
Brett Fishwild, Jacobs
Valerie Chan, GHD



Building Number	Address	Parcel	Building Number	Address	Parcel
1	1901 DR	5054 Valley Asphalt	18	2225A ERR	4610 Ron Barnett Construction
2	1903 DR		19	2225B ERR	
3	1901 DR		20	2225C ERR	
4	1901 DR		21	2225D ERR	
5	1901 DR		22	2225E ERR	
6	1901 DR		23	2153 DR	
7	1901 DR		24	2215 & 2219 ERR	3207 Globe Equipment
MP	1901 DR		25	2233 Rear ERR	3254 Middleton Trucking
8	1951 DR	5171 B&G Trucking	26	non responsive	
9	1951 DR		27		
10	1951 DR		28	2201 DR	5223 Vinny's Restaurant
11	1915 DR		29	non responsive	
12	2015 / 2019 DR	5172 Overstreet Painting / S&J Precision	30	2317 ERR	3255 Century Propane
13	2019 DR		31	non responsive	
14	2003 DR	5172 Bullseye Amusemets	32		
15	2031 DR	5173 SIM Trainer	33		
16	2045 DR	5174 Command Roofing	34		
17	2075 DR	5175 Former Alliance Equipment & Supply	35	2228 DR	2943 Village Park Community
			36	2228 DR	2943 Village Park Community

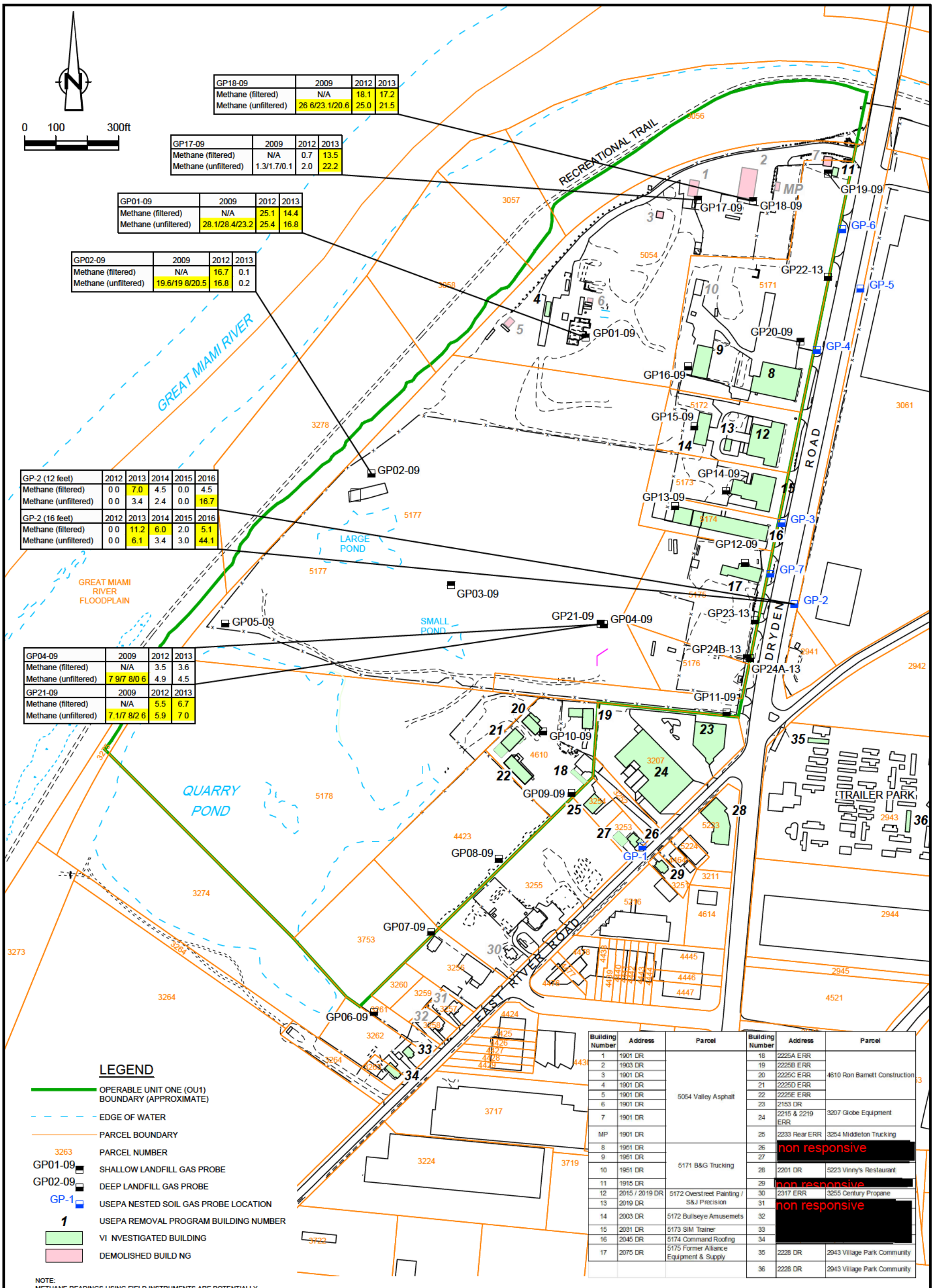
NOTE:
CRITERIA FOR METHANE IS 5%

figure 1

SOIL GAS PROBE LOCATIONS
SOUTH DAYTON DUMP AND LANDFILL SITE
Moraine, Ohio

SOURCES:
THE PAYNE FIRM, INC., PROJECT 0279.44.05, FIGURE 1, DATED 9/12/05;
TETRA TECH EM INC., PROJECT L0312006-SOUTH DAYTON DUMP, FIGURE 2, SITE LAYOUT, 05/25/2004;
CITY OF MORAINE.
ABRAMS AERIAL SURVEY INC. PROJECT 38443, AASI 29610, 04/02/2008

38443-330(PATT005)GN-WA001 NOV 30, 2018



GP18-09	2009	2012	2013
Methane (filtered)	N/A	18.1	17.2
Methane (unfiltered)	26 6/23.1/20.6	25.0	21.5

GP17-09	2009	2012	2013
Methane (filtered)	N/A	0.7	13.5
Methane (unfiltered)	1.3/1.7/0.1	2.0	22.2

GP01-09	2009	2012	2013
Methane (filtered)	N/A	25.1	14.4
Methane (unfiltered)	28.1/28.4/23.2	25.4	16.8

GP02-09	2009	2012	2013
Methane (filtered)	N/A	16.7	0.1
Methane (unfiltered)	19.6/19 8/20.5	16.8	0.2

GP-2 (12 feet)	2012	2013	2014	2015	2016
Methane (filtered)	0 0	7.0	4.5	0.0	4.5
Methane (unfiltered)	0 0	3.4	2.4	0.0	16.7

GP-2 (16 feet)	2012	2013	2014	2015	2016
Methane (filtered)	0 0	11.2	6.0	2.0	5.1
Methane (unfiltered)	0 0	6.1	3.4	3.0	44.1

GP04-09	2009	2012	2013
Methane (filtered)	N/A	3.5	3.6
Methane (unfiltered)	7 9/7 8/0 6	4.9	4.5

GP21-09	2009	2012	2013
Methane (filtered)	N/A	5.5	6.7
Methane (unfiltered)	7.1/7 8/2 6	5.9	7 0

Building Number	Address	Parcel	Building Number	Address	Parcel
1	1901 DR	5054 Valley Asphalt	18	2225A ERR	4610 Ron Barnett Construction
2	1903 DR		19	2225B ERR	
3	1901 DR		20	2225C ERR	
4	1901 DR		21	2225D ERR	
5	1901 DR		22	2225E ERR	
6	1901 DR		23	2153 DR	
7	1901 DR		24	2215 & 2219 ERR	3207 Globe Equipment
MP	1901 DR		25	2233 Rear ERR	3254 Middleton Trucking
8	1951 DR	5171 B&G Trucking	26	non responsive	
9	1951 DR		27		
10	1951 DR		28	2201 DR	5223 Vinny's Restaurant
11	1915 DR		29	non responsive	
12	2015 / 2019 DR	5172 Overstreet Painting / S&J Precision	30	2317 ERR	3255 Century Propane
13	2019 DR		31	non responsive	
14	2003 DR	5172 Bullseye Amusemets	32		
15	2031 DR	5173 SIM Trainer	33		
16	2045 DR	5174 Command Roofing	34		
17	2075 DR	5175 Former Alliance Equipment & Supply	35	2228 DR	2943 Village Park Community
			36	2228 DR	2943 Village Park Community

NOTE:
METHANE READINGS USING FIELD INSTRUMENTS ARE POTENTIALLY AFFECTED BY OTHER EXPLOSIVE GASES, IF PRESENT. FOR PURPOSES OF THIS FIGURE THE INSTRUMENT READINGS GREATER THAN THE LOWER EXPLOSIVE LIMIT FOR METHANE (5%) ARE HIGHLIGHTED.

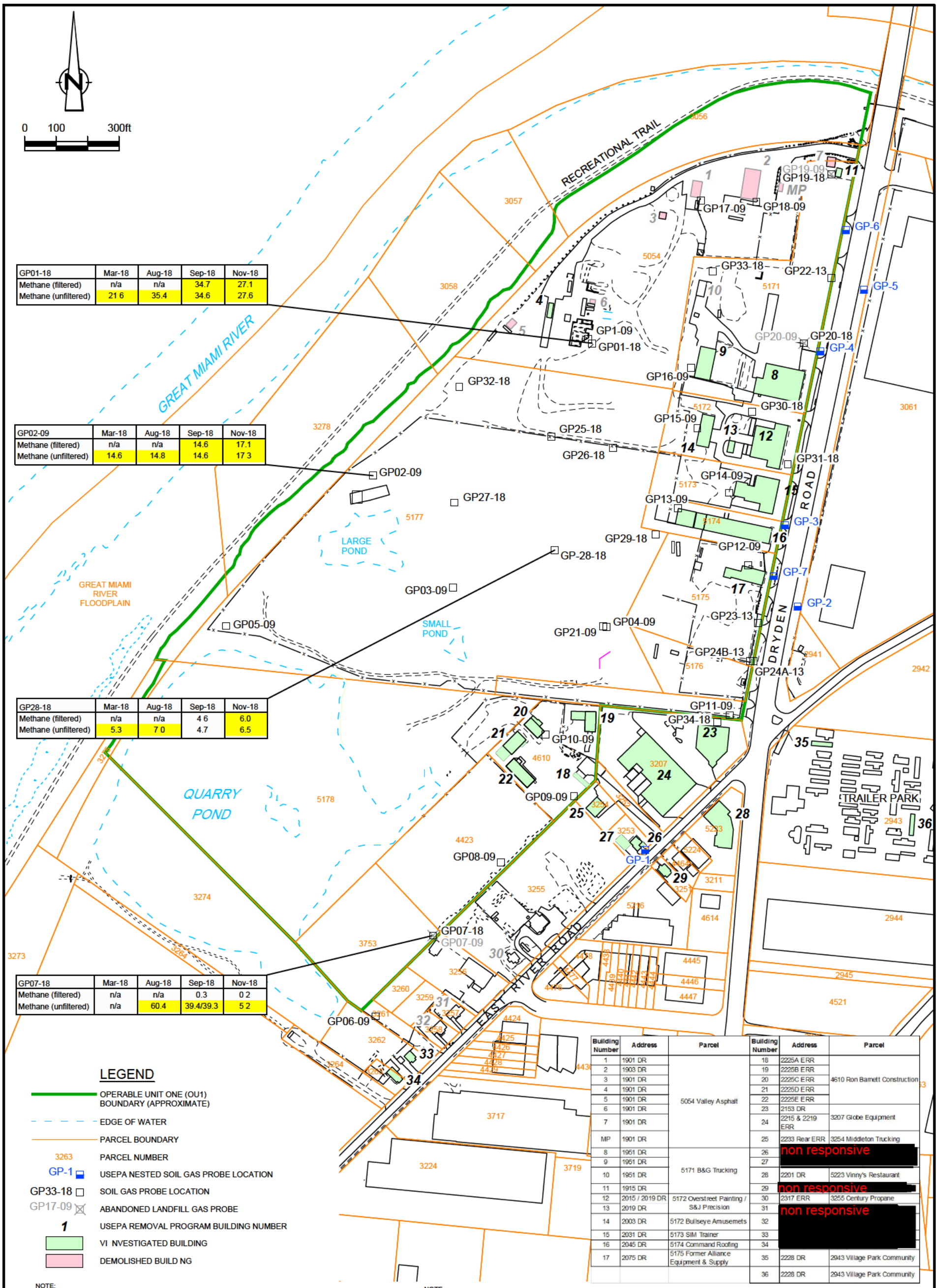
figure 2

2009-2016 SOIL GAS RESULTS - METHANE >5%
SOUTH DAYTON DUMP AND LANDFILL SITE
Moraine, Ohio

GHD

SOURCES:
THE PAYNE FIRM, INC., PROJECT 0279.44.05, FIGURE 1, DATED 9/12/05;
TETRA TECH EM INC., PROJECT L0312006-SOUTH DAYTON DUMP, FIGURE 2, SITE LAYOUT, 05/25/2004;
CITY OF MORAINE.
ABRAMS AERIAL SURVEY INC. PROJECT 38443, AASI 29610, 04/02/2008

38443-330(PATT005)GN-WA002 NOV 23, 2018



GP01-18	Mar-18	Aug-18	Sep-18	Nov-18
Methane (filtered)	n/a	n/a	34.7	27.1
Methane (unfiltered)	21 6	35.4	34.6	27.6

GP02-09	Mar-18	Aug-18	Sep-18	Nov-18
Methane (filtered)	n/a	n/a	14.6	17.1
Methane (unfiltered)	14.6	14.8	14.6	17 3

GP28-18	Mar-18	Aug-18	Sep-18	Nov-18
Methane (filtered)	n/a	n/a	4 6	6.0
Methane (unfiltered)	5.3	7 0	4.7	6.5

GP07-18	Mar-18	Aug-18	Sep-18	Nov-18
Methane (filtered)	n/a	n/a	0.3	0 2
Methane (unfiltered)	n/a	60.4	39.4/39.3	5 2

LEGEND

- OPERABLE UNIT ONE (OU1) BOUNDARY (APPROXIMATE)
- EDGE OF WATER
- PARCEL BOUNDARY
- 3263 PARCEL NUMBER
- GP-1 USEPA NESTED SOIL GAS PROBE LOCATION
- GP33-18 SOIL GAS PROBE LOCATION
- GP17-09 ABANDONED LANDFILL GAS PROBE
- 1 USEPA REMOVAL PROGRAM BUILDING NUMBER
- VI NVESTIGATED BUILDING
- DEMOLISHED BUILD NG

Building Number	Address	Parcel	Building Number	Address	Parcel
1	1901 DR	5054 Valley Asphalt	18	2225A ERR	4610 Ron Barnett Construction
2	1903 DR		19	2225B ERR	
3	1901 DR		20	2225C ERR	
4	1901 DR		21	2225D ERR	
5	1901 DR		22	2225E ERR	
6	1901 DR		23	2153 DR	
7	1901 DR		24	2215 & 2219 ERR	3207 Globe Equipment
MP	1901 DR		25	2233 Rear ERR	3254 Middleton Trucking
8	1951 DR	5171 B&G Trucking	26	non responsive	
9	1951 DR		27		
10	1951 DR		28	2201 DR	5223 Vinny's Restaurant
11	1915 DR		29	non responsive	
12	2015 / 2019 DR	5172 Overstreet Painting / S&J Precision	30	2317 ERR	3255 Century Propane
13	2019 DR		31	non responsive	
14	2003 DR	5172 Bullseye Amusemets	32		
15	2031 DR	5173 SIM Trainer	33		
16	2045 DR	5174 Command Roofing	34		
17	2075 DR	5175 Former Alliance Equipment & Supply	35	2228 DR	2943 Village Park Community
			36	2228 DR	2943 Village Park Community

NOTE:
METHANE READINGS USING FIELD INSTRUMENTS ARE POTENTIALLY AFFECTED BY OTHER EXPLOSIVE GASES, IF PRESENT. FOR PURPOSES OF THIS FIGURE THE INSTRUMENT READINGS GREATER THAN THE LOWER EXPLOSIVE LIMIT FOR METHANE (5%) ARE HIGHLIGHTED.

NOTE:
CRITERIA FOR METHANE IS 5%

figure 3

2018 SOIL GAS RESULTS - METHANE >5%
SOUTH DAYTON DUMP AND LANDFILL SITE
Moraine, Ohio

GHD

SOURCES:
THE PAYNE FIRM, INC., PROJECT 0279.44.05, FIGURE 1, DATED 9/12/05;
TETRA TECH EM INC., PROJECT L0312006-SOUTH DAYTON DUMP, FIGURE 2, SITE LAYOUT, 05/25/2004;
CITY OF MORAINE.
ABRAMS AERIAL SURVEY INC. PROJECT 38443, AASI 29610, 04/02/2008

38443-330(PATT005)GN-WA003 NOV 30, 2018

Table 1

Investigative Location Completion Details
South Dayton Dump and Landfill Site
Moraine, Ohio

Location Identification	Type	Coordinates [1] Easting	Coordinates [1] Northing	Ground Surface Elevation [2] (ft AMSL)	Screened Interval ft bgs			Screened Interval ft AMSL			Bottom of Hole Depth ft bgs	Bottom of Hole Depth ft AMSL	Stratigraphy Description of Screened Interval	Notes
GP01-09	gas probe	1484953 26	634114.42	736.47	3	to	4	733.47	to	732.47	25	711.47	silt (fill), sand and gravel	
GP01-18	gas probe	1484966 01	634100.25	737.67	6	to	7	731.67	to	730.67	20	717.67	sandy clay (fill)	
GP02-09	gas probe	1484270.12	633680.04	723.81	7	to	8	716.81	to	715.81	20	703.81	fill, foundary sand	
GP03-09	gas probe	1484523.78	633323.95	714.95	4	to	5	710.95	to	709.95	15	699.95	sand	
GP04-09	gas probe	1485011 94	633199.83	727.42	12	to	13	715.42	to	714.42	20	707.42	sand	
GP05-09	gas probe	1483803.74	633202.65	725.84	7	to	8	718.84	to	717.84	20	705.84	sand and gravel (fill)	
GP06-09	gas probe	1484278 34	631963.21	723.77	9	to	10	714.77	to	713.77	20	703.77	sand and silt	
GP07-09	gas probe	1484460 29	632219.37	723.03	12	to	13	711.03	to	710.03	20	703.03	sand and gravel	Could not be located due to stockpiled material. Replaced as GP07-18.
GP07-18	gas probe	1484459.43	632213.10	723.86	12	to	13	711.86	to	710.86	16	707.86	sand and gravel (native)	
GP08-09	gas probe	1484676 27	632452.15	723.40	11.67	to	12.67	711.73	to	710.73	20	703.40	sand	
GP09-09	gas probe	1484908.15	632662.47	728.64	6.5	to	7 5	722.14	to	721.14	20	708.64	sand and silt	
GP10-09	gas probe	1484817 23	632858.08	730.49	17	to	18	713.49	to	712.49	25	705.49	sand and gravel	
GP11-09	gas probe	1485402 22	632919.18	730.48	8	to	9	722.48	to	721.48	25	705.48	sand and silt	
GP12-09	gas probe	1485461.15	633395.73	730.61	5	to	6	725.61	to	724.61	25	705.61	sand	
GP13-09	gas probe	1485238 28	633576.29	730.94	6	to	7	724.94	to	723.94	25	705.94	sand	
GP14-09	gas probe	1485401.19	633625.83	731.77	5	to	6	726.77	to	725.77	25	706.77	sand and gravel	
GP15-09	gas probe	1485299.60	633831.22	733.75	9	to	10	724.75	to	723.75	25	708.75	sand and silt	
GP16-09	gas probe	1485279.60	634021.76	735.17	7	to	8	728.17	to	727.17	25	710.17	sand and silt	
GP17-09	gas probe	1485310 58	634552.85	737.92	4	to	5	733.92	to	732.92	25	712.92	foundary sand (fill)	Could not be located due to reclaimed asphalt stockpiles
GP18-09	gas probe	1485487 25	634549.78	737.65	3	to	4	734.65	to	733.65	25	712.65	sand	Could not be located due to reclaimed asphalt stockpiles
GP19-09	gas probe	1485725 54	634637.49	734.23	4	to	5	730.23	to	729.23	25	709.23	sand (fill)	Removed on January 24, 2018 and replaced as GP19-18
GP19-18	gas probe	1485725 98	634632.68	734.19	11	to	12	723.19	to	722.19	20	714.19	silty sand (fill)	
GP20-09	gas probe	1485638 89	634100.78	731.51	4	to	5	727.51	to	726.51	25	706.51	sand (fill)	Removed on January 24, 2018 and replaced as GP20-18
GP20-18	gas probe	1485634 38	634103.24	731.84	11	to	12	720.84	to	719.84	20	711.84	sandy gravel (fill)	
GP21-09	gas probe	1485001 00	633201.06	727.43	3	to	4	724.43	to	723.43	5	722.43	sand, silt, gravel	
GP22-13	gas probe	n/a	n/a	n/a	19	to	20	n/a		n/a	20	n/a	silty, sand and gravel (na ive)	
GP23-13	gas probe	n/a	n/a	n/a	17.5	to	18.5	n/a		n/a	20	n/a	sand and gravel (fill)	
GP24A-13	gas probe	n/a	n/a	n/a	n/a		n/a	n/a		n/a	n/a	n/a	n/a	
GP24B-13	gas probe	n/a	n/a	n/a	n/a		n/a	n/a		n/a	n/a	n/a	n/a	
GP25-18	gas probe	1484833 55	633800.05	733.12	15	to	16	718.12	to	717.12	20	713.12	sand (fill)	
GP26-18	gas probe	1485025 84	633768.62	731.98	13.4	to	14.4	718.58	to	717.58	20	711.98	silty sand (fill)	
GP27-18	gas probe	1484526 08	633585.18	723.89	7	to	8	716.89	to	715.89	20	703.89	sand (fill)	
GP28-18	gas probe	1484848.10	633443.03	724.44	11	to	12	713.44	to	712.44	20	704.44	n/a	
GP29-18	gas probe	1485165.16	633490.14	730.14	9	to	10	721.14	to	720.14	18.5	711.64	silty sand (fill)	
GP30-18	gas probe	1485470 09	633860.32	732.64	10.5	to	11.5	722.14	to	721.14	20	712.64	sand and gravel (native)	
GP31-18	gas probe	1485579 59	633710.41	731.77	8	to	9	723.77	to	722.77	20	711.77	sand (native)	
GP32-18	gas probe	1484514 28	633941.37	731.77	10	to	11	721.77	to	720.77	20	711.77	sand (fill)	
GP33-18	gas probe	1485345 08	634328.34	736.94	17.5	to	18.5	719.44	to	718.44	20	716.94	sandy gravel (native)	
GP34-18	gas probe	1485351.64	632901.71	730.93	10	to	11	720.93	to	719.93	24	706.93	sand and gravel (native)	

Notes:

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet
[2] - North American Vertical Datum of 1988 (NAVD88), U.S. Survey feet
N/A - Information not available.
mAMSL - metres above mean sea level.
mbgs - metres below ground surface.

Table 2

Analytical Results Summary
Soil Sampling
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location:		**GP01-18**	**GP07-18**	**GP19-18**	**GP20-18**	**GP25-18**	**GP26-18**	**GP27-18**	**GP28-18**	**GP29-18**	**GP30-18**	**GP31-18**	**GP32-18**	**GP33-18**	**GP34-18**
Sample ID:		**S-38443-012518-JC-064**	**SO-38443-080118-JC-121**	**S-38443-012418-JC-063**	**S-38443-012218-JC-060**	**S-38443-012918-JC-066**	**S-38443-012918-JC-065**	**S-38443-013018-JC-067**	**S-38443-013018-JC-068**	**S-38443-013018-JC-069**	**S-38443-011718-JC-049**	**S-38443-011918-JC-056**	**S-38443-011018-JC-037**	**S-38443-012218-JC-058**	**SO-38443-073118-JC-120**
Sample Date:		**1/25/2018**	**8/1/2018**	**1/24/2018**	**1/22/2018**	**1/29/2018**	**1/29/2018**	**1/30/2018**	**1/30/2018**	**1/30/2018**	**1/17/2018**	**1/19/2018**	**1/10/2018**	**1/22/2018**	**7/31/2018**
Sample Depth:		**5.5-6.5 ft bgs**	**12-13 ft bgs**	**11-12 ft bgs**	**11-12 ft bgs**	**15-16 ft bgs**	**13.5-14.5 ft bgs**	**7-8 ft bgs**	**15-16 ft bgs**	**9-10 ft bgs**	**10.5-11.5 ft bgs**	**8-9 ft bgs**	**10-11 ft BGS**	**17.5-18.5 ft bgs**	**10-11 ft bgs**
Parameters	**Units**														
Volatiles															
1,1,1-Trichloroethane	µg/kg	530 U	26 U	0.37 U	0.21 U	53 UJ	0.25 U	41 U	13000 U	0.23 UJ	0.20 U	0.22 UJ	0.30 U	0.20 U	0.78 U
1,1,2,2-Tetrachloroethane	µg/kg	460 U	22 U	0.42 U	0.24 U	45 UJ	0.29 U	35 U	11000 U	0.26 U	0.23 U	0.25 U	0.34 U	0.23 U	1.4 U
1,1,2-Trichloroethane	µg/kg	440 U	21 U	0.64 U	0.36 U	43 UJ	0.43 U	33 U	11000 U	0.39 U	0.35 U	0.37 U	0.50 U	0.34 U	1.1 U
1,1-Dichloroethane	µg/kg	590 U	29 U	0.54 U	0.30 U	58 UJ	0.36 U	45 U	15000 U	0.33 U	0.29 U	0.32 U	0.43 U	0.29 U	0.66 U
1,1-Dichloroethene	µg/kg	680 U	33 U	0.88 U	0.50 U	68 UJ	0.60 U	52 U	17000 U	0.54 U	0.48 U	0.52 U	0.70 U	0.47 U	0.86 U
1,2,4-Trichlorobenzene	µg/kg	490 U	24 U	0.39 U	0.22 U	49 UJ	**0.98 J**	38 U	12000 U	0.24 U	0.21 U	0.23 U	0.31 U	0.21 U	0.54 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	910 U	44 U	1.1 U	0.63 U	90 UJ	0.75 U	69 U	23000 U	0.68 U	0.60 U	0.65 U	0.88 U	0.59 U	3.4 U
1,2-Dibromoethane (Ethylene dibromide)	µg/kg	440 U	21 U	0.57 U	0.32 U	43 UJ	0.39 U	33 U	11000 U	0.35 U	0.31 U	0.34 U	0.45 U	0.31 U	0.73 U
1,2-Dichlorobenzene	µg/kg	340 U	17 U	0.36 U	0.20 U	34 UJ	0.24 U	**200 J**	8500 U	0.22 U	0.20 U	0.21 U	0.28 U	0.19 U	1.1 U
1,2-Dichloroethane	µg/kg	570 U	28 UJ	0.47 U	0.27 U	56 UJ	0.32 U	43 U	14000 U	0.29 U	0.26 U	0.28 U	0.38 U	0.25 U	0.73 U
1,2-Dichloropropane	µg/kg	570 U	28 U	0.50 U	0.28 U	56 UJ	0.34 U	43 U	14000 U	0.31 U	0.27 U	0.30 U	0.40 U	0.27 U	0.81 U
1,3-Dichlorobenzene	µg/kg	720 U	35 U	0.47 U	0.27 U	71 UJ	0.32 U	55 U	18000 U	0.29 U	0.26 U	0.28 U	0.38 U	0.25 U	0.78 U
1,4-Dichlorobenzene	µg/kg	510 U	25 U	0.57 U	0.32 U	51 UJ	0.39 U	**2900**	13000 U	0.35 U	0.31 U	0.34 U	0.45 U	0.31 U	0.84 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/kg	950 U	46 U	2.1 U	1.2 U	94 UJ	**6.3 J**	**270 J**	24000 U	**12 J**	1.1 U	1.2 U	1.6 U	1.1 U	3.4 U
2-Hexanone	µg/kg	1600 U	79 U	0.94 U	0.53 U	160 UJ	0.64 U	120 U	40000 U	0.58 U	0.51 U	0.56 U	0.75 U	0.51 U	3.9 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/kg	760 U	37 U	1.4 U	0.82 U	75 UJ	0.98 U	58 U	19000 U	0.88 U	0.79 U	0.85 U	1.2 U	0.78 U	3.5 U
Acetone	µg/kg	1800 U	130 U	20 U	2.8 U	180 UJ	**15 J**	**880 J**	46000 U	44 U	2.7 U	8.3 U	4.0 U	2.7 U	20 U
Benzene	µg/kg	460 U	22 U	0.52 U	0.29 U	45 UJ	0.35 U	35 U	11000 U	**0.36 J**	**0.43 J**	0.31 U	0.41 U	0.28 U	0.66 U
Bromodichloromethane	µg/kg	340 U	17 UJ	0.54 U	0.30 U	34 UJ	0.36 U	26 U	8500 U	0.33 U	0.29 U	0.32 U	0.43 U	0.29 U	0.65 U
Bromoform	µg/kg	440 U	21 U	0.65 U	0.37 U	43 UJ	0.44 U	33 U	11000 U	0.40 U	0.35 U	0.38 U	0.52 U	0.35 U	2.3 U
Bromomethane (Methyl bromide)	µg/kg	530 U	26 U	0.96 U	0.54 U	53 UJ	0.65 U	41 U	13000 U	0.59 U	0.52 U	0.57 U	0.76 U	0.51 U	0.94 U
Carbon disulfide	µg/kg	340 U	17 U	**1.3 J**	0.19 U	34 UJ	0.23 U	26 U	8500 U	0.21 U	0.19 U	0.20 U	0.27 U	0.18 U	1.1 U
Carbon tetrachloride	µg/kg	510 U	25 UJ	0.41 U	0.23 U	51 UJ	0.28 U	39 U	13000 U	0.25 U	0.22 U	0.24 U	0.32 U	0.22 U	3.1 U
Chlorobenzene	µg/kg	**100000**	28 U	0.54 U	0.30 U	**2000 J**	**5.4 J**	**1900**	14000 U	0.33 U	0.29 U	0.32 U	0.43 U	0.29 U	0.87 U
Chloroethane	µg/kg	530 U	26 U	0.62 U	0.35 U	53 UJ	0.42 U	41 U	13000 U	0.38 U	0.34 U	0.36 U	0.49 U	0.33 U	1.2 U
Chloroform (Trichloromethane)	µg/kg	460 U	22 U	0.37 U	0.21 U	45 UJ	0.25 U	35 U	11000 U	0.23 U	0.20 U	0.22 U	0.30 U	0.20 U	0.75 U
Chloromethane (Methyl chloride)	µg/kg	340 U	17 U	0.62 U	0.35 U	34 UJ	0.42 U	26 U	8500 U	0.38 U	0.34 U	0.36 U	0.49 U	0.33 U	0.99 U
cis-1,2-Dichloroethene	µg/kg	670 U	32 U	**17**	**1.8 J**	66 UJ	0.31 U	51 U	16000 U	**0.88 J**	0.25 U	0.27 U	0.36 U	0.24 U	0.62 U
cis-1,3-Dichloropropene	µg/kg	440 U	21 UJ	0.42 U	0.24 U	43 UJ	0.29 U	33 U	11000 U	0.26 U	0.23 U	0.25 U	0.34 U	0.23 U	1.4 U
Cyclohexane	µg/kg	570 U	28 U	0.34 U	0.19 U	56 UJ	0.23 U	43 U	14000 U	0.21 U	0.19 U	0.20 U	0.27 U	0.18 U	1.3 U
Dibromochloromethane	µg/kg	650 U	31 U	0.49 U	0.28 U	64 UJ	0.33 U	49 U	16000 U	0.30 U	0.27 U	0.29 U	0.39 U	0.26 U	2.6 U
Dichlorodifluoromethane (CFC-12)	µg/kg	420 U	20 U	0.57 U	0.32 U	41 UJ	0.39 U	32 U	10000 U	0.35 UJ	0.31 U	0.34 U	0.45 U	0.31 U	0.90 U
Ethylbenzene	µg/kg	670 U	**380**	0.44 U	0.25 U	66 UJ	0.30 U	51 U	**350000**	**0.44 J**	**0.52 J**	**0.35 J**	0.35 U	0.24 U	1.0 U
Isopropyl benzene	µg/kg	650 U	**140 J**	0.33 U	0.18 U	64 UJ	**0.65 J**	49 U	16000 U	**1.4 J**	0.18 U	0.19 U	0.26 U	0.17 U	0.79 U
Methyl acetate	µg/kg	1400 U	69 U	1.9 U	1.1 U	140 UJ	1.3 U	**260 J**	35000 U	1.2 U	1.0 U	1.1 U	1.5 U	1.0 U	3.2 U
Methyl cyclohexane	µg/kg	700 UJ	**77 J**	**2.3 J**	0.21 U	69 UJ	0.25 U	54 U	17000 U	0.23 U	0.20 U	**0.29 J**	0.30 U	0.20 U	1.2 U
Methyl tert butyl ether (MTBE)	µg/kg	490 U	24 U	0.44 U	0.25 U	49 UJ	0.30 U	38 U	12000 U	0.27 U	0.24 U	0.26 U	0.35 U	0.24 U	0.78 U
Methylene chloride	µg/kg	2500 U	60 U	9.7 U	5.0 U	150 UJ	1.7 U	240 U	33000 U	1.8 UJ	0.57 U	5.0 U	0.97 U	5.1 U	11 U
Styrene	µg/kg	190 U	9.2 U	0.44 U	0.25 U	19 UJ	0.30 U	14 U	4700 U	0.27 U	0.24 U	0.26 U	0.35 U	0.24 U	1.1 U
Tetrachloroethene	µg/kg	400 U	19 U	0.60 U	0.34 U	39 UJ	0.41 U	30 U	9900 U	0.37 U	**0.34 J**	0.35 U	0.48 U	0.32 U	0.69 U
Toluene	µg/kg	460 U	**430**	**3.8 J**	**0.59 J**	45 UJ	**0.56 J**	**46 J**	11000 U	**0.60 J**	**1.5 J**	**0.77 J**	**1.3 J**	**0.67 J**	0.73 U
trans-1,2-Dichloroethene	µg/kg	670 U	32 U	0.62 U	0.35 U	66 UJ	0.42 U	51 U	16000 U	0.38 U	0.34 U	0.36 U	0.49 U	0.33 U	0.44 U
trans-1,3-Dichloropropene	µg/kg	290 U	14 U	0.34 U	0.19 U	28 UJ	0.23 U	22 U	7100 U	0.21 U	0.19 U	0.20 U	0.27 U	0.18 U	0.98 U
Trichloroethene	µg/kg	700 U	34 UJ	0.67 U	**13**	69 UJ	0.45 U	54 U	17000 U	0.41 U	**2.7 J**	**5.6**	**1.5 J**	0.36 U	0.60 U
Trichlorofluoromethane (CFC-11)	µg/kg	650 U	31 U	0.39 U	0.22 UJ	64 UJ	0.27 U	49 U	16000 U	0.24 U	0.21 U	0.23 U	0.31 U	0.21 UJ	1.0 U
Trifluorotrichloroethane (CFC-113)	µg/kg	440 UJ	21 U	0.80 U	0.45 U	43 UJ	0.54 U	33 U	11000 U	0.49 U	0.43 U	0.47 U	0.63 U	0.43 U	1.2 U
Vinyl chloride	µg/kg	320 U	16 U	**1.9 J**	0.26 U	32 UJ	0.31 U	25 U	8000 U	0.28 U	0.25 U	0.27 U	0.36 U	0.24 U	0.80 U
Xylenes (total)	µg/kg	530 U	**2800**	**2.2 J**	0.37 U	53 UJ	0.44 U	**160 J**	**3000000**	**1.4 J**	**0.71 J**	**0.79 J**	0.52 U	0.35 U	1.5 U
Total VOCs	µg/kg	100000	3827	28.5	15.39	2000	28.89	6616	3350000	17.08	6.2	7.8	2.8	0.67	ND
Geotechnical															
Coarse sand	%	10.7	15.4	3.7	15.2	8.5	5.0	18.3	2.8	5.0	9.4	8.0	14.2	11.8	11.8
Fine sand	%	19.1	7.4	11.4	8.0	25.4	10.5	21.5	41.9	56.9	9.4	4.3	15.7	10.4	20.5
Fines	%	11.8	7.7	35.3	11.7	34.1	50.3	18.4	9.9	12.0	11.8	6.4	10.6	9.3	14.3
Gravel	%	33.8	49.2	43.5	42.1	15.7	24.1	23.7	34.5	5.6	50.4	69.6	40.1	54.6	33.9
Medium sand	%	24.6	20.4	6.1	23.0	16.3	10.1	18.1	10.9	20.5	19.0	11.7	19.4	13.9	19.5
Sand	%	54.4	43.2	21.2	46.2	50.2	25.6	57.9	55.6	82.4	37.8	24.0	49.3	36.1	51.8
Sieve, #4	% passed	66.2	50.8	56.5	57.9	84.3	75.9	76.3	65.5	94.4	49.6	30.4	59.9	45.4	66.1
Sieve, #10	% passed	55.5	35.4	52.8	42.7	75.8	70.9	58.0	62.7	89.4	40.2	22.4	45.7	33.6	54.3
Sieve, #20	% passed	43.2	24.2	49.6	30.3	68.2	65.6	49.2	60.7	87.0	31.5	16.0	36.0	26.2	45.3
Sieve, #40	% passed	30.9	15.0	46.7	19.7	59.5	60.8	39.9	51.8	68.9	21.2	10.7	26.3	19.7	34.8
Sieve, #60	% passed	22.9	11.1	43.7	15.6	51.6	57.0	33.4	30.1	34.7	15.9	8.6	19.9	14.9	21.7
Sieve, #80	% passed	19.2	9.9	41.6	14.3	46.9	54.8	29.4	19.2	23.1	14.3	7.9	16.8	12.7	17.8
Sieve, #100	% passed	17.2	9.3	40.3	13.6	43.8	53.6	26.7	15.5	18.5	13.6	7.5	15.4	11.7	16.7
Sieve, #200	% passed	11.8	7.7	35.3	11.7	34.1	50.3	18.4	9.9	12.0	11.8	6.4	10.6	9.3	14.3
Sieve, 0.375 inch	% passed	78.4	64.0	60.4	75.0	94.6	80.0	87.6	69.4	97.6	61.3	38.7	81.3	61.7	80.8
Sieve, 0.75 inch	% passed	100.0	77.5	67.2	94.0	100.0	100.0	100.0	73.5	100.0	69.6	52.5	100.0	84.0	96.5
Sieve, 1 inch	% passed	100.0	100.0	67.2	100.0	100.0	100.0	100.0	84.6	100.0	74.2	60.8	100.0	100.0	100.0
Sieve, 1.5 inch	% passed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sieve, 2 inch	% passed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sieve, 3 inch	% passed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
General Chemistry															
Fraction organic carbon (FOC)	%	11.2	-	2.9	0.2	10.5	2.2	6.9	0.7	3.0	0.3	0.3	2.7	0.3	-

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
- - Not applicable.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP01-18	GP01-18	GP02-09	GP03-09	GP04-09	GP05-09
Sample ID									SVA-38443-082418-GL-036	SVA-38443-082418-GL-037	SVA-38443-081518-GL-011	SVA-38443-081418-GL-004	SVA-38443-081418-GL-002	SVA-38443-081418-GL-003
Sample Date									8/24/2018	8/24/2018	8/15/2018	8/14/2018	8/14/2018	8/14/2018
				USEPA[1]		Ohio EPA[2]				Duplicate				
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	73000	-	-	-	-	32 U	34 U	2.2 U	33	2.1 J	2.4
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	7	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4 2 U	0.42 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	3	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2 9 U	0.29 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	256	-	-	-	-	21 U	22 U	1 6 J	4.7	29	0.11 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	2920	-	-	-	-	27 U	28 U	1.8 U	0.13 U	1 3 U	0.13 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	29	-	-	-	-	140 U	150 U	9.9 UJ	0.73 UJ	7.3 UJ	0.73 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	876	-	-	-	-	61 U	64 U	15	17	19	16
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	1	-	-	-	-	67 U	70 U	4.6 U	0.34 U	3.4 U	0.34 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	2920	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4 2 U	0.42 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	16	-	-	-	-	38 U	39 U	2.6 U	0.19 U	1 9 U	0.19 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	58	-	-	-	-	48 U	50 U	3.3 U	0.24 U	2.4 U	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	110 J	120 J	310	0.22 U	2 2 U	0.22 J
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	876	-	-	-	-	63 U	66 U	4.3 U	4.8	5.7 J	4.4
1,3-Butadiene	µg/m^3	106-99-0	ND	14	-	-	-	-	28 U	29 U	1.9 U	0.14 U	1.4 U	0.14 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	77 U	81 U	5.3 U	0.39 U	3 9 U	0.39 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	37	-	-	-	-	76 U	80 U	5.2 U	0.38 U	3 8 U	0.38 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	82	-	-	-	-	57 U	60 U	3.9 U	0.29 U	2 9 U	0.29 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	3500	3600	2.5 U	0.18 U	26	0.18 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	73000	-	-	-	-	120 U	120 U	8.0 U	9.8	24 J	10
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	65 U	67 U	4.4 U	0.33 U	3 3 U	0.33 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	438	-	-	-	-	47 U	49 U	8 9 J	1.9 J	2.4 U	1 5 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	70 U	73 U	4.8 U	0.35 U	3 5 U	0.35 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	64 U	67 U	4 5 J	5.7	6.5 J	5.3
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	43800	-	-	-	-	160 U	170 U	11 U	0.86 J	8 0 U	1.4 J
Acetone	µg/m^3	67-64-1	460	451000	-	-	-	-	660 U	690 U	58 J	100	460	78
Allyl chloride	µg/m^3	107-05-1	ND	15	-	-	-	-	30 U	31 U	2.0 U	0.15 U	1 5 U	0.15 U
Benzene	µg/m^3	71-43-2	110000	52	-	-	-	-	**2200[a]**	**2100[a]**	9.6	0.57 J	3.0 J	0.41 J
Benzyl chloride	µg/m^3	100-44-7	ND	8	-	-	-	-	80 U	84 U	5.5 U	0.40 U	4 0 U	0.40 U
Bromodichloromethane	µg/m^3	75-27-4	ND	11	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2 9 U	0.29 U
Bromoform	µg/m^3	75-25-2	ND	372	-	-	-	-	98 U	100 U	6.7 U	0.50 U	5 0 U	0.50 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0 98 J	73	-	-	-	-	25 U	26 U	1.7 U	0.35 J	1 2 U	0.19 J
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	4000	3800	740	0.81 J	610	0.74 J
Carbon disulfide	µg/m^3	75-15-0	270 J	10200	-	-	-	-	58 J	54 J	15 J	26	66	15
Carbon tetrachloride	µg/m^3	56-23-5	36	68	-	-	680	6800	47 U	49 U	3.3 U	0.24 U	2.4 U	0.24 U
Chlorobenzene	µg/m^3	108-90-7	110000	730	-	-	-	-	**110000[a]**	**110000[a]**	3.1 U	0.23 U	2 3 U	0.23 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	730000	-	-	-	-	580	540	470	0.52 J	32	1.1
Chloroethane	µg/m^3	75-00-3	550	146000	-	-	-	-	95 J	73 J	4 6 J	0 53	3.1 J	0.27 J
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	18	-	-	180	1800	37 U	38 U	2.5 U	18	1 9 U	0.19 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	1310	-	-	-	-	65 U	68 U	4.5 U	1.2	3 3 U	0.45 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	130 J	140 J	10 J	0 93	2.4 U	0.24 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	67 U	69 U	4.6 U	0.34 U	3.4 U	0.34 U
Cyclohexane	µg/m^3	110-82-7	230000	87600	-	-	-	-	1800	1900	310	0.68 J	8.2 J	0.41 J
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	62 U	65 U	4.3 U	0.46 J	3.1 U	0.44 J
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	71 U	74 U	4.9 U	0.36 U	3 6 U	0.36 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	1460	-	-	-	-	67 U	70 U	330	1.1	9.8	570
Ethylbenzene	µg/m^3	100-41-4	140000	164	-	-	-	-	**500[a]**	**500[a]**	4 2 J	3.2	24	2.9
Hexachlorobutadiene	µg/m^3	87-68-3	ND	19	-	-	-	-	160 U	170 U	11 UJ	0.83 UJ	8.3 UJ	0.83 UJ

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP01-18	GP01-18	GP02-09	GP03-09	GP04-09	GP05-09
Sample ID									SVA-38443-082418-GL-036	SVA-38443-082418-GL-037	SVA-38443-081518-GL-011	SVA-38443-081418-GL-004	SVA-38443-081418-GL-002	SVA-38443-081418-GL-003
Sample Date									8/24/2018	8/24/2018	8/15/2018	8/14/2018	8/14/2018	8/14/2018
				USEPA[1]			Ohio EPA[2]			Duplicate				
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m^3	110-54-3	630000	10200	-	-	-	-	1300	1200	220	0.92 J	22	0.94 J
Isopropyl alcohol	µg/m^3	67-63-0	160	2920	-	-	-	-	46 U	48 U	14 J	2.3 J	8.1 J	4 6 J
Isopropyl benzene	µg/m^3	98-82-8	9800 J	5840	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2 9 U	0.29 U
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	290	290	16	15	84	13
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	10200	-	-	-	-	64 U	67 U	4.4 U	0.32 U	3 2 U	0.32 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	1570	-	-	-	-	120 U	130 U	8.3 U	0.61 U	6.1 U	0.61 U
Methylene chloride	µg/m^3	75-09-2	40	8760	-	-	-	-	220 U	230 U	15 U	1.2 J	11 U	1.1 J
Naphthalene	µg/m^3	91-20-3	1.5 J	12	-	-	120	1200	93 U	98 U	6.4 UJ	1.1 J	4.7 UJ	1.1 J
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	50 U	52 U	3 8 J	3.5	2.8 J	3.3
N-Heptane	µg/m^3	142-82-5	1100000	5840	-	-	-	-	1600	1600	130	0.57 J	5.0 J	0.54 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	14600	-	-	-	-	55 U	57 U	3.7 U	3.0	5.0 J	2.7
o-Xylene	µg/m^3	95-47-6	180000	1460	-	-	-	-	52 U	55 U	6 8 J	6.0	28	5.4
Styrene	µg/m^3	100-42-5	3.5	14600	-	-	-	-	49 U	51 U	3.4 U	3.5	2 5 U	3.2
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	23 U	24 U	6 2 J	2.3 J	8.0 J	7.4
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	72 U	75 U	5.7 J	0.36 U	3 6 U	0.36 U
Tetrachloroethene	µg/m^3	127-18-4	550	584	-	-	5800	18000	54 U	56 U	3.7 U	550	2.7 U	7.0
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	29200	-	-	-	-	37 U	38 U	2.5 U	1.3 J	1 9 U	1 2 J
Toluene	µg/m^3	108-88-3	1700000	73000	-	-	-	-	160	170	12	15	65	13
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	39 U	41 U	2.7 U	0.20 U	2 0 U	0.20 U
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	43 U	45 U	3.0 U	0.22 U	2 2 U	0.22 U
Trichloroethene	µg/m^3	79-01-6	27000	29	290	880	-	-	38 U	40 U	2.6 U	**120[a]**	1 9 U	0.19 U
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	27 U	28 U	1.8 U	2.6	1 3 U	4.6
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	73000	-	-	-	-	47 U	49 U	3.2 U	0.72 J	2.4 U	0.60 J
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	13	-	-	-	-	30 U	32 U	2.1 U	0.15 U	1 5 U	0.15 U
Vinyl chloride	µg/m^3	75-01-4	2500	93	-	-	930	9300	**1000[ad]**	**960[ad]**	65	0.18 U	1 8 U	0.18 U
Xylenes (total)	µg/m^3	1330-20-7	770000	1460	-	-	-	-	290	290	22.8	21	112	18.4
Total VOCs	µg/m^3	-		-	-	-	-	-	127613	127337	2793.7	982.12	1668.3	799.21

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP06-09	GP07-18	GP09-09	GP10-09	GP11-09	GP12-09
Sample ID									SVA-38443-082118-GL-019	SVA-38443-082118-GL-018	SVA-38443-082118-GL-021	SVA-38443-082118-GL-020	SVA-38443-081518-GL-012	SVA-38443-082018-GL-013
Sample Date									8/21/2018	8/21/2018	8/21/2018	8/21/2018	8/15/2018	8/20/2018
				USEPA[1]			Ohio EPA[2]							
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	73000	-	-	-	-	0.49 J	3700 U	4.1 J	4.5	2.6	1.6 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	7	-	-	-	-	0.42 U	9500 U	4.2 U	1.0 U	0.42 U	4.2 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	3	-	-	-	-	0.29 U	6700 U	2.9 U	0.74 U	0.29 U	2.9 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	256	-	-	-	-	0.11 U	2400 U	1.1 U	2.9	0.11 U	1.1 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	2920	-	-	-	-	0.13 U	3000 U	1.3 U	0.34 U	0.13 U	1.3 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	29	-	-	-	-	0.73 UJ	16000 UJ	7.3 UJ	1 8 UJ	0.73 UJ	7.3 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	876	-	-	-	-	8 9	**8400 J[a]**	12	11	13	7 8 J
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	1	-	-	-	-	0.34 U	7600 U	3.4 U	0.85 U	0.34 U	3.4 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	2920	-	-	-	-	0.42 U	9500 U	4.2 U	1.1 U	0.42 U	4.2 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	16	-	-	-	-	0.89	4300 U	1.9 U	0.48 U	0.19 U	1.9 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	58	-	-	-	-	0.24 U	5400 U	2.4 U	0.60 U	0.24 U	2.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0.22 U	5100 U	2.2 U	0.99 J	0.22 U	2.2 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	876	-	-	-	-	2 5	7200 U	4 5 J	2.9	3.7	3.2 U
1,3-Butadiene	µg/m^3	106-99-0	ND	14	-	-	-	-	0.14 U	3200 U	1.4 U	0.35 U	0.14 U	1.4 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	0.63 J	8800 U	3.9 U	4.2	0.39 U	3.9 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	37	-	-	-	-	0.38 U	8700 U	3.8 U	0.96 U	0.38 U	3.8 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	82	-	-	-	-	0.29 U	6500 U	2.9 U	0.72 U	0.29 U	2.9 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	17	1800000	20 J	2.1 J	0.18 U	1.8 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	73000	-	-	-	-	11	13000 U	13 J	12	4.7	7 8 J
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	7400 U	3.3 U	1.5 J	0.33 U	3.3 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	438	-	-	-	-	2.1	5400 U	2.4 U	1.7 J	0.61 J	4.1 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	7900 U	3.5 U	0.88 U	0.35 U	3.5 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	2.1	7300 U	4 0 J	2.6 J	3.4	3.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	43800	-	-	-	-	1.8 J	18000 U	8.0 U	2.0 U	2.7	8.0 U
Acetone	µg/m^3	67-64-1	460	451000	-	-	-	-	69 J	75000 UJ	95 J	96	41	130
Allyl chloride	µg/m^3	107-05-1	ND	15	-	-	-	-	0.15 U	3400 U	1.5 U	0.38 U	0.15 U	1.5 U
Benzene	µg/m^3	71-43-2	110000	52	-	-	-	-	1 8	**110000[a]**	2 5 J	1.7	0.39 J	1.8 U
Benzyl chloride	µg/m^3	100-44-7	ND	8	-	-	-	-	0.40 U	9100 U	4.0 U	1.0 U	0.40 U	4.0 U
Bromodichloromethane	µg/m^3	75-27-4	ND	11	-	-	-	-	0.29 U	6700 U	2.9 U	0.74 U	0.29 U	2.9 U
Bromoform	µg/m^3	75-25-2	ND	372	-	-	-	-	0.50 U	11000 U	5.0 U	1.2 U	0.50 U	5.0 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0 98 J	73	-	-	-	-	0.14 J	2800 U	1.2 U	0.31 U	0.20 J	1.2 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	0.72 J	6200 J	1 8 J	3.1	1.2	1.7 U
Carbon disulfide	µg/m^3	75-15-0	270 J	10200	-	-	-	-	13	2200 U	34	4.7	36	31
Carbon tetrachloride	µg/m^3	56-23-5	36	68	-	-	680	6800	0.24 U	5400 U	2.4 U	0.60 U	0.24 U	2.4 U
Chlorobenzene	µg/m^3	108-90-7	110000	730	-	-	-	-	0.23 U	5100 U	2.3 U	0.56 U	0.23 U	2.3 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	730000	-	-	-	-	5 6	3000 U	4.1 J	5.3	2.0	6 0 J
Chloroethane	µg/m^3	75-00-3	550	146000	-	-	-	-	0 092 U	2100 U	0.92 U	0.23 U	0.46 J	0.96 J
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	18	-	-	180	1800	0.38 J	4200 U	1.9 U	0.46 U	0.19 U	1.9 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	1310	-	-	-	-	0.55 J	7500 U	3.3 U	0.83 U	3.4	3 3 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	5400 U	2.4 U	3.2	0.24 U	2.4 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	7600 U	3.4 U	0.84 U	0.34 U	3.4 U
Cyclohexane	µg/m^3	110-82-7	230000	87600	-	-	-	-	2 5	**230000[a]**	2 5 J	1.1 J	0.67 J	1.4 U
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.40 J	7100 U	3.1 U	0.78 U	0.39 J	3.1 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	8100 U	3.6 U	0.89 U	0.36 U	3.6 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	1460	-	-	-	-	1 2	7600 U	3 6 J	9.0	1.2	3.7 J
Ethylbenzene	µg/m^3	100-41-4	140000	164	-	-	-	-	2 8	**140000[a]**	11	3.4	2.4	3.0 U
Hexachlorobutadiene	µg/m^3	87-68-3	ND	19	-	-	-	-	0.83 UJ	19000 UJ	8.3 UJ	2.1 UJ	0.83 UJ	8.3 UJ

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP06-09	GP07-18	GP09-09	GP10-09	GP11-09	GP12-09
Sample ID									SVA-38443-082118-GL-019	SVA-38443-082118-GL-018	SVA-38443-082118-GL-021	SVA-38443-082118-GL-020	SVA-38443-081518-GL-012	SVA-38443-082018-GL-013
Sample Date									8/21/2018	8/21/2018	8/21/2018	8/21/2018	8/15/2018	8/20/2018
				USEPA[1]		Ohio EPA[2]								
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	-	15	630000[a]	3 5 J	1.7 J	1.1 J	1.1 U
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	-	57	5200 U	140	160	2.5 J	27 J
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	-	1.4 J	9800 J[a]	4.4 J	2.6 J	0.68 J	2.9 U
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-	12	590000	47	13	11	7.4 J
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	-	0.32 U	7300 U	3.2 U	0.81 U	1.4 J	3.2 U
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	-	0.61 U	14000 U	6.1 U	1.5 U	0.61 U	6.1 U
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	-	7 0	25000 U	14 J	3.6 J	2.3	11 U
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	120	1200	0.79 J	11000 UJ	4.7 UJ	1.5 J	1.0 J	4.7 UJ
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-	1.8 J	5700 U	2.5 U	2.4 J	2.7	2.5 U
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	-	12	1100000[a]	14 J	3.4 J	0.50 J	1.9 U
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	-	1.2 J	6200 U	2.8 U	1.5 J	2.2	2.8 U
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	-	4 9	180000[a]	20	5.5	4.5	2 9 J
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	-	1 2	5600 U	2.5 U	1.7 J	2.2	2.5 U
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-	3.3 J	2600 U	5.1 J	8.5 J	1.1 J	11 J
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-	0.36 U	8200 U	3.6 U	0.91 U	0.36 U	3.6 U
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000	22	6100 U	26	13	1.1 J	92
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	-	0.19 U	4200 U	4.7 J	3.7 J	0.88 J	1.9 U
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	-	23	1700000[a]	38	13	9.8	4.5 U
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	0.59 J	4500 U	2 2 J	1.4 J	0.20 U	2.0 U
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	0.22 U	4900 U	2.2 U	0.54 U	0.22 U	2.2 U
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	-	0.28 J	4400 U	690[ab]	34[a]	0.19 U	690[ab]
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	8.7	3100 U	2 9 J	0.76 J	2.4	2 0 J
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	-	0.60 J	5400 U	2.4 U	1.5 J	0.62 J	2.4 U
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	-	0.15 U	3500 U	1.5 U	0.38 U	0.15 U	1.5 U
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300	0.18 U	4100 U	1.8 U	1.7	0.61	1.8 U
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	-	16.9	770000[a]	67	18.5	15.5	10.3
Total VOCs	µg/m³	-		-	-	-	-	-	335.16	7274400	1290.9	466.85	184.11	1037 26

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18
Sample ID									SVA-38443-082018-GL-014	SVA-38443-082018-GL-015	SVA-38443-082018-GL-016	SVA-38443-082018-GL-017	SVA-38443-082318-GL-028	SVA-38443-082318-GL-034
Sample Date									8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/23/2018	8/23/2018
				USEPA[1]			Ohio EPA[2]				Duplicate			
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	73000	-	-	-	-	14	1.3 J	1 3 J	8.5 J	17 U	4.8 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	7	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U	43 U	12 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	3	-	-	-	-	0.29 U	1 2 U	1.2 U	8.7 U	30 U	8.7 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	256	-	-	-	-	310[a]	1.5 J	1.7 J	3200[a]	55 J	3.1 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	2920	-	-	-	-	0.32 J	0.54 U	0.54 U	6.7 J	14 U	11 J
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	29	-	-	-	-	0.73 UJ	2.9 UJ	2.9 UJ	22 UJ	75 UJ	22 U
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	876	-	-	-	-	8.4	5.1	5.0	11 J	32 U	9.2 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	1	-	-	-	-	0.34 U	1.4 U	1.4 U	10 U	35 U	10 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	2920	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U	43 U	12 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	16	-	-	-	-	0.19 U	0.76 U	0.76 U	5.6 U	20 U	5.6 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	58	-	-	-	-	0.24 U	0.96 U	0.96 U	7.1 U	25 U	7.1 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	8 6	0.89 U	0.89 U	6.6 U	23 U	6.6 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	876	-	-	-	-	2 2	1.4 J	1 3 J	9.5 U	33 U	9.5 U
1,3-Butadiene	µg/m^3	106-99-0	ND	14	-	-	-	-	0.14 U	0.57 U	0.57 U	4.2 U	15 U	4.2 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	0.39 U	1 6 U	1.6 U	12 U	40 U	12 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	37	-	-	-	-	0.38 U	1 5 U	1.5 U	11 U	40 U	11 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	82	-	-	-	-	0.29 U	1 2 U	1.2 U	8.5 U	30 U	8.5 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.44 J	0.73 U	0.73 U	5.4 U	3600	190
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	73000	-	-	-	-	5 9	5.9 J	2 6 J	17 U	61 U	35 J
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	1 3 U	1.3 U	9.7 U	34 U	9.7 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	438	-	-	-	-	0.97 J	0.95 U	0.95 U	7.0 U	24 U	7.0 U
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	1.4 U	1.4 U	10 U	36 U	10 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	1.9 J	1 3 U	1.3 U	9.6 U	33 U	9.6 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	43800	-	-	-	-	1.1 J	3 2 U	3.2 U	24 U	82 U	24 U
Acetone	µg/m^3	67-64-1	460	451000	-	-	-	-	58	54 J	28 J	98 U	340 U	340 J
Allyl chloride	µg/m^3	107-05-1	ND	15	-	-	-	-	0.15 U	0.60 U	0.60 U	4.4 U	15 U	4.4 U
Benzene	µg/m^3	71-43-2	110000	52	-	-	-	-	0.32 J	0.72 U	0.72 U	5.3 U	18 U	45
Benzyl chloride	µg/m^3	100-44-7	ND	8	-	-	-	-	0.40 U	1 6 U	1.6 U	12 U	42 U	12 U
Bromodichloromethane	µg/m^3	75-27-4	ND	11	-	-	-	-	0.29 U	1 2 U	1.2 U	8.7 U	30 U	8.7 U
Bromoform	µg/m^3	75-25-2	ND	372	-	-	-	-	0.50 U	2 0 U	2.0 U	15 U	51 U	15 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0 98 J	73	-	-	-	-	0.12 U	0.50 U	0.50 U	3.7 U	13 U	3.7 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	13	1.1 J	0.69 U	5.1 U	6800	940
Carbon disulfide	µg/m^3	75-15-0	270 J	10200	-	-	-	-	14	5.9 J	4 2 J	26 J	11 J	40 J
Carbon tetrachloride	µg/m^3	56-23-5	36	68	-	-	680	6800	0.24 U	0.96 U	0.96 U	9.2 J	25 U	7.1 U
Chlorobenzene	µg/m^3	108-90-7	110000	730	-	-	-	-	0.23 U	0.90 U	0.90 U	6.7 U	23 U	6.7 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	730000	-	-	-	-	0.94	7.3	5.4	7.7 J	110	3.9 U
Chloroethane	µg/m^3	75-00-3	550	146000	-	-	-	-	0.97	0.37 U	0.37 U	12 J	9 5 U	9 2 J
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	18	-	-	180	1800	3 6	7.6	7.4	17 J	19 U	5.5 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	1310	-	-	-	-	0.46 J	1 3 U	1.3 U	9.8 U	34 U	9.8 U
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	3.5	3.1 J	1400	24 U	1700
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	1 3 U	1.3 U	9.9 U	35 U	9.9 U
Cyclohexane	µg/m^3	110-82-7	230000	87600	-	-	-	-	3.7	0.55 U	0.55 U	4.1 U	49 J	160
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.31 U	1 3 U	1.3 U	9.3 U	32 U	9.3 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U	37 U	11 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	1460	-	-	-	-	10	2.3 J	2 3 J	10 U	35 U	10 U
Ethylbenzene	µg/m^3	100-41-4	140000	164	-	-	-	-	1 2	1 2 U	1.2 U	8.7 U	30 U	14 J
Hexachlorobutadiene	µg/m^3	87-68-3	ND	19	-	-	-	-	0.83 UJ	3.3 UJ	3.3 UJ	25 UJ	86 UJ	25 U

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18
Sample ID									SVA-38443-082018-GL-014	SVA-38443-082018-GL-015	SVA-38443-082018-GL-016	SVA-38443-082018-GL-017	SVA-38443-082318-GL-028	SVA-38443-082318-GL-034
Sample Date									8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/23/2018	8/23/2018
				USEPA[1]			Ohio EPA[2]				Duplicate			
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m^3	110-54-3	630000	10200	-	-	-	-	1.1 J	0.45 U	0.73 J	3.3 U	210	340
Isopropyl alcohol	µg/m^3	67-63-0	160	2920	-	-	-	-	1.6 J	4.2 J	2 5 J	6.8 U	24 U	76 J
Isopropyl benzene	µg/m^3	98-82-8	9800 J	5840	-	-	-	-	0.29 U	1 2 U	1.2 U	8.7 U	30 U	8.7 U
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	5.1	3.0 J	2 8 J	15 U	54 U	47
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	10200	-	-	-	-	0.32 U	1 3 U	1.3 U	9.6 U	33 U	9.6 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	1570	-	-	-	-	0.61 U	2 5 U	2.5 U	18 U	63 U	18 U
Methylene chloride	µg/m^3	75-09-2	40	8760	-	-	-	-	2.4	4.4 U	5 0 J	33 U	110 U	33 U
Naphthalene	µg/m^3	91-20-3	1.5 J	12	-	-	120	1200	1.0 J	1.9 UJ	1.9 UJ	14 UJ	49 UJ	14 U
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	2.0 J	1.3 J	1 3 J	7.5 U	26 U	7.5 U
N-Heptane	µg/m^3	142-82-5	1100000	5840	-	-	-	-	0.44 J	0.77 U	0.77 U	5.7 U	20 U	330
N-Propylbenzene	µg/m^3	103-65-1	95 J	14600	-	-	-	-	1.1 J	1.1 U	1.1 U	8.1 U	28 U	8.1 U
o-Xylene	µg/m^3	95-47-6	180000	1460	-	-	-	-	2 6	1.5 J	1 6 J	7.8 U	27 U	18 J
Styrene	µg/m^3	100-42-5	3.5	14600	-	-	-	-	0.82 J	0.99 U	0.99 U	7.3 U	25 U	7.3 U
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	4.4 J	2.6 J	0.64 J	5.3 J	12 U	8 3 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U	37 U	11 U
Tetrachloroethene	µg/m^3	127-18-4	550	584	-	-	5800	18000	1.3 J	330	370	25 J	28 U	8.0 U
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	29200	-	-	-	-	0.57 J	0.74 U	1 0 J	5.5 U	19 U	5.5 U
Toluene	µg/m^3	108-88-3	1700000	73000	-	-	-	-	4 8	1.9 J	1 9 J	13 U	47 U	71
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	0.20 U	1.0 J	1 0 J	57	20 U	30
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U	0.87 U	0.87 U	6.4 U	22 U	6.4 U
Trichloroethene	µg/m^3	79-01-6	27000	29	290	880	-	-	1 3	**520[ab]**	**510[ab]**	**3400[abc]**	20 U	13 J
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	0.88 J	1.6 J	1.7 J	4.0 U	14 U	4.0 U
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	73000	-	-	-	-	6 6	0.95 U	0.95 U	7.0 U	24 U	7.0 U
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	13	-	-	-	-	0.15 U	0.61 U	0.61 U	4.5 U	16 U	4.5 U
Vinyl chloride	µg/m^3	75-01-4	2500	93	-	-	930	9300	3.1	0.73 U	0.73 U	14 J	**370[a]**	**2500[ad]**
Xylenes (total)	µg/m^3	1330-20-7	770000	1460	-	-	-	-	7.7	4 5	4.4	ND	ND	65
Total VOCs	µg/m^3	-		-	-	-	-	-	508.83	968.5	966.87	8199.4	11205	6982.5

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									Near GP19	GP20-18	GP21-09	GP22-13	GP22-13	GP23-13
Sample ID									SVA-38443-082318-GL-033	SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025
Sample Date									8/23/2018	8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018
				USEPA[1]			Ohio EPA[2]						Duplicate	
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	73000	-	-	-	-	0.16 U	22 U	3.3 U	0.27 J	0.26 J	1 6 J
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	7	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	1.7 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	3	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	256	-	-	-	-	0.11 U	14 U	4 3 J	1.7	1.7	0.42 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	2920	-	-	-	-	0.13 U	18 U	2.7 U	1.7	1.7	0.54 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	29	-	-	-	-	0.73 U	99 U	15 UJ	0.73 U	0.73 U	2.9 U
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	876	-	-	-	-	0.31 U	42 U	6.2 U	1.6	1.5	3 0 J
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	1	-	-	-	-	0.34 U	46 U	6.8 U	0.34 U	0.34 U	1.4 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	2920	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	1.7 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	16	-	-	-	-	0.19 U	26 U	3.8 U	1.0	0.95	0.76 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	58	-	-	-	-	0.24 U	33 U	4.8 U	0.24 U	0.24 U	0.96 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0.22 U	30 U	4.5 U	0.22 U	0.22 U	0.89 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	876	-	-	-	-	0.32 U	43 U	6.4 U	0.37 J	0.37 J	1.3 U
1,3-Butadiene	µg/m^3	106-99-0	ND	14	-	-	-	-	0.14 U	19 U	2.8 U	0.14 U	0.14 U	0.57 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	0.39 U	53 U	7.8 U	0.58 J	0.64 J	1.6 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	37	-	-	-	-	0.38 U	52 U	7.7 U	0.38 U	0.38 U	1.5 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	82	-	-	-	-	0.73 J	39 U	5.8 U	0.29 U	0.29 U	1.2 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.18 U	25 U	33 J	0.18 U	0.18 U	1 2 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	73000	-	-	-	-	1.2 J	80 U	12 U	13	12	17
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	44 U	6.5 U	0.33 U	0.33 U	1.3 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	438	-	-	-	-	0.24 U	32 U	4.8 U	2 9	2.7	2 6 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	48 U	7.0 U	0.35 U	0.35 U	1.4 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 J	1.3 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	43800	-	-	-	-	4 3	110 U	16 U	3.8	0.80 U	3.2 U
Acetone	µg/m^3	67-64-1	460	451000	-	-	-	-	12	450 U	67 U	66	56	77
Allyl chloride	µg/m^3	107-05-1	ND	15	-	-	-	-	0.15 U	20 U	3.0 U	0.15 U	0.15 U	0.60 U
Benzene	µg/m^3	71-43-2	110000	52	-	-	-	-	0.45 J	24 U	15	0 83	0.89	0.84 J
Benzyl chloride	µg/m^3	100-44-7	ND	8	-	-	-	-	0.40 U	55 U	8.1 U	0.40 U	0.40 U	1.6 U
Bromodichloromethane	µg/m^3	75-27-4	ND	11	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U
Bromoform	µg/m^3	75-25-2	ND	372	-	-	-	-	0.50 U	67 U	9.9 U	0.50 U	0.50 U	2.0 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0 98 J	73	-	-	-	-	0.12 U	17 U	2.5 U	0.12 U	0.30 J	0.98 J
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	1 0	24 U	1700	73	67	3.1 J
Carbon disulfide	µg/m^3	75-15-0	270 J	10200	-	-	-	-	0.26 J	13 U	13 J	7.6	8.5	14
Carbon tetrachloride	µg/m^3	56-23-5	36	68	-	-	680	6800	0.44 J	32 U	4.8 U	0.24 U	0.24 U	0.96 U
Chlorobenzene	µg/m^3	108-90-7	110000	730	-	-	-	-	0.23 U	31 U	4.5 U	0.37 J	0.38 J	0.90 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	730000	-	-	-	-	1.7	18 U	84	1.5 J	7.2 J	1 8 J
Chloroethane	µg/m^3	75-00-3	550	146000	-	-	-	-	0 092 U	13 U	1.8 U	0.42 J	0.36 J	0.37 U
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	18	-	-	180	1800	0.19 U	25 U	3.7 U	0.37 J	0.36 J	1 8 J
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	1310	-	-	-	-	1.1	45 U	6.6 U	0.33 U	0.33 U	1 8 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	770	16	22	23	0.95 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	46 U	6.7 U	0.34 U	0.34 U	1.3 U
Cyclohexane	µg/m^3	110-82-7	230000	87600	-	-	-	-	0.14 U	19 U	35	10	10	0.55 U
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.31 U	43 U	6.3 U	0.31 U	0.31 U	1.3 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	49 U	7.2 U	0.36 U	0.36 U	1.4 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	1460	-	-	-	-	1 3	46 U	6.7 U	1.2	1.1	2 6 J
Ethylbenzene	µg/m^3	100-41-4	140000	164	-	-	-	-	0.30 U	40 U	5.9 U	1.0	1.1	2.7 J
Hexachlorobutadiene	µg/m^3	87-68-3	ND	19	-	-	-	-	0.83 U	110 U	17 UJ	0.83 U	0.83 U	3.3 U

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									Near GP19	GP20-18	GP21-09	GP22-13	GP22-13	GP23-13
Sample ID									SVA-38443-082318-GL-033	SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025
Sample Date									8/23/2018	8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018
				USEPA[1]			Ohio EPA[2]						Duplicate	
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m^3	110-54-3	630000	10200	-	-	-	-	0.72 J	15 U	52	6.4	7.5	1 2 J
Isopropyl alcohol	µg/m^3	67-63-0	160	2920	-	-	-	-	0.62 J	82 J	14 J	1.9 J	3.1 J	3 6 J
Isopropyl benzene	µg/m^3	98-82-8	9800 J	5840	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	0.52 U	71 U	10 U	4.4	4.7	14
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	10200	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 U	1.3 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	1570	-	-	-	-	0.61 U	83 U	12 U	0.61 U	0.61 U	2.5 U
Methylene chloride	µg/m^3	75-09-2	40	8760	-	-	-	-	1.6 J	150 U	22 U	1.2 J	4.1 J	4.4 U
Naphthalene	µg/m^3	91-20-3	1.5 J	12	-	-	120	1200	0.47 U	64 U	9.4 UJ	0.47 U	0.79 J	1.9 U
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	0.25 U	34 U	5.1 U	0.49 J	0.40 J	1.0 U
N-Heptane	µg/m^3	142-82-5	1100000	5840	-	-	-	-	0.22 J	26 U	4 0 J	1.9 J	2.3	1 5 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	14600	-	-	-	-	0.28 U	37 U	5.5 U	0.28 U	0.28 U	1.1 U
o-Xylene	µg/m^3	95-47-6	180000	1460	-	-	-	-	0.26 U	36 U	5.3 U	1.3	1.2	5.1
Styrene	µg/m^3	100-42-5	3.5	14600	-	-	-	-	0.25 U	34 U	4.9 U	0.25 J	0.27 J	0.99 U
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	0.12 U	16 U	2.3 U	2.3 J	1.9 J	4.1 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U	49 U	7.2 U	1.8 J	1.7 J	1.4 U
Tetrachloroethene	µg/m^3	127-18-4	550	584	-	-	5800	18000	0.78 J	37 U	5.4 U	1 9	1.3 J	1.1 U
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	29200	-	-	-	-	0.19 U	25 U	3.7 U	0.19 U	0.19 U	0.74 U
Toluene	µg/m^3	108-88-3	1700000	73000	-	-	-	-	0.70 J	61 U	9.0 U	1 3	1.7	7.8
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	0.20 U	37 J	4.0 U	3 5	3.5	1 8 J
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U	30 U	4.4 U	0.22 U	0.22 U	0.87 U
Trichloroethene	µg/m^3	79-01-6	27000	29	290	880	-	-	0.19 U	**6700[abc]**	3.9 U	2.7	2.3	**600[ab]**
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	1 2	18 U	2.7 U	0.13 U	0.36 J	7.3
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	73000	-	-	-	-	0.52 J	32 U	4.8 U	0.24 U	0.24 U	0.95 U
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	13	-	-	-	-	0.15 U	21 U	3.1 U	0.15 U	0.15 U	0.61 U
Vinyl chloride	µg/m^3	75-01-4	2500	93	-	-	930	9300	0.18 U	25 U	3.6 U	42	38	0.73 U
Xylenes (total)	µg/m^3	1330-20-7	770000	1460	-	-	-	-	ND	ND	ND	5.7	5 9	19.1
Total VOCs	µg/m^3	-		-	-	-	-	-	30.84	7589	1970.3	290.25	279.35	797.52

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP24A-13	GP24B-13	GP25-18	GP26-18	GP27-18	GP28-18
Sample ID									SVA-38443-082218-GL-024	SVA-38443-082218-GL-023	SVA-38443-081418-GL-006	SVA-38443-081418-GL-005	SVA-38443-081518-GL-010	SVA-38443-081518-GL-007
Sample Date									8/22/2018	8/22/2018	8/14/2018	8/14/2018	8/15/2018	8/15/2018
				USEPA[1]		Ohio EPA[2]								
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	73000	-	-	-	-	2 2	0.69 J	3 8 J	7.3 U	19 U	7.4 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	7	-	-	-	-	0.42 U	0.42 U	8.4 U	19 U	48 U	19 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	3	-	-	-	-	0.29 U	0.29 U	5.9 U	13 U	34 U	13 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	256	-	-	-	-	0.11 U	0.11 U	29	30 J	41 J	19 J
1,1-Dichloroethene	µg/m^3	75-35-4	24	2920	-	-	-	-	0.13 U	0.13 U	24	6.1 U	15 U	6.1 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	29	-	-	-	-	0.73 U	0.73 UJ	15 UJ	33 UJ	83 UJ	33 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	876	-	-	-	-	2 6	1.6	12 J	22 J	120	14 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	1	-	-	-	-	0.34 U	0.34 U	6.8 U	15 U	38 U	15 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	2920	-	-	-	-	0.42 U	0.42 U	8.4 U	19 U	48 U	19 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	16	-	-	-	-	0.19 U	0.19 U	3.8 U	8.5 U	22 U	8.7 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	58	-	-	-	-	0.24 U	0.24 U	4.8 U	11 U	27 U	11 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0.22 U	0.22 U	28	32 J	25 U	10 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	876	-	-	-	-	0.58 J	0.46 J	6.4 U	14 U	52 J	15 U
1,3-Butadiene	µg/m^3	106-99-0	ND	14	-	-	-	-	0.14 U	0.14 U	2.8 U	6.4 U	16 U	6.4 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	2.7	0.39 U	7.8 U	18 U	44 U	18 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	37	-	-	-	-	0.38 U	0.38 U	7.7 U	17 U	**74 J[a]**	18 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	82	-	-	-	-	0.29 U	0.29 U	5.8 U	13 U	33 U	13 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.41 J	1.2 J	10 J	16 J	21 U	8.3 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	73000	-	-	-	-	18	5.3	12 U	26 U	67 U	27 U
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	0.33 U	6.5 U	15 U	37 U	15 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	438	-	-	-	-	2 8	0.90 J	4.8 U	11 U	27 U	11 U
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	0.35 U	7.0 U	16 U	40 U	38 J
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	0.59 J	0.52 J	6.5 U	15 U	72 J	15 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	43800	-	-	-	-	3 9	1.1 J	16 U	36 U	91 U	36 U
Acetone	µg/m^3	67-64-1	460	451000	-	-	-	-	75	22	67 U	150 U	380 U	150 U
Allyl chloride	µg/m^3	107-05-1	ND	15	-	-	-	-	0.15 U	0.15 U	3.0 U	6.7 U	17 U	6.8 U
Benzene	µg/m^3	71-43-2	110000	52	-	-	-	-	1 2	0.43 J	3.6 U	52	**410[a]**	**87[a]**
Benzyl chloride	µg/m^3	100-44-7	ND	8	-	-	-	-	0.40 U	0.40 U	8.1 U	18 U	46 U	18 U
Bromodichloromethane	µg/m^3	75-27-4	ND	11	-	-	-	-	0.29 U	0.29 U	5.9 U	13 U	34 U	13 U
Bromoform	µg/m^3	75-25-2	ND	372	-	-	-	-	0.50 U	0.50 U	9.9 U	22 U	56 U	23 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0 98 J	73	-	-	-	-	0.18 J	0.12 U	2.5 U	5.6 U	14 U	5.7 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	0.96	2.3	720	1800	8100	3000
Carbon disulfide	µg/m^3	75-15-0	270 J	10200	-	-	-	-	14	12	28 J	240	92 J	27 J
Carbon tetrachloride	µg/m^3	56-23-5	36	68	-	-	680	6800	36	0.34 J	4.8 U	11 U	27 U	11 U
Chlorobenzene	µg/m^3	108-90-7	110000	730	-	-	-	-	0.23 J	0.23 U	4.7 J	22 J	**9200[a]**	**1700[a]**
Chlorodifluoromethane	µg/m^3	75-45-6	580	730000	-	-	-	-	1 8	17	45	48	15 U	12 J
Chloroethane	µg/m^3	75-00-3	550	146000	-	-	-	-	0.14 J	0.092 U	1.8 U	550	41 J	43
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	18	-	-	180	1800	0.29 J	0.19 U	3.7 U	8.3 U	21 U	8.4 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	1310	-	-	-	-	0.67 J	0.47 J	6.6 U	15 U	38 U	15 U
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	0.24 U	4.8 U	13 J	27 U	30 J
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	0.34 U	6.7 U	15 U	38 U	15 U
Cyclohexane	µg/m^3	110-82-7	230000	87600	-	-	-	-	0.14 U	0.53 J	24 J	72 J	350 J	150
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.31 U	0.31 U	6.3 U	14 U	36 U	14 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	0.36 U	7.2 U	16 U	41 U	16 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	1460	-	-	-	-	1 5	1.2	12 J	15 U	38 U	15 U
Ethylbenzene	µg/m^3	100-41-4	140000	164	-	-	-	-	2 0	1.9	5.9 U	13 U	150	13 U
Hexachlorobutadiene	µg/m^3	87-68-3	ND	19	-	-	-	-	0.83 U	0.83 UJ	17 UJ	37 UJ	95 UJ	38 UJ

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP24A-13	GP24B-13	GP25-18	GP26-18	GP27-18	GP28-18
Sample ID									SVA-38443-082218-GL-024	SVA-38443-082218-GL-023	SVA-38443-081418-GL-006	SVA-38443-081418-GL-005	SVA-38443-081518-GL-010	SVA-38443-081518-GL-007
Sample Date									8/22/2018	8/22/2018	8/14/2018	8/14/2018	8/15/2018	8/15/2018
				USEPA[1]			Ohio EPA[2]							
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m^3	110-54-3	630000	10200	-	-	-	-	0.76 J	4.7	38	140	3100	1100
Isopropyl alcohol	µg/m^3	67-63-0	160	2920	-	-	-	-	81	3.2 J	6.7 J	10 U	26 U	11 U
Isopropyl benzene	µg/m^3	98-82-8	9800 J	5840	-	-	-	-	1.4 J	0.29 U	5.9 U	13 U	34 U	71 J
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	8 6	8.9	13 J	54	350	67
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	10200	-	-	-	-	0.32 U	0.32 U	6.5 U	15 U	37 U	15 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	1570	-	-	-	-	0.61 U	0.61 U	12 U	28 U	70 U	28 U
Methylene chloride	µg/m^3	75-09-2	40	8760	-	-	-	-	1.1 U	21	40	50 U	130 U	51 U
Naphthalene	µg/m^3	91-20-3	1.5 J	12	-	-	120	1200	0.47 U	0.47 UJ	9.4 UJ	21 UJ	54 UJ	21 UJ
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	0.31 J	0.25 U	5.1 U	11 U	29 U	13 J
N-Heptane	µg/m^3	142-82-5	1100000	5840	-	-	-	-	1.1 J	1.5 J	7.7 J	50 J	1800	390
N-Propylbenzene	µg/m^3	103-65-1	95 J	14600	-	-	-	-	0.40 J	0.29 J	5.5 U	12 U	95 J	13 U
o-Xylene	µg/m^3	95-47-6	180000	1460	-	-	-	-	2 9	3.1	6.1 J	18 J	310	12 U
Styrene	µg/m^3	100-42-5	3.5	14600	-	-	-	-	0.64 J	0.25 U	4.9 U	11 U	28 U	11 U
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	4.5 J	1.4 J	2.3 U	7.5 J	13 U	5.2 U
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U	0.36 U	7.2 U	16 U	41 U	16 U
Tetrachloroethene	µg/m^3	127-18-4	550	584	-	-	5800	18000	0.27 U	1.9	5.4 U	12 U	31 U	12 U
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	29200	-	-	-	-	2.3 J	0.19 U	3.7 U	8.3 U	21 U	8.5 U
Toluene	µg/m^3	108-88-3	1700000	73000	-	-	-	-	4 3	8.0	15	34	540	25 J
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	2 3	1.1	4.0 U	8.9 U	23 U	21 J
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U	0.22 U	4.4 U	9.8 U	25 U	9.9 U
Trichloroethene	µg/m^3	79-01-6	27000	29	290	880	-	-	0.75 J	0.19 U	3.9 U	**110[a]**	22 U	11 J
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	7.1	3.4	5 0 J	6.1 U	15 U	6.1 U
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	73000	-	-	-	-	0.66 J	0.59 J	4.8 U	11 U	27 U	11 U
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	13	-	-	-	-	0.15 U	0.15 U	3.1 U	6.9 U	17 U	7.0 U
Vinyl chloride	µg/m^3	75-01-4	2500	93	-	-	930	9300	0.30 J	0.18 U	75	77	21 U	**160[a]**
Xylenes (total)	µg/m^3	1330-20-7	770000	1460	-	-	-	-	11.5	12	19.1	72	660	67
Total VOCs	µg/m^3	-		-	-	-	-	-	298.57	141.02	1166.1	3459 5	25557	7031

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP28-18	GP29-18	GP30-18	GP31-18	GP32-18	GP33-18
Sample ID									SVA-38443-081518-GL-008	SVA-38443-081518-GL-009	SVA-38443-082218-GL-027	SVA-38443-082218-GL-026	SVA-38443-082418-GL-035	SVA-38443-082318-GL-029
Sample Date									8/15/2018	8/15/2018	8/22/2018	8/22/2018	8/24/2018	8/23/2018
				USEPA[1]		Ohio EPA[2]			Duplicate					
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	73000	-	-	-	-	6.4 U	7.8 J	0.16 U	44 U	15	0.16 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	7	-	-	-	-	16 U	8.4 U	0.42 U	110 U	4 2 U	0.42 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	3	-	-	-	-	11 U	5 9 U	0.29 U	79 U	2 9 U	0.29 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	256	-	-	-	-	20 J	4.7 J	0.11 U	28 U	1.5 J	0.11 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	2920	-	-	-	-	5.2 U	2.7 U	0.13 U	36 U	1 3 U	0.13 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	29	-	-	-	-	28 UJ	15 UJ	0.73 U	190 U	7 3 U	0.73 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	876	-	-	-	-	12 U	14 J	3.2	83 U	3.1 U	1.7
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	1	-	-	-	-	13 U	6 8 U	0.34 U	91 U	3.4 U	0.34 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	2920	-	-	-	-	16 U	8.4 U	0.42 U	110 U	4 2 U	0.42 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	16	-	-	-	-	7.4 U	3 8 U	0.19 U	51 U	1 9 U	0.19 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	58	-	-	-	-	9.3 U	4 8 U	0.24 U	64 U	2.4 U	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	8.7 U	92	0.22 U	60 U	11 J	0.22 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	876	-	-	-	-	12 U	7.6 J	0.85 J	86 U	3 2 U	0.37 J
1,3-Butadiene	µg/m^3	106-99-0	ND	14	-	-	-	-	5.5 U	2 8 U	0.14 U	38 U	1.4 U	0.14 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	15 U	7 8 U	6.9	100 U	3 9 U	2.0
1,3-Dichloropropene	µg/m^3	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	37	-	-	-	-	15 U	7.7 U	0.38 U	100 U	3 8 U	0.38 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	82	-	-	-	-	11 U	5 8 U	0.43 J	77 U	2 9 U	0.29 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	7.1 U	3 6 U	0.90 J	49 U	1 8 U	1 9 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	73000	-	-	-	-	23 U	12 U	12	160 U	5 9 U	5.4
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	13 U	6 5 U	0.33 U	87 U	3 3 U	0.33 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	438	-	-	-	-	9.2 U	4 8 U	1.7 J	64 U	2.4 U	0.91 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	47 J	30 J	0.35 U	94 U	3 5 U	0.35 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	13 U	11 J	0.75 J	87 U	3 2 U	0.39 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	43800	-	-	-	-	31 U	16 U	1.1 J	210 U	8 0 U	1 0 J
Acetone	µg/m^3	67-64-1	460	451000	-	-	-	-	130 U	67 U	120	890 U	37 J	28
Allyl chloride	µg/m^3	107-05-1	ND	15	-	-	-	-	5.8 U	3 0 U	0.15 U	40 U	1 5 U	0.15 U
Benzene	µg/m^3	71-43-2	110000	52	-	-	-	-	**120[a]**	40	1.5	48 U	3.6 J	0.67
Benzyl chloride	µg/m^3	100-44-7	ND	8	-	-	-	-	16 U	8.1 U	0.40 U	110 U	4 0 U	0.40 U
Bromodichloromethane	µg/m^3	75-27-4	ND	11	-	-	-	-	11 U	5 9 U	0.29 U	79 U	2 9 U	0.29 U
Bromoform	µg/m^3	75-25-2	ND	372	-	-	-	-	19 U	9 9 U	0.50 U	130 U	5 0 U	0.50 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0 98 J	73	-	-	-	-	4.8 U	2 5 U	0.12 U	33 U	1 2 U	0.12 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	3700	4800	1.4	46 U	5.1 J	1.5
Carbon disulfide	µg/m^3	75-15-0	270 J	10200	-	-	-	-	38 J	17 J	65	270 J	69	1.6
Carbon tetrachloride	µg/m^3	56-23-5	36	68	-	-	680	6800	9.3 U	4 8 U	0.27 J	64 U	2.4 U	0.39 J
Chlorobenzene	µg/m^3	108-90-7	110000	730	-	-	-	-	**2200[a]**	4 5 U	0.23 U	60 U	2 3 U	0.23 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	730000	-	-	-	-	17 J	14 J	3.0	35 U	4.7 J	7.8
Chloroethane	µg/m^3	75-00-3	550	146000	-	-	-	-	44	3.8 J	0.27 J	25 U	0.92 U	0.092 U
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	18	-	-	180	1800	7.2 U	3.7 U	0.19 U	**110 J[a]**	8.0 J	0.96
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	1310	-	-	-	-	13 U	6 6 U	3.5	89 U	3 3 U	0.89 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	34	95	0.24 U	1000	4.7 J	0.24 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	13 U	6.7 U	0.34 U	90 U	3.4 U	0.34 U
Cyclohexane	µg/m^3	110-82-7	230000	87600	-	-	-	-	210	36	0.14 U	37 U	1.4 U	0.14 U
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	12 U	6 3 U	0.31 U	84 U	3.1 U	0.31 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	14 U	7 2 U	0.36 U	96 U	3 6 U	0.36 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	1460	-	-	-	-	13 U	51	0.46 J	90 U	29	1.3
Ethylbenzene	µg/m^3	100-41-4	140000	164	-	-	-	-	13 J	14 J	2.7	79 U	3 0 U	1.1
Hexachlorobutadiene	µg/m^3	87-68-3	ND	19	-	-	-	-	32 UJ	17 UJ	0.83 U	220 U	8 3 U	0.83 UJ

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP28-18	GP29-18	GP30-18	GP31-18	GP32-18	GP33-18
Sample ID									SVA-38443-081518-GL-008	SVA-38443-081518-GL-009	SVA-38443-082218-GL-027	SVA-38443-082218-GL-026	SVA-38443-082418-GL-035	SVA-38443-082318-GL-029
Sample Date									8/15/2018	8/15/2018	8/22/2018	8/22/2018	8/24/2018	8/23/2018
				USEPA[1]		Ohio EPA[2]			Duplicate					
Parameters	Units	CAS#	Max	Subslab VISL Commerical	Accelerated Response Action Level Commerial (8 hours)	Urgent Response Action Level Commerial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m^3	110-54-3	630000	10200	-	-	-	-	1400	790	1.1 J	30 U	2.1 J	1 0 J
Isopropyl alcohol	µg/m^3	67-63-0	160	2920	-	-	-	-	9.0 U	5.1 J	90	120 J	46 J	27
Isopropyl benzene	µg/m^3	98-82-8	9800 J	5840	-	-	-	-	92	74	2.3	79 U	2 9 U	0.81 J
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	92	15 J	11	140 U	5 2 U	4.9
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	10200	-	-	-	-	13 U	6 5 U	0.32 U	87 U	3 2 U	0.32 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	1570	-	-	-	-	24 U	12 U	0.61 U	160 U	6.1 U	0.61 U
Methylene chloride	µg/m^3	75-09-2	40	8760	-	-	-	-	43 U	22 U	1 6 J	300 U	11 U	3.0
Naphthalene	µg/m^3	91-20-3	1.5 J	12	-	-	120	1200	18 UJ	9.4 UJ	0.47 U	130 U	4.7 U	0.47 UJ
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	16 J	12 J	0.39 J	68 U	2 5 U	0.25 U
N-Heptane	µg/m^3	142-82-5	1100000	5840	-	-	-	-	520	400	1 6 J	52 U	1 9 U	0.93 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	14600	-	-	-	-	11 U	66	0.50 J	74 U	2 8 U	0.28 U
o-Xylene	µg/m^3	95-47-6	180000	1460	-	-	-	-	15 J	13 J	4.1	71 U	2 6 U	1.7
Styrene	µg/m^3	100-42-5	3.5	14600	-	-	-	-	9.6 U	4 9 U	0.94	66 U	2 5 U	0.32 J
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	4.5 U	3.6 J	4 3 J	31 U	6.0 J	2 2 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	14 U	7 2 U	0.36 U	97 U	3 6 U	0.36 U
Tetrachloroethene	µg/m^3	127-18-4	550	584	-	-	5800	18000	11 U	68	0.27 U	73 U	2.7 U	2.2
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	29200	-	-	-	-	7.2 U	3.7 U	2.7 J	50 U	3.0 J	0.96 J
Toluene	µg/m^3	108-88-3	1700000	73000	-	-	-	-	31	23	7.2	120 U	4 5 U	2.8
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	28 J	5.8 J	4.1	330	2.9 J	2.6
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	8.5 U	4.4 U	0.22 U	58 U	2 2 U	0.22 U
Trichloroethene	µg/m^3	79-01-6	27000	29	290	880	-	-	7.5 U	17 J	2.1	**27000[abc]**	**590[ab]**	15
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	5.2 U	2.7 U	0.56 J	36 U	3.1 J	1.1
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	73000	-	-	-	-	9.2 U	4 8 U	0.24 U	64 U	2.4 U	0.45 J
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	13	-	-	-	-	5.9 U	3.1 U	0.15 U	41 U	1 5 U	0.15 U
Vinyl chloride	µg/m^3	75-01-4	2500	93	-	-	930	9300	**200[a]**	53	0.18 U	49 U	1 8 U	0.18 U
Xylenes (total)	µg/m^3	1330-20-7	770000	1460	-	-	-	-	107	28	15.1	ND	ND	6.6
Total VOCs	µg/m^3	-		-	-	-	-	-	8944	6811.4	375.52	28830	841.7	131.45

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									**GP34-18**
Sample ID									**SVA-38443-082218-GL-022**
Sample Date									**8/22/2018**
				USEPA[1]		**Ohio EPA[2]**			
Parameters	**Units**	**CAS#**	**Max**	**Subslab VISL Commerical**	**Accelerated Response Action Level Commerial (8 hours)**	**Urgent Response Action Level Commerial (8 hours)**	**Chronic Response Action Level Commercial**	**Removal Management Level Commercial**	
				a	**b**	**c**	**d**	**e**	
Volatiles									
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	73000	-	-	-	-	1.8
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	7	-	-	-	-	0.42 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	3	-	-	-	-	0.29 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	256	-	-	-	-	0.11 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	2920	-	-	-	-	0.13 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	29	-	-	-	-	0.73 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	876	-	-	-	-	1.8
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	1	-	-	-	-	0.34 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	2920	-	-	-	-	0.42 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	16	-	-	-	-	0.19 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	58	-	-	-	-	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0.22 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	876	-	-	-	-	0.39 J
1,3-Butadiene	µg/m^3	106-99-0	ND	14	-	-	-	-	0.14 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6 9	-	-	-	-	-	2.3
1,3-Dichloropropene	µg/m^3	542-75-6	ND	102	-	-	-	-	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	37	-	-	-	-	0.38 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	82	-	-	-	-	0.29 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.88 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	73000	-	-	-	-	7.8
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	438	-	-	-	-	1.3 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	0.46 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4 3	43800	-	-	-	-	0.90 J
Acetone	µg/m^3	67-64-1	460	451000	-	-	-	-	35
Allyl chloride	µg/m^3	107-05-1	ND	15	-	-	-	-	0.15 U
Benzene	µg/m^3	71-43-2	110000	52	-	-	-	-	0 81
Benzyl chloride	µg/m^3	100-44-7	ND	8	-	-	-	-	0.40 U
Bromodichloromethane	µg/m^3	75-27-4	ND	11	-	-	-	-	0.29 U
Bromoform	µg/m^3	75-25-2	ND	372	-	-	-	-	0.50 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	73	-	-	-	-	0.12 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	0.82 J
Carbon disulfide	µg/m^3	75-15-0	270 J	10200	-	-	-	-	21
Carbon tetrachloride	µg/m^3	56-23-5	36	68	-	-	680	6800	0.24 U
Chlorobenzene	µg/m^3	108-90-7	110000	730	-	-	-	-	0.23 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	730000	-	-	-	-	4.6
Chloroethane	µg/m^3	75-00-3	550	146000	-	-	-	-	0.092 U
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	18	-	-	180	1800	0.24 J
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3 5	1310	-	-	-	-	1.5
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U
Cyclohexane	µg/m^3	110-82-7	230000	87600	-	-	-	-	0.20 J
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.31 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	1460	-	-	-	-	1.8
Ethylbenzene	µg/m^3	100-41-4	140000	164	-	-	-	-	1.6
Hexachlorobutadiene	µg/m^3	87-68-3	ND	19	-	-	-	-	0 83 UJ

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									**GP34-18**
Sample ID									**SVA-38443-082218-GL-022**
Sample Date									**8/22/2018**
				USEPA[1]		**Ohio EPA[2]**			
Parameters	**Units**	**CAS#**	**Max**	**Subslab VISL Commerical**	**Accelerated Response Action Level Commerial (8 hours)**	**Urgent Response Action Level Commerial (8 hours)**	**Chronic Response Action Level Commercial**	**Removal Management Level Commercial**	
				a	**b**	**c**	**d**	**e**	
Hexane	µg/m^3	110-54-3	630000	10200	-	-	-	-	0.93 J
Isopropyl alcohol	µg/m^3	67-63-0	160	2920	-	-	-	-	43
Isopropyl benzene	µg/m^3	98-82-8	9800 J	5840	-	-	-	-	1.2 J
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	6.7
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	10200	-	-	-	-	0.32 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	1570	-	-	-	-	0.61 U
Methylene chloride	µg/m^3	75-09-2	40	8760	-	-	-	-	1.2 J
Naphthalene	µg/m^3	91-20-3	1.5 J	12	-	-	120	1200	0.47 UJ
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	0.25 U
N-Heptane	µg/m^3	142-82-5	1100000	5840	-	-	-	-	1.3 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	14600	-	-	-	-	0.28 J
o-Xylene	µg/m^3	95-47-6	180000	1460	-	-	-	-	2.2
Styrene	µg/m^3	100-42-5	3 5	14600	-	-	-	-	0.53 J
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	2.2 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U
Tetrachloroethene	µg/m^3	127-18-4	550	584	-	-	5800	18000	66
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	29200	-	-	-	-	1.7 J
Toluene	µg/m^3	108-88-3	1700000	73000	-	-	-	-	4.5
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	1.3
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U
Trichloroethene	µg/m^3	79-01-6	27000	29	290	880	-	-	0.19 U
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	4.8
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6 6	73000	-	-	-	-	0.93 J
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	13	-	-	-	-	0.15 U
Vinyl chloride	µg/m^3	75-01-4	2500	93	-	-	930	9300	0.21 J
Xylenes (total)	µg/m^3	1330-20-7	770000	1460	-	-	-	-	8.9
Total VOCs	µg/m^3	-		-	-	-	-	-	233.08

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP01-18	GP01-18	GP02-09	GP03-09	GP04-09	GP05-09
Sample ID									SVA-38443-082418-GL-036	SVA-38443-082418-GL-037	SVA-38443-081518-GL-011	SVA-38443-081418-GL-004	SVA-38443-081418-GL-002	SVA-38443-081418-GL-003
Sample Date									8/24/2018	8/24/2018	8/15/2018	8/14/2018	8/14/2018	8/14/2018
				USEPA[1]		Ohio EPA[2]				Duplicate				
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	17400	-	-	-	-	32 U	34 U	2.2 U	33	2.1 J	2.4
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	2	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4.2 U	0.42 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	1	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2.9 U	0.29 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	59	-	-	-	-	21 U	22 U	1.6 J	4.7	29	0.11 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	695	-	-	-	-	27 U	28 U	1.8 U	0.13 U	1.3 U	0.13 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	7	-	-	-	-	140 U	150 U	9 9 UJ	0.73 UJ	7.3 UJ	0.73 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	209	-	-	-	-	61 U	64 U	15	17	19	16
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	0	-	-	-	-	67 U	70 U	4.6 U	0.34 U	3.4 U	0.34 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	695	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4.2 U	0.42 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	4	-	-	-	-	38 U	39 U	2.6 U	0.19 U	1.9 U	0.19 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	14	-	-	-	-	48 U	50 U	3.3 U	0.24 U	2.4 U	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	110 J	120 J	310	0.22 U	2.2 U	0.22 J
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	209	-	-	-	-	63 U	66 U	4.3 U	4.8	5.7 J	4.4
1,3-Butadiene	µg/m^3	106-99-0	ND	3	-	-	-	-	28 U	29 U	1.9 U	0.14 U	1.4 U	0.14 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	77 U	81 U	5.3 U	0.39 U	3.9 U	0.39 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	9	-	-	-	-	76 U	80 U	5.2 U	0.38 U	3.8 U	0.38 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	19	-	-	-	-	57 U	60 U	3.9 U	0.29 U	2.9 U	0.29 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	3500	3600	2.5 U	0.18 U	26	0.18 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	17400	-	-	-	-	120 U	120 U	8.0 U	9.8	24 J	10
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	65 U	67 U	4.4 U	0.33 U	3.3 U	0.33 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	104	-	-	-	-	47 U	49 U	8.9 J	1.9 J	2.4 U	1.5 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	70 U	73 U	4.8 U	0.35 U	3.5 U	0.35 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	64 U	67 U	4.5 J	5.7	6 5 J	5 3
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	10400	-	-	-	-	160 U	170 U	11 U	0 86 J	8.0 U	1.4 J
Acetone	µg/m^3	67-64-1	460	107000	-	-	-	-	660 U	690 U	58 J	100	460	78
Allyl chloride	µg/m^3	107-05-1	ND	3	-	-	-	-	30 U	31 U	2.0 U	0.15 U	1.5 U	0.15 U
Benzene	µg/m^3	71-43-2	110000	12	-	-	-	-	**2200[a]**	**2100[a]**	9 6	0 57 J	3 0 J	0.41 J
Benzyl chloride	µg/m^3	100-44-7	ND	2	-	-	-	-	80 U	84 U	5.5 U	0.40 U	4.0 U	0.40 U
Bromodichloromethane	µg/m^3	75-27-4	ND	3	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2.9 U	0.29 U
Bromoform	µg/m^3	75-25-2	ND	85	-	-	-	-	98 U	100 U	6.7 U	0.50 U	5.0 U	0.50 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	17	-	-	-	-	25 U	26 U	1.7 U	0 35 J	1.2 U	0.19 J
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	4000	3800	740	0 81 J	610	0.74 J
Carbon disulfide	µg/m^3	75-15-0	270 J	2430	-	-	-	-	58 J	54 J	15 J	26	66	15
Carbon tetrachloride	µg/m^3	56-23-5	36	16	-	-	160	1600	47 U	49 U	3.3 U	0.24 U	2.4 U	0.24 U
Chlorobenzene	µg/m^3	108-90-7	110000	174	-	-	-	-	**110000[a]**	**110000[a]**	3.1 U	0.23 U	2.3 U	0.23 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	174000	-	-	-	-	580	540	470	0 52 J	32	1.1
Chloroethane	µg/m^3	75-00-3	550	34800	-	-	-	-	95 J	73 J	4.6 J	0.53	3.1 J	0.27 J
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	4	-	-	41	410	37 U	38 U	2.5 U	**18[a]**	1.9 U	0.19 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	313	-	-	-	-	65 U	68 U	4.5 U	1.2	3.3 U	0.45 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	130 J	140 J	10 J	0.93	2.4 U	0.24 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	67 U	69 U	4.6 U	0.34 U	3.4 U	0.34 U
Cyclohexane	µg/m^3	110-82-7	230000	20900	-	-	-	-	1800	1900	310	0 68 J	8 2 J	0.41 J
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	62 U	65 U	4.3 U	0.46 J	3.1 U	0.44 J
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	71 U	74 U	4.9 U	0.36 U	3.6 U	0.36 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	348	-	-	-	-	67 U	70 U	330	1.1	9.8	**570[a]**
Ethylbenzene	µg/m^3	100-41-4	140000	37	-	-	-	-	**500[a]**	**500[a]**	4.2 J	3.2	24	2 9
Hexachlorobutadiene	µg/m^3	87-68-3	ND	4	-	-	-	-	160 U	170 U	11 UJ	0.83 UJ	8.3 UJ	0.83 UJ
Hexane	µg/m^3	110-54-3	630000	2430	-	-	-	-	1300	1200	220	0 92 J	22	0.94 J

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP01-18	GP01-18	GP02-09	GP03-09	GP04-09	GP05-09
Sample ID									SVA-38443-082418-GL-036	SVA-38443-082418-GL-037	SVA-38443-081518-GL-011	SVA-38443-081418-GL-004	SVA-38443-081418-GL-002	SVA-38443-081418-GL-003
Sample Date									8/24/2018	8/24/2018	8/15/2018	8/14/2018	8/14/2018	8/14/2018
				USEPA[1]		Ohio EPA[2]				Duplicate				
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Isopropyl alcohol	µg/m^3	67-63-0	160	695	-	-	-	-	46 U	48 U	14 J	2.3 J	8.1 J	4.6 J
Isopropyl benzene	µg/m^3	98-82-8	9800 J	1390	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2.9 U	0.29 U
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	290	290	16	15	84	13
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	2430	-	-	-	-	64 U	67 U	4.4 U	0.32 U	3.2 U	0.32 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	360	-	-	-	-	120 U	130 U	8.3 U	0.61 U	6.1 U	0.61 U
Methylene chloride	µg/m^3	75-09-2	40	2090	-	-	-	-	220 U	230 U	15 U	1.2 J	11 U	1.1 J
Naphthalene	µg/m^3	91-20-3	1.5 J	3	-	-	28	280	93 U	98 U	6.4 UJ	1.1 J	4.7 UJ	1.1 J
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	50 U	52 U	3.8 J	3.5	2 8 J	3 3
N-Heptane	µg/m^3	142-82-5	1100000	1390	-	-	-	-	**1600[a]**	**1600[a]**	130	0 57 J	5 0 J	0.54 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	3480	-	-	-	-	55 U	57 U	3.7 U	3.0	5 0 J	2.7
o-Xylene	µg/m^3	95-47-6	180000	348	-	-	-	-	52 U	55 U	6.8 J	6.0	28	5.4
Styrene	µg/m^3	100-42-5	3.5	3480	-	-	-	-	49 U	51 U	3.4 U	3.5	2.5 U	3 2
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	23 U	24 U	6.2 J	2.3 J	8 0 J	7.4
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	72 U	75 U	5.7 J	0.36 U	3.6 U	0.36 U
Tetrachloroethene	µg/m^3	127-18-4	550	139	-	-	1400	4200	54 U	56 U	3.7 U	**550[a]**	2.7 U	7 0
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	6950	-	-	-	-	37 U	38 U	2.5 U	1.3 J	1.9 U	1.2 J
Toluene	µg/m^3	108-88-3	1700000	17400	-	-	-	-	160	170	12	15	65	13
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	39 U	41 U	2.7 U	0.20 U	2.0 U	0.20 U
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	43 U	45 U	3.0 U	0.22 U	2.2 U	0.22 U
Trichloroethene	µg/m^3	79-01-6	27000	7	70	210	-	-	38 U	40 U	2.6 U	**120[ab]**	1.9 U	0.19 U
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	27 U	28 U	1.8 U	2.6	1.3 U	4 6
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	17400	-	-	-	-	47 U	49 U	3.2 U	0.72 J	2.4 U	0.60 J
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	3	-	-	-	-	30 U	32 U	2.1 U	0.15 U	1.5 U	0.15 U
Vinyl chloride	µg/m^3	75-01-4	2500	6	-	-	56	560	**1000[ade]**	**960[ade]**	**65[ad]**	0.18 U	1.8 U	0.18 U
Xylenes (total)	µg/m^3	1330-20-7	770000	348	-	-	-	-	290	290	22.8	21	112	18.4
Total VOCs	µg/m^3	-	-	-	-	-	-	-	127613	127337	2793.7	982.12	1668.3	799.21

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP06-09	GP07-18	GP09-09	GP10-09	GP11-09	GP12-09
Sample ID									SVA-38443-082118-GL-019	SVA-38443-082118-GL-018	SVA-38443-082118-GL-021	SVA-38443-082118-GL-020	SVA-38443-081518-GL-012	SVA-38443-082018-GL-013
Sample Date									8/21/2018	8/21/2018	8/21/2018	8/21/2018	8/15/2018	8/20/2018
				USEPA[1]		Ohio EPA[2]								
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	17400	-	-	-	-	0.49 J	3700 U	4.1 J	4.5	2.6	1.6 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	2	-	-	-	-	0.42 U	9500 U	4.2 U	1 0 U	0.42 U	4.2 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	1	-	-	-	-	0.29 U	6700 U	2.9 U	0.74 U	0.29 U	2.9 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	59	-	-	-	-	0.11 U	2400 U	1.1 U	2.9	0.11 U	1.1 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	695	-	-	-	-	0.13 U	3000 U	1.3 U	0.34 U	0.13 U	1.3 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	7	-	-	-	-	0.73 UJ	16000 UJ	7 3 UJ	1.8 UJ	0.73 UJ	7 3 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	209	-	-	-	-	8.9	**8400 J[a]**	12	11	13	7.8 J
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	0	-	-	-	-	0.34 U	7600 U	3.4 U	0.85 U	0.34 U	3.4 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	695	-	-	-	-	0.42 U	9500 U	4.2 U	1.1 U	0.42 U	4.2 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	4	-	-	-	-	0.89	4300 U	1.9 U	0.48 U	0.19 U	1.9 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	14	-	-	-	-	0.24 U	5400 U	2.4 U	0.60 U	0.24 U	2.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0.22 U	5100 U	2.2 U	0 99 J	0.22 U	2.2 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	209	-	-	-	-	2.5	7200 U	4.5 J	2.9	3.7	3.2 U
1,3-Butadiene	µg/m^3	106-99-0	ND	3	-	-	-	-	0.14 U	3200 U	1.4 U	0.35 U	0.14 U	1.4 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	0 63 J	8800 U	3.9 U	4.2	0.39 U	3.9 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	9	-	-	-	-	0.38 U	8700 U	3.8 U	0.96 U	0.38 U	3.8 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	19	-	-	-	-	0.29 U	6500 U	2.9 U	0.72 U	0.29 U	2.9 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	17	1800000	20 J	2.1 J	0.18 U	1.8 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	17400	-	-	-	-	11	13000 U	13 J	12	4.7	7.8 J
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	7400 U	3.3 U	1.5 J	0.33 U	3.3 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	104	-	-	-	-	2.1	5400 U	2.4 U	1.7 J	0.61 J	4.1 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	7900 U	3.5 U	0.88 U	0.35 U	3.5 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	2.1	7300 U	4.0 J	2.6 J	3.4	3.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	10400	-	-	-	-	1.8 J	18000 U	8.0 U	2 0 U	2.7	8.0 U
Acetone	µg/m^3	67-64-1	460	107000	-	-	-	-	69 J	75000 UJ	95 J	96	41	130
Allyl chloride	µg/m^3	107-05-1	ND	3	-	-	-	-	0.15 U	3400 U	1.5 U	0.38 U	0.15 U	1.5 U
Benzene	µg/m^3	71-43-2	110000	12	-	-	-	-	1.8	**110000[a]**	2.5 J	1.7	0.39 J	1.8 U
Benzyl chloride	µg/m^3	100-44-7	ND	2	-	-	-	-	0.40 U	9100 U	4.0 U	1 0 U	0.40 U	4.0 U
Bromodichloromethane	µg/m^3	75-27-4	ND	3	-	-	-	-	0.29 U	6700 U	2.9 U	0.74 U	0.29 U	2.9 U
Bromoform	µg/m^3	75-25-2	ND	85	-	-	-	-	0.50 U	11000 U	5.0 U	1 2 U	0.50 U	5.0 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	17	-	-	-	-	0.14 J	2800 U	1.2 U	0.31 U	0.20 J	1.2 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	0.72 J	6200 J	1.8 J	3.1	1.2	1.7 U
Carbon disulfide	µg/m^3	75-15-0	270 J	2430	-	-	-	-	13	2200 U	34	4.7	36	31
Carbon tetrachloride	µg/m^3	56-23-5	36	16	-	-	160	1600	0.24 U	5400 U	2.4 U	0.60 U	0.24 U	2.4 U
Chlorobenzene	µg/m^3	108-90-7	110000	174	-	-	-	-	0.23 U	5100 U	2.3 U	0.56 U	0.23 U	2.3 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	174000	-	-	-	-	5.6	3000 U	4.1 J	5.3	2.0	6.0 J
Chloroethane	µg/m^3	75-00-3	550	34800	-	-	-	-	0.092 U	2100 U	0.92 U	0.23 U	0.46 J	0.96 J
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	4	-	-	41	410	0 38 J	4200 U	1.9 U	0.46 U	0.19 U	1.9 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	313	-	-	-	-	0 55 J	7500 U	3.3 U	0.83 U	3.4	3.3 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	5400 U	2.4 U	3.2	0.24 U	2.4 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	7600 U	3.4 U	0.84 U	0.34 U	3.4 U
Cyclohexane	µg/m^3	110-82-7	230000	20900	-	-	-	-	2.5	**230000[a]**	2.5 J	1.1 J	0.67 J	1.4 U
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.40 J	7100 U	3.1 U	0.78 U	0.39 J	3.1 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	8100 U	3.6 U	0.89 U	0.36 U	3.6 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	348	-	-	-	-	1.2	7600 U	3.6 J	9.0	1.2	3.7 J
Ethylbenzene	µg/m^3	100-41-4	140000	37	-	-	-	-	2.8	**140000[a]**	11	3.4	2.4	3.0 U
Hexachlorobutadiene	µg/m^3	87-68-3	ND	4	-	-	-	-	0.83 UJ	19000 UJ	8 3 UJ	2.1 UJ	0.83 UJ	8 3 UJ
Hexane	µg/m^3	110-54-3	630000	2430	-	-	-	-	15	**630000[a]**	3.5 J	1.7 J	1.1 J	1.1 U

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP06-09	GP07-18	GP09-09	GP10-09	GP11-09	GP12-09
Sample ID									SVA-38443-082118-GL-019	SVA-38443-082118-GL-018	SVA-38443-082118-GL-021	SVA-38443-082118-GL-020	SVA-38443-081518-GL-012	SVA-38443-082018-GL-013
Sample Date									8/21/2018	8/21/2018	8/21/2018	8/21/2018	8/15/2018	8/20/2018
				USEPA[1]	Ohio EPA[2]									
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Isopropyl alcohol	µg/m^3	67-63-0	160	695	-	-	-	-	57	5200 U	140	160	2 5 J	27 J
Isopropyl benzene	µg/m^3	98-82-8	9800 J	1390	-	-	-	-	1.4 J	**9800 J[a]**	4.4 J	2.6 J	0.68 J	2.9 U
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	12	590000	47	13	11	7.4 J
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	2430	-	-	-	-	0.32 U	7300 U	3.2 U	0.81 U	1.4 J	3.2 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	360	-	-	-	-	0.61 U	14000 U	6.1 U	1 5 U	0.61 U	6.1 U
Methylene chloride	µg/m^3	75-09-2	40	2090	-	-	-	-	7.0	25000 U	14 J	3.6 J	2.3	11 U
Naphthalene	µg/m^3	91-20-3	1.5 J	3	-	-	28	280	0.79 J	11000 UJ	4.7 UJ	1.5 J	1 0 J	4.7 UJ
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	1.8 J	5700 U	2.5 U	2.4 J	2.7	2.5 U
N-Heptane	µg/m^3	142-82-5	1100000	1390	-	-	-	-	12	**1100000[a]**	14 J	3.4 J	0.50 J	1.9 U
N-Propylbenzene	µg/m^3	103-65-1	95 J	3480	-	-	-	-	1.2 J	6200 U	2.8 U	1.5 J	2.2	2.8 U
o-Xylene	µg/m^3	95-47-6	180000	348	-	-	-	-	4.9	**180000[a]**	20	5.5	4.5	2.9 J
Styrene	µg/m^3	100-42-5	3.5	3480	-	-	-	-	1.2	5600 U	2.5 U	1.7 J	2.2	2.5 U
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	3.3 J	2600 U	5.1 J	8.5 J	1.1 J	11 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U	8200 U	3.6 U	0.91 U	0.36 U	3.6 U
Tetrachloroethene	µg/m^3	127-18-4	550	139	-	-	1400	4200	22	6100 U	26	13	1.1 J	92
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	6950	-	-	-	-	0.19 U	4200 U	4.7 J	3.7 J	0.88 J	1.9 U
Toluene	µg/m^3	108-88-3	1700000	17400	-	-	-	-	23	**1700000[a]**	38	13	9.8	4.5 U
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	0 59 J	4500 U	2.2 J	1.4 J	0.20 U	2.0 U
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U	4900 U	2.2 U	0.54 U	0.22 U	2.2 U
Trichloroethene	µg/m^3	79-01-6	27000	7	70	210	-	-	0 28 J	4400 U	**690[abc]**	**34[a]**	0.19 U	**690[abc]**
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	8.7	3100 U	2.9 J	0.76 J	2.4	2.0 J
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	17400	-	-	-	-	0 60 J	5400 U	2.4 U	1.5 J	0.62 J	2.4 U
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	3	-	-	-	-	0.15 U	3500 U	1.5 U	0.38 U	0.15 U	1.5 U
Vinyl chloride	µg/m^3	75-01-4	2500	6	-	-	56	560	0.18 U	4100 U	1.8 U	1.7	0.61	1.8 U
Xylenes (total)	µg/m^3	1330-20-7	770000	348	-	-	-	-	16 9	**770000[a]**	67	18.5	15.5	10.3
Total VOCs	µg/m^3	-	-	-	-	-	-	-	335.16	7274400	1290.9	466.85	184.11	1037.26

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18
Sample ID									SVA-38443-082018-GL-014	SVA-38443-082018-GL-015	SVA-38443-082018-GL-016	SVA-38443-082018-GL-017	SVA-38443-082318-GL-028	SVA-38443-082318-GL-034
Sample Date									8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/23/2018	8/23/2018
				USEPA[1]		Ohio EPA[2]					Duplicate			
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	17400	-	-	-	-	14	1 3 J	1.3 J	8.5 J	17 U	4.8 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	2	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U	43 U	12 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	1	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U	30 U	8.7 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	59	-	-	-	-	310[a]	1 5 J	1.7 J	3200[a]	55 J	3.1 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	695	-	-	-	-	0 32 J	0.54 U	0.54 U	6.7 J	14 U	11 J
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	7	-	-	-	-	0.73 UJ	2.9 UJ	2 9 UJ	22 UJ	75 UJ	22 U
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	209	-	-	-	-	8.4	5.1	5 0	11 J	32 U	9.2 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	0	-	-	-	-	0.34 U	1.4 U	1.4 U	10 U	35 U	10 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	695	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U	43 U	12 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	4	-	-	-	-	0.19 U	0.76 U	0.76 U	5 6 U	20 U	5.6 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	14	-	-	-	-	0.24 U	0.96 U	0 96 U	7.1 U	25 U	7.1 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	8.6	0.89 U	0 89 U	6 6 U	23 U	6.6 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	209	-	-	-	-	2.2	1.4 J	1.3 J	9 5 U	33 U	9.5 U
1,3-Butadiene	µg/m^3	106-99-0	ND	3	-	-	-	-	0.14 U	0.57 U	0 57 U	4 2 U	15 U	4.2 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	0.39 U	1.6 U	1.6 U	12 U	40 U	12 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	9	-	-	-	-	0.38 U	1.5 U	1.5 U	11 U	40 U	11 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	19	-	-	-	-	0.29 U	1.2 U	1.2 U	8 5 U	30 U	8.5 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.44 J	0.73 U	0.73 U	5.4 U	3600	190
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	17400	-	-	-	-	5.9	5.9 J	2.6 J	17 U	61 U	35 J
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	1.3 U	1.3 U	9.7 U	34 U	9.7 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	104	-	-	-	-	0 97 J	0.95 U	0 95 U	7 0 U	24 U	7.0 U
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	1.4 U	1.4 U	10 U	36 U	10 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	1.9 J	1.3 U	1.3 U	9 6 U	33 U	9.6 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	10400	-	-	-	-	1.1 J	3.2 U	3.2 U	24 U	82 U	24 U
Acetone	µg/m^3	67-64-1	460	107000	-	-	-	-	58	54 J	28 J	98 U	340 U	340 J
Allyl chloride	µg/m^3	107-05-1	ND	3	-	-	-	-	0.15 U	0.60 U	0.60 U	4.4 U	15 U	4.4 U
Benzene	µg/m^3	71-43-2	110000	12	-	-	-	-	0 32 J	0.72 U	0.72 U	5 3 U	18 U	45[a]
Benzyl chloride	µg/m^3	100-44-7	ND	2	-	-	-	-	0.40 U	1.6 U	1.6 U	12 U	42 U	12 U
Bromodichloromethane	µg/m^3	75-27-4	ND	3	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U	30 U	8.7 U
Bromoform	µg/m^3	75-25-2	ND	85	-	-	-	-	0.50 U	2.0 U	2.0 U	15 U	51 U	15 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	17	-	-	-	-	0.12 U	0.50 U	0.50 U	3.7 U	13 U	3.7 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	13	1.1 J	0.69 U	5.1 U	6800	940
Carbon disulfide	µg/m^3	75-15-0	270 J	2430	-	-	-	-	14	5 9 J	4.2 J	26 J	11 J	40 J
Carbon tetrachloride	µg/m^3	56-23-5	36	16	-	-	160	1600	0.24 U	0.96 U	0.96 U	9.2 J	25 U	7.1 U
Chlorobenzene	µg/m^3	108-90-7	110000	174	-	-	-	-	0.23 U	0.90 U	0.90 U	6.7 U	23 U	6.7 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	174000	-	-	-	-	0.94	7.3	5.4	7.7 J	110	3.9 U
Chloroethane	µg/m^3	75-00-3	550	34800	-	-	-	-	0.97	0.37 U	0.37 U	12 J	9.5 U	9.2 J
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	4	-	-	41	410	3.6	7.6[a]	7.4[a]	17 J[a]	19 U	5.5 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	313	-	-	-	-	0.46 J	1.3 U	1.3 U	9 8 U	34 U	9.8 U
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	3.5	3.1 J	1400	24 U	1700
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	1.3 U	1.3 U	9 9 U	35 U	9.9 U
Cyclohexane	µg/m^3	110-82-7	230000	20900	-	-	-	-	3.7	0.55 U	0.55 U	4.1 U	49 J	160
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.31 U	1.3 U	1.3 U	9 3 U	32 U	9.3 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U	37 U	11 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	348	-	-	-	-	10	2 3 J	2.3 J	10 U	35 U	10 U
Ethylbenzene	µg/m^3	100-41-4	140000	37	-	-	-	-	1.2	1.2 U	1.2 U	8.7 U	30 U	14 J
Hexachlorobutadiene	µg/m^3	87-68-3	ND	4	-	-	-	-	0.83 UJ	3.3 UJ	3 3 UJ	25 UJ	86 UJ	25 U
Hexane	µg/m^3	110-54-3	630000	2430	-	-	-	-	1.1 J	0.45 U	0.73 J	3 3 U	210	340

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18
Sample ID									SVA-38443-082018-GL-014	SVA-38443-082018-GL-015	SVA-38443-082018-GL-016	SVA-38443-082018-GL-017	SVA-38443-082318-GL-028	SVA-38443-082318-GL-034
Sample Date									8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/23/2018	8/23/2018
				USEPA[1]		Ohio EPA[2]					Duplicate			
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Isopropyl alcohol	µg/m^3	67-63-0	160	695	-	-	-	-	1.6 J	4 2 J	2.5 J	6 8 U	24 U	76 J
Isopropyl benzene	µg/m^3	98-82-8	9800 J	1390	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U	30 U	8.7 U
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	5.1	3 0 J	2.8 J	15 U	54 U	47
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	2430	-	-	-	-	0.32 U	1.3 U	1.3 U	9 6 U	33 U	9.6 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	360	-	-	-	-	0.61 U	2.5 U	2.5 U	18 U	63 U	18 U
Methylene chloride	µg/m^3	75-09-2	40	2090	-	-	-	-	2.4	4.4 U	5.0 J	33 U	110 U	33 U
Naphthalene	µg/m^3	91-20-3	1.5 J	3	-	-	28	280	1.0 J	1.9 UJ	1 9 UJ	14 UJ	49 UJ	14 U
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	2.0 J	1 3 J	1.3 J	7 5 U	26 U	7.5 U
N-Heptane	µg/m^3	142-82-5	1100000	1390	-	-	-	-	0.44 J	0.77 U	0.77 U	5.7 U	20 U	330
N-Propylbenzene	µg/m^3	103-65-1	95 J	3480	-	-	-	-	1.1 J	1.1 U	1.1 U	8.1 U	28 U	8.1 U
o-Xylene	µg/m^3	95-47-6	180000	348	-	-	-	-	2.6	1.5 J	1.6 J	7 8 U	27 U	18 J
Styrene	µg/m^3	100-42-5	3.5	3480	-	-	-	-	0 82 J	0.99 U	0 99 U	7 3 U	25 U	7.3 U
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	4.4 J	2.6 J	0.64 J	5.3 J	12 U	8.3 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U	37 U	11 U
Tetrachloroethene	µg/m^3	127-18-4	550	139	-	-	1400	4200	1.3 J	**330[a]**	**370[a]**	25 J	28 U	8.0 U
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	6950	-	-	-	-	0 57 J	0.74 U	1.0 J	5 5 U	19 U	5.5 U
Toluene	µg/m^3	108-88-3	1700000	17400	-	-	-	-	4.8	1 9 J	1.9 J	13 U	47 U	71
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	0.20 U	1 0 J	1.0 J	57	20 U	30
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U	0.87 U	0 87 U	6.4 U	22 U	6.4 U
Trichloroethene	µg/m^3	79-01-6	27000	7	70	210	-	-	1.3	**520[abc]**	**510[abc]**	**3400[abc]**	20 U	**13 J[a]**
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	0 88 J	1 6 J	1.7 J	4 0 U	14 U	4.0 U
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	17400	-	-	-	-	6.6	0.95 U	0.95 U	7 0 U	24 U	7.0 U
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	3	-	-	-	-	0.15 U	0.61 U	0.61 U	4 5 U	16 U	4.5 U
Vinyl chloride	µg/m^3	75-01-4	2500	6	-	-	56	560	3.1	0.73 U	0.73 U	**14 J[a]**	**370[ad]**	**2500[ade]**
Xylenes (total)	µg/m^3	1330-20-7	770000	348	-	-	-	-	7.7	4.5	4.4	ND	ND	65
Total VOCs	µg/m^3	-	-	-	-	-	-	-	508 83	968 5	966.87	8199.4	11205	6982.5

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									Near GP19	GP20-18	GP21-09	GP22-13	GP22-13	GP23-13
Sample ID									SVA-38443-082318-GL-033	SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025
Sample Date									8/23/2018	8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018
				USEPA[1]		Ohio EPA[2]							Duplicate	
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	17400	-	-	-	-	0.16 U	22 U	3.3 U	0 27 J	0.26 J	1.6 J
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	2	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	1.7 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	1	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	59	-	-	-	-	0.11 U	14 U	4.3 J	1.7	1.7	0.42 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	695	-	-	-	-	0.13 U	18 U	2.7 U	1.7	1.7	0.54 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	7	-	-	-	-	0.73 U	99 U	15 UJ	0.73 U	0.73 U	2.9 U
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	209	-	-	-	-	0.31 U	42 U	6.2 U	1.6	1.5	3.0 J
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	0	-	-	-	-	0.34 U	46 U	6.8 U	0.34 U	0.34 U	1.4 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	695	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	1.7 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	4	-	-	-	-	0.19 U	26 U	3.8 U	1.0	0.95	0.76 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	14	-	-	-	-	0.24 U	33 U	4.8 U	0.24 U	0.24 U	0.96 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0.22 U	30 U	4.5 U	0.22 U	0.22 U	0.89 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	209	-	-	-	-	0.32 U	43 U	6.4 U	0 37 J	0.37 J	1.3 U
1,3-Butadiene	µg/m^3	106-99-0	ND	3	-	-	-	-	0.14 U	19 U	2.8 U	0.14 U	0.14 U	0.57 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	0.39 U	53 U	7.8 U	0 58 J	0.64 J	1.6 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	9	-	-	-	-	0.38 U	52 U	7.7 U	0.38 U	0.38 U	1.5 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	19	-	-	-	-	0.73 J	39 U	5.8 U	0.29 U	0.29 U	1.2 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.18 U	25 U	33 J	0.18 U	0.18 U	1.2 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	17400	-	-	-	-	1.2 J	80 U	12 U	13	12	17
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	44 U	6.5 U	0.33 U	0.33 U	1.3 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	104	-	-	-	-	0.24 U	32 U	4.8 U	2.9	2.7	2.6 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	48 U	7.0 U	0.35 U	0.35 U	1.4 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 J	1.3 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	10400	-	-	-	-	4.3	110 U	16 U	3.8	0.80 U	3.2 U
Acetone	µg/m^3	67-64-1	460	107000	-	-	-	-	12	450 U	67 U	66	56	77
Allyl chloride	µg/m^3	107-05-1	ND	3	-	-	-	-	0.15 U	20 U	3.0 U	0.15 U	0.15 U	0.60 U
Benzene	µg/m^3	71-43-2	110000	12	-	-	-	-	0.45 J	24 U	15[a]	0.83	0.89	0.84 J
Benzyl chloride	µg/m^3	100-44-7	ND	2	-	-	-	-	0.40 U	55 U	8.1 U	0.40 U	0.40 U	1.6 U
Bromodichloromethane	µg/m^3	75-27-4	ND	3	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U
Bromoform	µg/m^3	75-25-2	ND	85	-	-	-	-	0.50 U	67 U	9.9 U	0.50 U	0.50 U	2.0 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	17	-	-	-	-	0.12 U	17 U	2.5 U	0.12 U	0.30 J	0.98 J
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	1.0	24 U	1700	73	67	3.1 J
Carbon disulfide	µg/m^3	75-15-0	270 J	2430	-	-	-	-	0 26 J	13 U	13 J	7.6	8.5	14
Carbon tetrachloride	µg/m^3	56-23-5	36	16	-	-	160	1600	0.44 J	32 U	4.8 U	0.24 U	0.24 U	0.96 U
Chlorobenzene	µg/m^3	108-90-7	110000	174	-	-	-	-	0.23 U	31 U	4.5 U	0 37 J	0.38 J	0.90 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	174000	-	-	-	-	1.7	18 U	84	1.5 J	7 2 J	1.8 J
Chloroethane	µg/m^3	75-00-3	550	34800	-	-	-	-	0.092 U	13 U	1.8 U	0.42 J	0.36 J	0.37 U
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	4	-	-	41	410	0.19 U	25 U	3.7 U	0 37 J	0.36 J	1.8 J
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	313	-	-	-	-	1.1	45 U	6.6 U	0.33 U	0.33 U	1.8 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	770	16	22	23	0.95 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	46 U	6.7 U	0.34 U	0.34 U	1.3 U
Cyclohexane	µg/m^3	110-82-7	230000	20900	-	-	-	-	0.14 U	19 U	35	10	10	0.55 U
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.31 U	43 U	6.3 U	0.31 U	0.31 U	1.3 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	49 U	7.2 U	0.36 U	0.36 U	1.4 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	348	-	-	-	-	1.3	46 U	6.7 U	1.2	1.1	2.6 J
Ethylbenzene	µg/m^3	100-41-4	140000	37	-	-	-	-	0.30 U	40 U	5.9 U	1.0	1.1	2.7 J
Hexachlorobutadiene	µg/m^3	87-68-3	ND	4	-	-	-	-	0.83 U	110 U	17 UJ	0.83 U	0.83 U	3.3 U
Hexane	µg/m^3	110-54-3	630000	2430	-	-	-	-	0.72 J	15 U	52	6.4	7.5	1.2 J

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									Near GP19	GP20-18	GP21-09	GP22-13	GP22-13	GP23-13
Sample ID									SVA-38443-082318-GL-033	SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025
Sample Date									8/23/2018	8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018
				USEPA[1]		Ohio EPA[2]							Duplicate	
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Isopropyl alcohol	µg/m^3	67-63-0	160	695	-	-	-	-	0 62 J	82 J	14 J	1.9 J	3.1 J	3.6 J
Isopropyl benzene	µg/m^3	98-82-8	9800 J	1390	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	0.52 U	71 U	10 U	4.4	4.7	14
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	2430	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 U	1.3 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	360	-	-	-	-	0.61 U	83 U	12 U	0.61 U	0.61 U	2.5 U
Methylene chloride	µg/m^3	75-09-2	40	2090	-	-	-	-	1.6 J	150 U	22 U	1.2 J	4.1 J	4.4 U
Naphthalene	µg/m^3	91-20-3	1.5 J	3	-	-	28	280	0.47 U	64 U	9.4 UJ	0.47 U	0.79 J	1.9 U
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	0.25 U	34 U	5.1 U	0.49 J	0.40 J	1.0 U
N-Heptane	µg/m^3	142-82-5	1100000	1390	-	-	-	-	0 22 J	26 U	4.0 J	1.9 J	2.3	1.5 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	3480	-	-	-	-	0.28 U	37 U	5.5 U	0.28 U	0.28 U	1.1 U
o-Xylene	µg/m^3	95-47-6	180000	348	-	-	-	-	0.26 U	36 U	5.3 U	1.3	1.2	5.1
Styrene	µg/m^3	100-42-5	3.5	3480	-	-	-	-	0.25 U	34 U	4.9 U	0 25 J	0.27 J	0.99 U
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	0.12 U	16 U	2.3 U	2.3 J	1 9 J	4.1 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U	49 U	7.2 U	1.8 J	1.7 J	1.4 U
Tetrachloroethene	µg/m^3	127-18-4	550	139	-	-	1400	4200	0.78 J	37 U	5.4 U	1.9	1 3 J	1.1 U
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	6950	-	-	-	-	0.19 U	25 U	3.7 U	0.19 U	0.19 U	0.74 U
Toluene	µg/m^3	108-88-3	1700000	17400	-	-	-	-	0.70 J	61 U	9.0 U	1.3	1.7	7 8
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	0.20 U	37 J	4.0 U	3.5	3.5	1.8 J
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U	30 U	4.4 U	0.22 U	0.22 U	0.87 U
Trichloroethene	µg/m^3	79-01-6	27000	7	70	210	-	-	0.19 U	**6700[abc]**	3.9 U	2.7	2.3	**600[abc]**
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	1.2	18 U	2.7 U	0.13 U	0.36 J	7 3
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	17400	-	-	-	-	0 52 J	32 U	4.8 U	0.24 U	0.24 U	0.95 U
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	3	-	-	-	-	0.15 U	21 U	3.1 U	0.15 U	0.15 U	0.61 U
Vinyl chloride	µg/m^3	75-01-4	2500	6	-	-	56	560	0.18 U	25 U	3.6 U	**42[a]**	**38[a]**	0.73 U
Xylenes (total)	µg/m^3	1330-20-7	770000	348	-	-	-	-	ND	ND	ND	5.7	5.9	19.1
Total VOCs	µg/m^3	-	-	-	-	-	-	-	30.84	7589	1970.3	290.25	279.35	797.52

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP24A-13	GP24B-13	GP25-18	GP26-18	GP27-18	GP28-18
Sample ID									SVA-38443-082218-GL-024	SVA-38443-082218-GL-023	SVA-38443-081418-GL-006	SVA-38443-081418-GL-005	SVA-38443-081518-GL-010	SVA-38443-081518-GL-007
Sample Date									8/22/2018	8/22/2018	8/14/2018	8/14/2018	8/15/2018	8/15/2018
				USEPA[1]		Ohio EPA[2]								
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	17400	-	-	-	-	2.2	0.69 J	3.8 J	7 3 U	19 U	7.4 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	2	-	-	-	-	0.42 U	0.42 U	8.4 U	19 U	48 U	19 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	1	-	-	-	-	0.29 U	0.29 U	5.9 U	13 U	34 U	13 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	59	-	-	-	-	0.11 U	0.11 U	29	30 J	41 J	19 J
1,1-Dichloroethene	µg/m^3	75-35-4	24	695	-	-	-	-	0.13 U	0.13 U	24	6.1 U	15 U	6.1 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	7	-	-	-	-	0.73 U	0.73 UJ	15 UJ	33 UJ	83 UJ	33 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	209	-	-	-	-	2.6	1.6	12 J	22 J	120	14 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	0	-	-	-	-	0.34 U	0.34 U	6.8 U	15 U	38 U	15 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	695	-	-	-	-	0.42 U	0.42 U	8.4 U	19 U	48 U	19 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	4	-	-	-	-	0.19 U	0.19 U	3.8 U	8 5 U	22 U	8.7 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	14	-	-	-	-	0.24 U	0.24 U	4.8 U	11 U	27 U	11 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0.22 U	0.22 U	28	32 J	25 U	10 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	209	-	-	-	-	0 58 J	0.46 J	6.4 U	14 U	52 J	15 U
1,3-Butadiene	µg/m^3	106-99-0	ND	3	-	-	-	-	0.14 U	0.14 U	2.8 U	6.4 U	16 U	6.4 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	2.7	0.39 U	7.8 U	18 U	44 U	18 U
1,3-Dichloropropene	µg/m^3	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	9	-	-	-	-	0.38 U	0.38 U	7.7 U	17 U	**74 J[a]**	18 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	19	-	-	-	-	0.29 U	0.29 U	5.8 U	13 U	33 U	13 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.41 J	1 2 J	10 J	16 J	21 U	8.3 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	17400	-	-	-	-	18	5.3	12 U	26 U	67 U	27 U
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0.33 U	0.33 U	6.5 U	15 U	37 U	15 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	104	-	-	-	-	2.8	0.90 J	4.8 U	11 U	27 U	11 U
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0.35 U	0.35 U	7.0 U	16 U	40 U	38 J
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	0 59 J	0.52 J	6.5 U	15 U	72 J	15 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	10400	-	-	-	-	3.9	1.1 J	16 U	36 U	91 U	36 U
Acetone	µg/m^3	67-64-1	460	107000	-	-	-	-	75	22	67 U	150 U	380 U	150 U
Allyl chloride	µg/m^3	107-05-1	ND	3	-	-	-	-	0.15 U	0.15 U	3.0 U	6.7 U	17 U	6.8 U
Benzene	µg/m^3	71-43-2	110000	12	-	-	-	-	1.2	0.43 J	3.6 U	**52[a]**	**410[a]**	**87[a]**
Benzyl chloride	µg/m^3	100-44-7	ND	2	-	-	-	-	0.40 U	0.40 U	8.1 U	18 U	46 U	18 U
Bromodichloromethane	µg/m^3	75-27-4	ND	3	-	-	-	-	0.29 U	0.29 U	5.9 U	13 U	34 U	13 U
Bromoform	µg/m^3	75-25-2	ND	85	-	-	-	-	0.50 U	0.50 U	9.9 U	22 U	56 U	23 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	17	-	-	-	-	0.18 J	0.12 U	2.5 U	5 6 U	14 U	5.7 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	0.96	2.3	720	1800	8100	3000
Carbon disulfide	µg/m^3	75-15-0	270 J	2430	-	-	-	-	14	12	28 J	240	92 J	27 J
Carbon tetrachloride	µg/m^3	56-23-5	36	16	-	-	160	1600	**36[a]**	0.34 J	4.8 U	11 U	27 U	11 U
Chlorobenzene	µg/m^3	108-90-7	110000	174	-	-	-	-	0 23 J	0.23 U	4.7 J	22 J	**9200[a]**	**1700[a]**
Chlorodifluoromethane	µg/m^3	75-45-6	580	174000	-	-	-	-	1.8	17	45	48	15 U	12 J
Chloroethane	µg/m^3	75-00-3	550	34800	-	-	-	-	0.14 J	0.092 U	1.8 U	550	41 J	43
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	4	-	-	41	410	0 29 J	0.19 U	3.7 U	8 3 U	21 U	8.4 U
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	313	-	-	-	-	0 67 J	0.47 J	6.6 U	15 U	38 U	15 U
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0.24 U	0.24 U	4.8 U	13 J	27 U	30 J
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0.34 U	0.34 U	6.7 U	15 U	38 U	15 U
Cyclohexane	µg/m^3	110-82-7	230000	20900	-	-	-	-	0.14 U	0.53 J	24 J	72 J	350 J	150
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0.31 U	0.31 U	6.3 U	14 U	36 U	14 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0.36 U	0.36 U	7.2 U	16 U	41 U	16 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	348	-	-	-	-	1.5	1.2	12 J	15 U	38 U	15 U
Ethylbenzene	µg/m^3	100-41-4	140000	37	-	-	-	-	2.0	1.9	5.9 U	13 U	**150[a]**	13 U
Hexachlorobutadiene	µg/m^3	87-68-3	ND	4	-	-	-	-	0.83 U	0.83 UJ	17 UJ	37 UJ	95 UJ	38 UJ
Hexane	µg/m^3	110-54-3	630000	2430	-	-	-	-	0.76 J	4.7	38	140	**3100[a]**	1100

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP24A-13	GP24B-13	GP25-18	GP26-18	GP27-18	GP28-18
Sample ID									SVA-38443-082218-GL-024	SVA-38443-082218-GL-023	SVA-38443-081418-GL-006	SVA-38443-081418-GL-005	SVA-38443-081518-GL-010	SVA-38443-081518-GL-007
Sample Date									8/22/2018	8/22/2018	8/14/2018	8/14/2018	8/15/2018	8/15/2018
				USEPA[1]	Ohio EPA[2]									
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Isopropyl alcohol	µg/m^3	67-63-0	160	695	-	-	-	-	81	3 2 J	6.7 J	10 U	26 U	11 U
Isopropyl benzene	µg/m^3	98-82-8	9800 J	1390	-	-	-	-	1.4 J	0.29 U	5.9 U	13 U	34 U	71 J
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	8.6	8.9	13 J	54	350	67
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	2430	-	-	-	-	0.32 U	0.32 U	6.5 U	15 U	37 U	15 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	360	-	-	-	-	0.61 U	0.61 U	12 U	28 U	70 U	28 U
Methylene chloride	µg/m^3	75-09-2	40	2090	-	-	-	-	1.1 U	21	40	50 U	130 U	51 U
Naphthalene	µg/m^3	91-20-3	1.5 J	3	-	-	28	280	0.47 U	0.47 UJ	9.4 UJ	21 UJ	54 UJ	21 UJ
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	0 31 J	0.25 U	5.1 U	11 U	29 U	13 J
N-Heptane	µg/m^3	142-82-5	1100000	1390	-	-	-	-	1.1 J	1.5 J	7.7 J	50 J	**1800[a]**	390
N-Propylbenzene	µg/m^3	103-65-1	95 J	3480	-	-	-	-	0.40 J	0.29 J	5.5 U	12 U	95 J	13 U
o-Xylene	µg/m^3	95-47-6	180000	348	-	-	-	-	2.9	3.1	6.1 J	18 J	310	12 U
Styrene	µg/m^3	100-42-5	3.5	3480	-	-	-	-	0 64 J	0.25 U	4.9 U	11 U	28 U	11 U
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	4.5 J	1.4 J	2.3 U	7.5 J	13 U	5.2 U
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0.36 U	0.36 U	7.2 U	16 U	41 U	16 U
Tetrachloroethene	µg/m^3	127-18-4	550	139	-	-	1400	4200	0.27 U	1.9	5.4 U	12 U	31 U	12 U
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	6950	-	-	-	-	2.3 J	0.19 U	3.7 U	8 3 U	21 U	8.5 U
Toluene	µg/m^3	108-88-3	1700000	17400	-	-	-	-	4.3	8.0	15	34	540	25 J
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	2.3	1.1	4.0 U	8 9 U	23 U	21 J
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0.22 U	0.22 U	4.4 U	9 8 U	25 U	9.9 U
Trichloroethene	µg/m^3	79-01-6	27000	7	70	210	-	-	0.75 J	0.19 U	3.9 U	**110[ab]**	22 U	**11 J[a]**
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	7.1	3.4	5.0 J	6.1 U	15 U	6.1 U
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	17400	-	-	-	-	0 66 J	0.59 J	4.8 U	11 U	27 U	11 U
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	3	-	-	-	-	0.15 U	0.15 U	3.1 U	6 9 U	17 U	7.0 U
Vinyl chloride	µg/m^3	75-01-4	2500	6	-	-	56	560	0 30 J	0.18 U	**75[ad]**	**77[ad]**	21 U	**160[ad]**
Xylenes (total)	µg/m^3	1330-20-7	770000	348	-	-	-	-	11 5	12	19.1	72	**660[a]**	67
Total VOCs	µg/m^3	-	-	-	-	-	-	-	298 57	141.02	1166.1	3459.5	25557	7031

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP28-18	GP29-18	GP30-18	GP31-18	GP32-18	GP33-18
Sample ID									SVA-38443-081518-GL-008	SVA-38443-081518-GL-009	SVA-38443-082218-GL-027	SVA-38443-082218-GL-026	SVA-38443-082418-GL-035	SVA-38443-082318-GL-029
Sample Date									8/15/2018	8/15/2018	8/22/2018	8/22/2018	8/24/2018	8/23/2018
				USEPA[1]		Ohio EPA[2]			Duplicate					
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	17400	-	-	-	-	6.4 U	7 8 J	0.16 U	44 U	15	0.16 U
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	2	-	-	-	-	16 U	8.4 U	0.42 U	110 U	4.2 U	0.42 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	1	-	-	-	-	11 U	5.9 U	0.29 U	79 U	2.9 U	0.29 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	59	-	-	-	-	20 J	4.7 J	0.11 U	28 U	1 5 J	0.11 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	695	-	-	-	-	5 2 U	2.7 U	0.13 U	36 U	1.3 U	0.13 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	7	-	-	-	-	28 UJ	15 UJ	0.73 U	190 U	7.3 U	0.73 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	209	-	-	-	-	12 U	14 J	3 2	83 U	3.1 U	1.7
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	0	-	-	-	-	13 U	6.8 U	0.34 U	91 U	3.4 U	0.34 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	695	-	-	-	-	16 U	8.4 U	0.42 U	110 U	4.2 U	0.42 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	4	-	-	-	-	7.4 U	3.8 U	0.19 U	51 U	1.9 U	0.19 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	14	-	-	-	-	9 3 U	4.8 U	0 24 U	64 U	2.4 U	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	8.7 U	92	0 22 U	60 U	11 J	0.22 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	209	-	-	-	-	12 U	7.6 J	0.85 J	86 U	3.2 U	0.37 J
1,3-Butadiene	µg/m^3	106-99-0	ND	3	-	-	-	-	5 5 U	2.8 U	0.14 U	38 U	1.4 U	0.14 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	15 U	7.8 U	6 9	100 U	3.9 U	2 0
1,3-Dichloropropene	µg/m^3	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	9	-	-	-	-	15 U	7.7 U	0 38 U	100 U	3.8 U	0.38 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	19	-	-	-	-	11 U	5.8 U	0.43 J	77 U	2.9 U	0.29 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	7.1 U	3.6 U	0.90 J	49 U	1.8 U	1.9 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	17400	-	-	-	-	23 U	12 U	12	160 U	5.9 U	5.4
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	13 U	6.5 U	0 33 U	87 U	3.3 U	0 33 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	104	-	-	-	-	9.2 U	4.8 U	1.7 J	64 U	2.4 U	0.91 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	47 J	30 J	0.35 U	94 U	3.5 U	0.35 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	13 U	11 J	0.75 J	87 U	3.2 U	0.39 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	10400	-	-	-	-	31 U	16 U	1.1 J	210 U	8.0 U	1.0 J
Acetone	µg/m^3	67-64-1	460	107000	-	-	-	-	130 U	67 U	120	890 U	37 J	28
Allyl chloride	µg/m^3	107-05-1	ND	3	-	-	-	-	5 8 U	3.0 U	0.15 U	40 U	1.5 U	0.15 U
Benzene	µg/m^3	71-43-2	110000	12	-	-	-	-	**120[a]**	**40[a]**	1 5	48 U	3 6 J	0.67
Benzyl chloride	µg/m^3	100-44-7	ND	2	-	-	-	-	16 U	8.1 U	0.40 U	110 U	4.0 U	0.40 U
Bromodichloromethane	µg/m^3	75-27-4	ND	3	-	-	-	-	11 U	5.9 U	0.29 U	79 U	2.9 U	0.29 U
Bromoform	µg/m^3	75-25-2	ND	85	-	-	-	-	19 U	9.9 U	0.50 U	130 U	5.0 U	0.50 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	17	-	-	-	-	4 8 U	2.5 U	0.12 U	33 U	1.2 U	0.12 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	3700	4800	1.4	46 U	5.1 J	1 5
Carbon disulfide	µg/m^3	75-15-0	270 J	2430	-	-	-	-	38 J	17 J	65	270 J	69	1 6
Carbon tetrachloride	µg/m^3	56-23-5	36	16	-	-	160	1600	9 3 U	4.8 U	0.27 J	64 U	2.4 U	0.39 J
Chlorobenzene	µg/m^3	108-90-7	110000	174	-	-	-	-	**2200[a]**	4.5 U	0.23 U	60 U	2.3 U	0.23 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	174000	-	-	-	-	17 J	14 J	3 0	35 U	4.7 J	7 8
Chloroethane	µg/m^3	75-00-3	550	34800	-	-	-	-	44	3 8 J	0.27 J	25 U	0.92 U	0 092 U
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	4	-	-	41	410	7 2 U	3.7 U	0.19 U	**110 J[ad]**	**8.0 J[a]**	0.96
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	313	-	-	-	-	13 U	6.6 U	3 5	89 U	3.3 U	0.89 J
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	34	95	0.24 U	1000	4.7 J	0.24 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	13 U	6.7 U	0.34 U	90 U	3.4 U	0.34 U
Cyclohexane	µg/m^3	110-82-7	230000	20900	-	-	-	-	210	36	0.14 U	37 U	1.4 U	0.14 U
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	12 U	6.3 U	0.31 U	84 U	3.1 U	0.31 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	14 U	7.2 U	0.36 U	96 U	3.6 U	0.36 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	348	-	-	-	-	13 U	51	0.46 J	90 U	29	1 3
Ethylbenzene	µg/m^3	100-41-4	140000	37	-	-	-	-	13 J	14 J	2.7	79 U	3.0 U	1.1
Hexachlorobutadiene	µg/m^3	87-68-3	ND	4	-	-	-	-	32 UJ	17 UJ	0.83 U	220 U	8.3 U	0.83 UJ
Hexane	µg/m^3	110-54-3	630000	2430	-	-	-	-	1400	790	1.1 J	30 U	2.1 J	1.0 J

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									GP28-18	GP29-18	GP30-18	GP31-18	GP32-18	GP33-18
Sample ID									SVA-38443-081518-GL-008	SVA-38443-081518-GL-009	SVA-38443-082218-GL-027	SVA-38443-082218-GL-026	SVA-38443-082418-GL-035	SVA-38443-082318-GL-029
Sample Date									8/15/2018	8/15/2018	8/22/2018	8/22/2018	8/24/2018	8/23/2018
				USEPA[1]		Ohio EPA[2]			Duplicate					
Parameters	Units	CAS#	Max	Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Isopropyl alcohol	µg/m^3	67-63-0	160	695	-	-	-	-	9 0 U	5.1 J	90	120 J	46 J	27
Isopropyl benzene	µg/m^3	98-82-8	9800 J	1390	-	-	-	-	92	74	2 3	79 U	2.9 U	0.81 J
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	92	15 J	11	140 U	5.2 U	4 9
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	2430	-	-	-	-	13 U	6.5 U	0.32 U	87 U	3.2 U	0.32 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	360	-	-	-	-	24 U	12 U	0.61 U	160 U	6.1 U	0.61 U
Methylene chloride	µg/m^3	75-09-2	40	2090	-	-	-	-	43 U	22 U	1.6 J	300 U	11 U	3 0
Naphthalene	µg/m^3	91-20-3	1.5 J	3	-	-	28	280	18 UJ	9.4 UJ	0.47 U	130 U	4.7 U	0.47 UJ
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	16 J	12 J	0.39 J	68 U	2.5 U	0.25 U
N-Heptane	µg/m^3	142-82-5	1100000	1390	-	-	-	-	520	400	1.6 J	52 U	1.9 U	0.93 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	3480	-	-	-	-	11 U	66	0.50 J	74 U	2.8 U	0.28 U
o-Xylene	µg/m^3	95-47-6	180000	348	-	-	-	-	15 J	13 J	4.1	71 U	2.6 U	1.7
Styrene	µg/m^3	100-42-5	3.5	3480	-	-	-	-	9 6 U	4.9 U	0.94	66 U	2.5 U	0.32 J
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	4 5 U	3 6 J	4.3 J	31 U	6 0 J	2.2 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	14 U	7.2 U	0.36 U	97 U	3.6 U	0.36 U
Tetrachloroethene	µg/m^3	127-18-4	550	139	-	-	1400	4200	11 U	68	0.27 U	73 U	2.7 U	2 2
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	6950	-	-	-	-	7 2 U	3.7 U	2.7 J	50 U	3 0 J	0.96 J
Toluene	µg/m^3	108-88-3	1700000	17400	-	-	-	-	31	23	7 2	120 U	4.5 U	2 8
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	28 J	5.8 J	4.1	330	2 9 J	2 6
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	8 5 U	4.4 U	0 22 U	58 U	2.2 U	0.22 U
Trichloroethene	µg/m^3	79-01-6	27000	7	70	210	-	-	7 5 U	**17 J[a]**	2.1	**27000[abc]**	**590[abc]**	**15[a]**
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	5 2 U	2.7 U	0.56 J	36 U	3.1 J	1.1
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	17400	-	-	-	-	9 2 U	4.8 U	0.24 U	64 U	2.4 U	0.45 J
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	3	-	-	-	-	5 9 U	3.1 U	0.15 U	41 U	1.5 U	0.15 U
Vinyl chloride	µg/m^3	75-01-4	2500	6	-	-	56	560	**200[ad]**	**53[a]**	0.18 U	49 U	1.8 U	0.18 U
Xylenes (total)	µg/m^3	1330-20-7	770000	348	-	-	-	-	107	28	15.1	ND	ND	6.6
Total VOCs	µg/m^3	-	-	-	-	-	-	-	8944	6811.4	375.52	28830	841.7	131.45

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									**GP34-18**
Sample ID									**SVA-38443-082218-GL-022**
Sample Date									**8/22/2018**
				USEPA[1]		**Ohio EPA[2]**			
Parameters	**Units**	**CAS#**	**Max**	**Subslab VISL Residential**	**Accelerated Response Action Level Residential (24 hours)**	**Urgent Response Action Level Residential (24 hours)**	**Chronic Response Action Level Residential**	**Removal Management Level Residential**	
				a	**b**	**c**	**d**	**e**	
Volatiles									
1,1,1-Trichloroethane	µg/m^3	71-55-6	33	17400	-	-	-	-	1.8
1,1,2,2-Tetrachloroethane	µg/m^3	79-34-5	ND	2	-	-	-	-	0.42 U
1,1,2-Trichloroethane	µg/m^3	79-00-5	ND	1	-	-	-	-	0 29 U
1,1-Dichloroethane	µg/m^3	75-34-3	3200	59	-	-	-	-	0.11 U
1,1-Dichloroethene	µg/m^3	75-35-4	24	695	-	-	-	-	0.13 U
1,2,4-Trichlorobenzene	µg/m^3	120-82-1	ND	7	-	-	-	-	0.73 UJ
1,2,4-Trimethylbenzene	µg/m^3	95-63-6	8400 J	209	-	-	-	-	1.8
1,2-Dibromoethane (Ethylene dibromide)	µg/m^3	106-93-4	ND	0	-	-	-	-	0 34 U
1,2-Dichlorobenzene	µg/m^3	95-50-1	ND	695	-	-	-	-	0.42 U
1,2-Dichloroethane	µg/m^3	107-06-2	1	4	-	-	-	-	0.19 U
1,2-Dichloropropane	µg/m^3	78-87-5	ND	14	-	-	-	-	0 24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m^3	76-14-2	310	-	-	-	-	-	0 22 U
1,3,5-Trimethylbenzene	µg/m^3	108-67-8	52 J	209	-	-	-	-	0.39 J
1,3-Butadiene	µg/m^3	106-99-0	ND	3	-	-	-	-	0.14 U
1,3-Dichlorobenzene	µg/m^3	541-73-1	6.9	-	-	-	-	-	2.3
1,3-Dichloropropene	µg/m^3	542-75-6	ND	23	-	-	-	-	ND
1,4-Dichlorobenzene	µg/m^3	106-46-7	74 J	9	-	-	-	-	0 38 U
1,4-Dioxane	µg/m^3	123-91-1	0.73 J	19	-	-	-	-	0 29 U
2,2,4-Trimethylpentane	µg/m^3	540-84-1	1800000	-	-	-	-	-	0.88 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m^3	78-93-3	35 J	17400	-	-	-	-	7.8
2-Chlorotoluene	µg/m^3	95-49-8	1.5 J	-	-	-	-	-	0 33 U
2-Hexanone	µg/m^3	591-78-6	8.9 J	104	-	-	-	-	1.3 J
2-Phenylbutane (sec-Butylbenzene)	µg/m^3	135-98-8	47 J	-	-	-	-	-	0 35 U
4-Ethyl toluene	µg/m^3	622-96-8	72 J	-	-	-	-	-	0.46 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m^3	108-10-1	4.3	10400	-	-	-	-	0.90 J
Acetone	µg/m^3	67-64-1	460	107000	-	-	-	-	35
Allyl chloride	µg/m^3	107-05-1	ND	3	-	-	-	-	0.15 U
Benzene	µg/m^3	71-43-2	110000	12	-	-	-	-	0.81
Benzyl chloride	µg/m^3	100-44-7	ND	2	-	-	-	-	0.40 U
Bromodichloromethane	µg/m^3	75-27-4	ND	3	-	-	-	-	0 29 U
Bromoform	µg/m^3	75-25-2	ND	85	-	-	-	-	0 50 U
Bromomethane (Methyl bromide)	µg/m^3	74-83-9	0.98 J	17	-	-	-	-	0.12 U
Butane	µg/m^3	106-97-8	8100	-	-	-	-	-	0.82 J
Carbon disulfide	µg/m^3	75-15-0	270 J	2430	-	-	-	-	21
Carbon tetrachloride	µg/m^3	56-23-5	36	16	-	-	160	1600	0 24 U
Chlorobenzene	µg/m^3	108-90-7	110000	174	-	-	-	-	0 23 U
Chlorodifluoromethane	µg/m^3	75-45-6	580	174000	-	-	-	-	4.6
Chloroethane	µg/m^3	75-00-3	550	34800	-	-	-	-	0.092 U
Chloroform (Trichloromethane)	µg/m^3	67-66-3	110 J	4	-	-	41	410	0.24 J
Chloromethane (Methyl chloride)	µg/m^3	74-87-3	3.5	313	-	-	-	-	1.5
cis-1,2-Dichloroethene	µg/m^3	156-59-2	1700	-	-	-	-	-	0 24 U
cis-1,3-Dichloropropene	µg/m^3	10061-01-5	ND	-	-	-	-	-	0 34 U
Cyclohexane	µg/m^3	110-82-7	230000	20900	-	-	-	-	0.20 J
Cymene (p-Isopropyltoluene)	µg/m^3	99-87-6	0.46 J	-	-	-	-	-	0 31 U
Dibromochloromethane	µg/m^3	124-48-1	ND	-	-	-	-	-	0 36 U
Dichlorodifluoromethane (CFC-12)	µg/m^3	75-71-8	570	348	-	-	-	-	1.8
Ethylbenzene	µg/m^3	100-41-4	140000	37	-	-	-	-	1.6
Hexachlorobutadiene	µg/m^3	87-68-3	ND	4	-	-	-	-	0.83 UJ
Hexane	µg/m^3	110-54-3	630000	2430	-	-	-	-	0.93 J

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location									**GP34-18**
Sample ID									**SVA-38443-082218-GL-022**
Sample Date									**8/22/2018**
				USEPA[1]		**Ohio EPA[2]**			
Parameters	**Units**	**CAS#**	**Max**	**Subslab VISL Residential**	**Accelerated Response Action Level Residential (24 hours)**	**Urgent Response Action Level Residential (24 hours)**	**Chronic Response Action Level Residential**	**Removal Management Level Residential**	
				a	**b**	**c**	**d**	**e**	
Isopropyl alcohol	µg/m^3	67-63-0	160	695	-	-	-	-	43
Isopropyl benzene	µg/m^3	98-82-8	9800 J	1390	-	-	-	-	1.2 J
m&p-Xylenes	µg/m^3	M/P-XYLENE	590000	-	-	-	-	-	6.7
Methyl methacrylate	µg/m^3	80-62-6	1.4 J	2430	-	-	-	-	0 32 U
Methyl tert butyl ether (MTBE)	µg/m^3	1634-04-4	ND	360	-	-	-	-	0 61 U
Methylene chloride	µg/m^3	75-09-2	40	2090	-	-	-	-	1.2 J
Naphthalene	µg/m^3	91-20-3	1.5 J	3	-	-	28	280	0.47 UJ
N-Butylbenzene	µg/m^3	104-51-8	16 J	-	-	-	-	-	0 25 U
N-Heptane	µg/m^3	142-82-5	1100000	1390	-	-	-	-	1.3 J
N-Propylbenzene	µg/m^3	103-65-1	95 J	3480	-	-	-	-	0.28 J
o-Xylene	µg/m^3	95-47-6	180000	348	-	-	-	-	2.2
Styrene	µg/m^3	100-42-5	3.5	3480	-	-	-	-	0.53 J
tert-Butyl alcohol	µg/m^3	75-65-0	11 J	-	-	-	-	-	2.2 J
tert-Butylbenzene	µg/m^3	98-06-6	5.7 J	-	-	-	-	-	0 36 U
Tetrachloroethene	µg/m^3	127-18-4	550	139	-	-	1400	4200	66
Tetrahydrofuran	µg/m^3	109-99-9	4.7 J	6950	-	-	-	-	1.7 J
Toluene	µg/m^3	108-88-3	1700000	17400	-	-	-	-	4.5
trans-1,2-Dichloroethene	µg/m^3	156-60-5	330	-	-	-	-	-	1.3
trans-1,3-Dichloropropene	µg/m^3	10061-02-6	ND	-	-	-	-	-	0 22 U
Trichloroethene	µg/m^3	79-01-6	27000	7	70	210	-	-	0.19 U
Trichlorofluoromethane (CFC-11)	µg/m^3	75-69-4	8.7	-	-	-	-	-	4.8
Trifluorotrichloroethane (CFC-113)	µg/m^3	76-13-1	6.6	17400	-	-	-	-	0.93 J
Vinyl bromide (Bromoethene)	µg/m^3	593-60-2	ND	3	-	-	-	-	0.15 U
Vinyl chloride	µg/m^3	75-01-4	2500	6	-	-	56	560	0.21 J
Xylenes (total)	µg/m^3	1330-20-7	770000	348	-	-	-	-	8 9
Total VOCs	µg/m^3	-	-	-	-	-	-	-	233.08

Notes:

J - Estimated concentration.
U - Not detected at the associated reporting limit.
UJ - Not detected; associated reporting limit is estimated.
1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1
2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

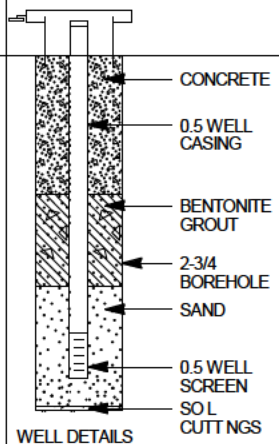
Attachment 1

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-01-18
DATE COMPLETED: 25 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	CONCRETE SLAB	0.50
2	SW-GRAVELLY SAND (FILL), fine gravel, medium to coarse grained, slightly consolidated, well graded, dark brown, dry - 0.3' light brown at 3.3ft BGS - glass pieces at 3.9ft BGS - red clay brick at 4.1ft BGS - broken rock at 4.3ft BGS - increase in fine grained at 4.8ft BGS	
4		
6	- red clay brick at 5.5ft BGS	6.00
8	CL-SANDY CLAY (FILL), with fine gravel, coarse sand, slightly cohesive, low plasticity, light brown, moist - large glass pieces at 6.4ft BGS - 0.5' book pages at 7.0ft BGS - with fine gravel, medium grained, black at 8.0ft BGS	
10	- glass, metal pieces and concrete piece at 9.0ft BGS - wood chips and glass at 9.8ft BGS - red clay brick staining at 10.0ft BGS	10 00
12	SW-SAND (FILL), with fine gravel, loose, medium to coarse grained, well graded, light gray, dry - light brown staining at 12.0ft BGS - slag piece at 12.9ft BGS - crushed rock fragment at 13.0ft BGS	13 30
14		
16	ML-CLAYEY SILT (FILL), with medium to coarse sand, slightly cohesive, low plasticity, dark gray, moist - light brown rock fragments at 13.8ft BGS - glass chunks at 15.0ft BGS - asphalt at 15.5ft BGS	16 00
18		
20	GW-SANDY GRAVEL (native), loose, fine grained, trace coarse grained, well graded, light brown, dry - crushed rock fragment at 17.0ft BGS - crushed white quartz fragment at 17.5ft BGS - crushed rock fragment at 19.5ft BGS - crushed rock fragment at 19.8ft BGS	20 00
22		
24	END OF BOREHOLE @ 20.0ft BGS	
26		
28		



WELL DETAILS
Screened interval:
6.00 to 7.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 5.00ft BGS
Material: BENTONITE GROUT
Sand Pack:
5.00 to 7.70ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		100		0 / 0
5.5-6.5' -064				2.3
2DP		74		0 / 0
3DP		62		0 / 0
4DP		82		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-03-18
DATE COMPLETED: 30 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm) / RAD
2	SW-SAND (FILL), with silt and fine gravel, loose, medium to coarse grained, well graded, brown, moist - 0.2' concrete pieces at 1.0ft BGS - 0.1' concrete pieces at 2.0ft BGS		1DP		50		0 / 0
4	ML-CLAYEY SILT (FILL), with fine to medium sand, slightly cohesive, low plasticity, dark gray, wet	4.00					
	CONCRETE, dry	5.00					
6	SM-SILTY SAND (FILL), with fine gravel, loose, medium to coarse grained, well graded, brown, dry - wet at 6.7ft BGS - 0.3' dry foundry sand at 8.6ft BGS - light brown at 9.0ft BGS	6.00	2DP		100		0 / 0
8							
10	NO RECOVERY, sample blinded	10 00					
12			3DP		28		0 / 0
14	SM-SILTY SAND (FILL), foundry sand, with fine gravel, loose, medium to coarse grained, well graded, brown, wet	13 60					0.1
	NO RECOVERY, very soft material	15 00					
16							
18			4DP		0		0 / 0
20	END OF BOREHOLE @ 20.0ft BGS	20 00					
22							
24							
26							
28							

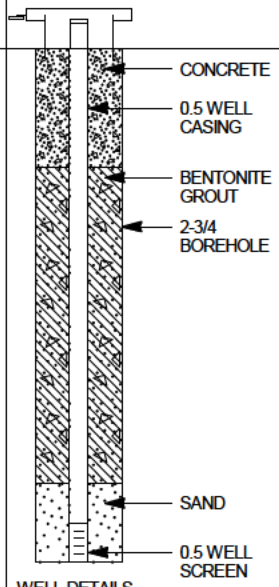
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-07-18
DATE COMPLETED: August 11, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SM-GRAVELLY/SILTY SAND (FILL), consolidated, dark brown/dark gray, moist, odor	0.50
	CL-SILTY CLAY (FILL), cohesive, dark gray, damp	1.50
	SW/GW-SAND/GRAVEL (FILL), little silt, loose, medium to coarse sand, fine gravel, well graded, brown/tan, dry	4.20
	SW-SAND (NATIVE), loose, fine to medium grained, trace coarse grained, medium brown, dry, strong petroleum odor	7.40
	SW/GW-SAND/GRAVEL (NATIVE), little silt, loose, medium to coarse sand, fine gravel, well graded, brown/tan, dry	
	- wet at 15.0ft BGS	
	END OF BOREHOLE @ 16.0ft BGS	16 00



WELL DETAILS
Screened interval:
12 00 to 13.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 11.00ft BGS
Material: BENTONITE GROUT
Sand Pack:
11 00 to 13.00ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1GP		38		32.4 / 0
2GP		50		1558 / 0
3GP		63		342 / 0
12-13				
4GP		60		15 2 / 0
NEG SUDAN IV				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

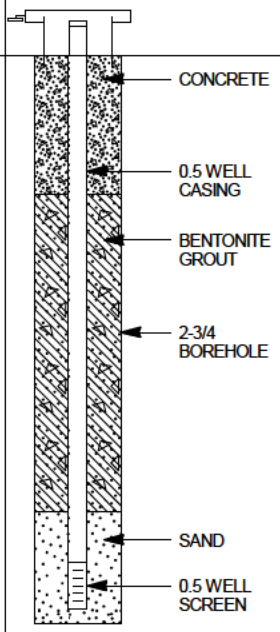
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-19-18
DATE COMPLETED: 24 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	TOPSOIL	0.10
	GC-CLAYEY GRAVEL (FILL), with medium to coarse sand, fine grained, slightly consolidated, well graded, dark brown, dry	
2	- crushed rock at 1.0ft BGS	
	- crushed rock at 3.2ft BGS	
4	- light brown staining at 4.1ft BGS	4.20
	SM-SILTY SAND (FILL), fine grained, slightly consolidated, well graded, light gray, dry	
6		
8		
	- medium grained, plastic pieces at 9.0ft BGS	
10	- medium to coarse grained at 10.0ft BGS	
	- medium grained, plastic pieces at 10.2ft BGS	
12		
	- concrete piece at 13.2ft BGS	
14		
	- slag at 15.0ft BGS	
	- plastic and glass pieces at 15.3ft BGS	
16	- wet at 16.0ft BGS	
18		
	CL-SANDY CLAY (FILL), fine to medium sand, cohesive, low plasticity, dark gray, moist	19 00
20	- transitions to native sandy material at 20 0ft BGS	20 00
	END OF BOREHOLE @ 20.0ft BGS	
22		
24		
26		
28		

GAS PROBE



WELL DETAILS
Screened interval:
11 00 to 12.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
2.80 to 9 90ft BGS
Material: BENTONITE GROUT
Sand Pack:
9.90 to 12.30ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		66		0 / 0
2DP		46		0 / 0
				0.6
11-12 -063				1.6
3DP		50		0 / 0
4DP		94		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

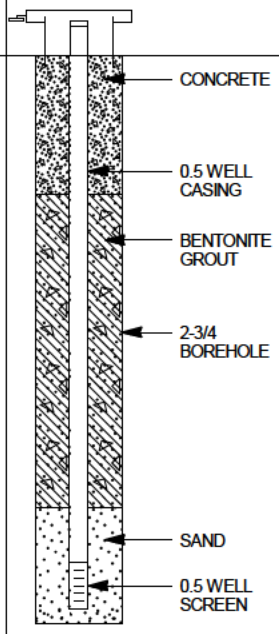
CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-20-18
DATE COMPLETED: 22 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SM-SILTY SAND (FILL), loose, fine to medium grained, trace coarse grained, well graded, brown, moist	0.50 / 1.00
	SW-GRAVELLY SAND (FILL), loose, fine gravel, medium grained, with coarse grained, well graded, light brown, dry	
	SW-SAND (FILL), foundry sand, loose, fine grained, slightly consolidated, well graded, dark gray, dry - slag pieces at 3.5ft BGS	3.50
	SM-SILTY SAND (FILL), foundry sand, fine grained, trace medium grained, slightly consolidated, well graded, light gray, dry - 0.7' wet at 4.0ft BGS - crushed rock, with medium grained at 5.3ft BGS - 0.5' wet at 6.0ft BGS - crushed black rock material at 6.5ft BGS	6.70 / 9.10
	GM-SILTY GRAVEL (FILL), with medium to coarse sand, loose, fine grained, well graded, orangish brown, moist - glass pieces at 7ft BGS - 0.1' clay section at 8.7ft BGS	10 00
	CL-SANDY CLAY (FILL), trace fine gravel, medium sand, cohesive, low plasticity	
	GW-SANDY GRAVEL (native), trace fine sand, loose, medium to coarse sand, fine grained, well graded, light brown, dry - crushed rock pieces at 12.5ft BGS - crushed rock pieces at 13.5ft BGS - rock at 15 0ft BGS - gray staining from 15.0 to 16.0ft BGS - crushed rock pieces at 19.7ft BGS	
20	END OF BOREHOLE @ 20.0ft BGS	20 00



WELL DETAILS
Screened interval:
11 00 to 12.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 9 80ft BGS
Material: BENTONITE GROUT
Sand Pack:
9.80 to 12.30ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		90		0 / 0
NEG SUDAN IV				0.5
2DP		70		0 / 0
11-12 -060 NEG SUDAN IV 3DP		64		0 / 0
4DP		88		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

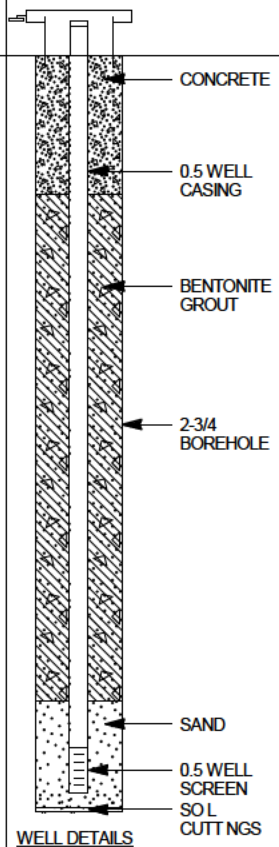
CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-25-18
DATE COMPLETED: 29 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SW-SAND (FILL), trace silt, loose, medium to coarse grained, little fine grained, well graded, black, moist - rock pieces at 0.7ft BGS	
	GC-GRAVELLY CLAY (FILL), fine gravel, cohesive, low plasticity, dark gray/olive green, moist - concrete fragments at 3.0ft BGS	2.50 3.20
	CL-CLAY (FILL), little fine gravel, cohesive, low plasticity, olive green, moist - 2 black medium grained foundry sand at 3.9ft BGS	5.50
	SW-SAND (FILL), little silt, loose, medium to coarse grained, well graded, gray/olive green, dry - red clay brick powder/pieces at 8.9ft BGS	
	SW/GW-SAND/GRAVEL (FILL), loose, medium to coarse sand, fine gravel, well graded, dark gray/black, dry	10 00
	SW-SAND (FILL), trace silt, loose, fine to medium grained, well graded, black, dry - medium to coarse grained, gray at 16.0ft BGS - white clay brick fragments at 16.2ft BGS	14 50
	SW-SILTY SAND (FILL), medium to coarse grained, consolidated, rust/dark gray, dry	16.70
	END OF BOREHOLE @ 20.0ft BGS	20 00



WELL DETAILS
Screened interval:
15 00 to 16.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 14.00ft BGS
Material: BENTONITE GROUT
Sand Pack:
14 00 to 16.40ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		74		0 / 0
				1.4
2DP		60		0 / 0
3DP		64		0 / 0
15-16 -057				
4DP		60		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

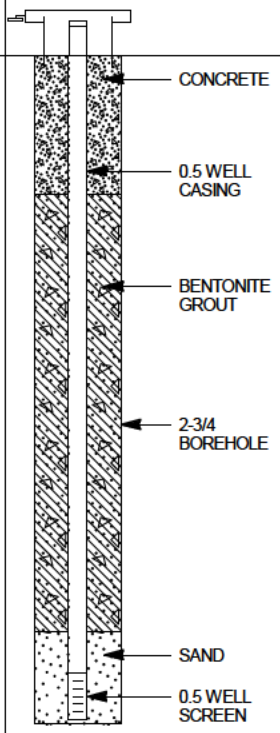
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-26-18
DATE COMPLETED: 29 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	TOPSOIL	0.25
2	SW-SAND (FILL), trace fine gravel, loose, medium to coarse grained, well graded, dark gray/brown, dry	
		3.20
4	SW-SAND (FILL), trace fine gravel, loose, fine to medium grained, trace coarse grained, well graded, dark brown, dry - slag pieces at 4.0ft BGS	
		5.40
6	- increase in silt content, slightly consolidated, dark gray at 4.1ft BGS	
	SW-SAND (FILL), trace silt, loose, fine, medium and coarse grained, well graded, gray/light gray, dry	
8		
10		
12		
	- red clay brick at 13.0ft BGS	13 00
14	SM-SILTY SAND (FILL), fine, medium and coarse grained, consolidated, dark gray	
16		
18		
20	- red clay brick at 19.8ft BGS	20 00
	END OF BOREHOLE @ 20.0ft BGS	
22		
24		
26		
28		

GAS PROBE



WELL DETAILS
Screened interval:
13.40 to 14.40ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 12.50ft BGS
Material: BENTONITE GROUT
Sand Pack:
12 50 to 14.50ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP				0 / 0
2DP				0 / 0
3DP				0 / 0
13.5-14.5 -065				0.5
4DP				0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-27-18
DATE COMPLETED: 30 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	GAS PROBE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm) / RAD
2, 4, 6, 8	SW-SAND (FILL), fine to medium grained, slightly consolidated, well graded, brown, dry - concrete pieces at 1.8ft BGS - 0.2' increase in silt content at 2.4ft BGS - with fine gravel, with coarse grained, dark gray at 2.7ft BGS - loose, increase in silt content at 5.0ft BGS		CONCRETE BENTONITE GROUT 0.5 WELL CASING 2-3/4 BOREHOLE SAND 0.5 WELL SCREEN SOIL CUTTINGS	1DP 2DP 7-8-067		96 100		0 / 0 2.7 3.2 0 / 0
10, 12	SW-SAND (FILL), trace fine gravel, loose, fine to medium grained, with coarse grained, well graded, brown, dry - 0.5' metallic paper at 11.8ft BGS	9.60						
14, 16, 18	SM-SILTY SAND (FILL), fine to medium grained, slightly consolidated, well graded, dark gray, dry - 0.2' multicolored frock fragments at 12.9ft BGS - 0.1' light green slag fragments at 13.4ft BGS - moist at 15.0ft BGS - wet at 17.0ft BGS - clayey, brown at 19 0ft BGS	12.40		3DP 4DP		80 82		0 / 0 0 / 0
20	END OF BOREHOLE @ 20.0ft BGS	20 00						

WELL DETAILS
Screened interval:
7.00 to 8 00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 6 00ft BGS
Material: BENTONITE GROUT
Sand Pack:
6.00 to 8.10ft BGS
Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

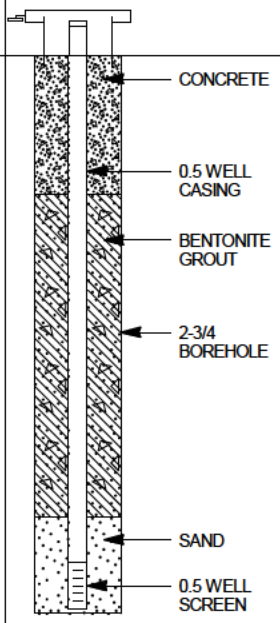
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-28-18
DATE COMPLETED: 30 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SW-SAND (FILL), with fine gravel, loose, fine to medium grained, well graded, gray, dry	
2		
4	- wood chip at 4.0ft BGS - increase in silt content, moist at 4.0ft BGS	5.00
6	SM-SILTY SAND (FILL), with fine gravel, medium to coarse grained, slightly consolidated, well graded, brown, dry - concrete pieces at 6.0ft BGS	6.20
8	SW/SM-SAND (FILL), with silt, fine to medium grained, slightly consolidated, well graded, dark gray, dry - plastic pieces and wood chips at 7.6ft BGS	7.60
10	NO RECOVERY, sample blinded	10 00
	GW-SANDY GRAVEL (FILL), loose, medium to coarse sand, fine grained, well graded, gray/brown, dry - large wood chips at 10.5ft BGS	10 50
12	NO RECOVERY, sample blinded	
14		14 50
	GM-SILTY GRAVEL (FILL), with clay, fine grained, slightly consolidated, well graded, brown/gray, dry	15 00
16	SM-SILTY SAND (FILL), foundry sand, loose, fine grained, trace medium grained, well graded, dark gray, dry - 0.1' brown staining at 15.5ft BGS - 0.2' concrete pieces at 18.0ft BGS - increase in moisture content at 18.0ft BGS	
18		
20	END OF BOREHOLE @ 20.0ft BGS	20 00
22		
24		
26		
28		

GAS PROBE



WELL DETAILS
Screened interval:
11 00 to 12.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 10.00ft BGS
Material: BENTONITE GROUT
Sand Pack:
10 00 to 12.10ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		44		0 / 0
2DP		52		8.3 0 / 0
				1.4
3DP		24		0 / 0
15-16'-068				456
4DP		50		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

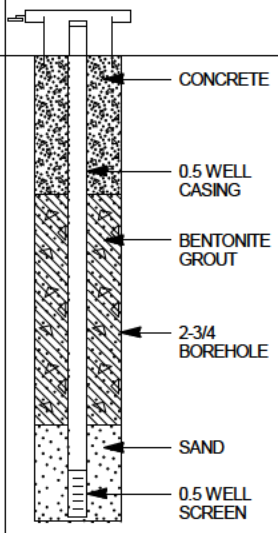
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-29-18
DATE COMPLETED: 30 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	TOPSOIL	0.20
2	GW-SANDY GRAVEL (FILL), loose, medium to coarse sand, trace fine sand, fine grained, well graded, brown/gray, dry - 0.2' clay material, slightly consolidated at 1.0ft BGS - intermixed with crushed slag at 1.0ft BGS	
4		
6	GM-SILTY GRAVEL (FILL), with fine sand, fine grained, consolidated, well graded, brown, moist - 0.1' concrete pieces at 6.5ft BGS	5.70 6.50
8	SM-SILTY SAND (FILL), fine grained, slightly consolidated, well graded, dark brown, dry - 0.1' iron staining at 8.4ft BGS - slag pieces at 9.0ft BGS	
10	- 0.1' pink staining at 10.0ft BGS	
12		
14	- 0.6' increase in clay content, poorly graded, moist at 13.0ft BGS - moist from 13 0 to 15.0ft BGS	
16		
18	- with clay, purple ink from 17.0 to 18.0ft BGS - REFUSAL at 18.5ft BGS	18 50
20	END OF BOREHOLE @ 18.5ft BGS	
22		
24		
26		
28		

GAS PROBE



WELL DETAILS
Screened interval:
9.00 to 10.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 8 00ft BGS
Material: BENTONITE GROUT
Sand Pack:
8.00 to 10.10ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		60		0 / 0
2DP		68		0 / 0
9-10' -069				0.6
3DP		82		0 / 0
4DP		100		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

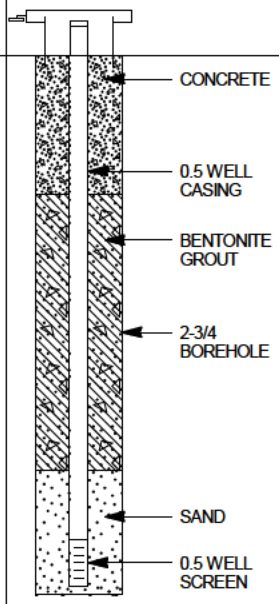
CHEMICAL ANALYSIS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-30-18
DATE COMPLETED: 17 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	TOPSOIL, grass	0.20
	GW-SANDY GRAVEL (FILL), loose, medium to coarse sand, fine grained, well graded, light brown, dry	0.50
2	SM-SILTY SAND (FILL), fine grained, slightly consolidated, well graded, gray, dry	1.40
4	GW-SANDY GRAVEL (FILL), medium to coarse sand, fine grained, slightly consolidated, well graded, light brown, dry, glass pieces, plastic pieces	4.00
6	SM-SILTY SAND (FILL), fine grained, slightly consolidated, gray, dry	5.00
	SM-SILTY SAND (FILL), fine grained, trace coarse grained, slightly consolidated, well graded, light gray, wet	5.50
8	GM-SILTY GRAVEL, with medium to coarse sand, fine grained, slightly consolidated, well graded, orangish brown, moist	
10	- glass pieces at 9.2ft BGS	9.50
	GW-SAND GRAVEL (native), medium to coarse sand, fine to coarse grained, slightly consolidated, well graded, light brown, dry	
12	- broken rock at 10.5ft BGS	
14	- dark brown staining at 15.1ft BGS	
16	- light gray rock at 16.5ft BGS	
	- 0.2' light brown sand at 17.0ft BGS	
18	- light gray rock at 18.5ft BGS	
	- light gray rock at 19.5ft BGS	
20	END OF BOREHOLE @ 20.0ft BGS	20 00
22		
24		
26		
28		



WELL DETAILS
Screened interval:
10 50 to 11.50ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 9 00ft BGS
Material: BENTONITE GROUT
Sand Pack:
9.00 to 11.70ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		58		0 / 0
2DP		42		0 / 0
10.5-11.5 -049				
3DP		74		0 / 0
4DP		84		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

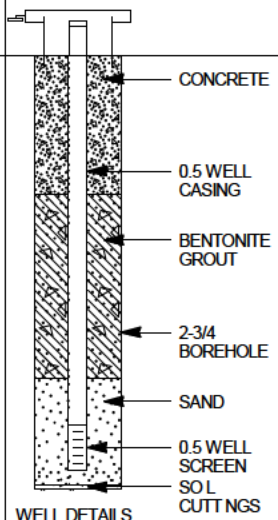
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-31-18
DATE COMPLETED: 19 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	ASPHALT	0.17
2	SW-SAND (FILL), foundry sand, loose, medium to coarse grained, some fine grained, well graded, black/dark gray, dry - red clay brick fragments at 1.0ft BGS - yellow/tan brick fragments from 1.7 to 1.9ft BGS	
4	- rust staining at 2.0ft BGS - fine grained, gray, moist from 2.4 to 2.6ft BGS - little coarse gravel pieces at 2.8ft BGS	
6	- little coarse gravel pieces at 4.7ft BGS - slag fragments at 5.3ft BGS	5.80 6.40
8	CL-CLAY (FILL), trace silt and fine sand, cohesive, low plasticity, dark brown, moist - fine gravel pieces at 6.0ft BGS	
10	SW-SAND (native), with fine gravel, loose, fine, medium and coarse grained, well graded, tan/off white, dry	
12		
14		
16		
18	GM-SILTY GRAVEL, fine grained, slightly cohesive, well graded, medium brown, dry	18 00
	SW-SAND, clean, loose, fine to medium grained, well graded, light brown/tan, dry	19 20
20	END OF BOREHOLE @ 20.0ft BGS	20 00
22		
24		
26		
28		

GAS PROBE



WELL DETAILS
Screened interval:
8.00 to 9 00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 7 00ft BGS
Material: BENTONITE GROUT
Sand Pack:
7.00 to 9 30ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		76		0 / 0
2DP		78		0 / 0
8-9' -056				
3DP		80		0 / 0
4DP		60		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

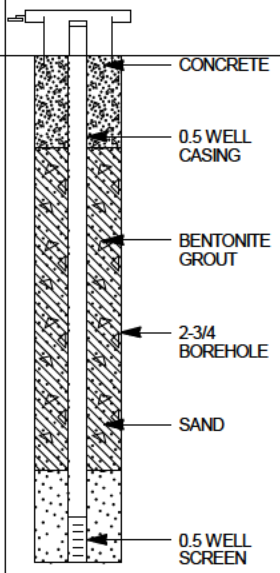
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-32-18
DATE COMPLETED: 10 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	GW-SANDY GRAVEL (FILL), few silt, loose, fine, medium and coarse sand, fine grained, well graded, dark gray/light brown, moist	1.00
2	SW-GRAVELLY SAND (FILL), few silt, fine gravel, fine, medium and coarse grained, slightly consolidated, well graded, dark gray/black, moist - 0.2' section light brown sand and coarse gravel at 1.8ft BGS	2.00
4	SW-SAND (FILL), with fine gravel, fine to medium grained, slightly consolidated, well graded, dark gray, dry - 0.2' dark brown at 3.0ft BGS - 0.1' dark brown at 4.7ft BGS - fine gravel pieces, slough at 5.1ft BGS	
6		
8	- yellowish/orange coarse gravel piece at 6.5ft BGS	8.00
	SM-SILTY SAND (FILL), fine to medium grained, slightly consolidated, well graded, light gray, dry	9.70
10	SW-SAND (FILL), loose, medium to coarse grained, well graded, light brown, dry	
12		
14	- coarse gravel pieces, glass, and white powder at 14.0ft BGS - increase in silt content, fine gravel pieces, yellowish orange at 14.7ft BGS	
16		
18		
	- tan at 18.9ft BGS	19 00
20	SW-SAND (FILL), with fine gravel, medium to coarse grained, slightly consolidated, well graded, light gray, dry	19 80 20 00
22	SW-GRAVELLY SAND (FILL), loose, fine gravel, medium to coarse grained, well graded, dark brown/orange, dry	
	END OF BOREHOLE @ 20.0ft BGS	
24		
26		
28		

GAS PROBE



WELL DETAILS
Screened interval:
10 00 to 11.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
2.00 to 9 00ft BGS
Material: BENTONITE GROUT
Sand Pack:
9.00 to 11.00ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
				2.2
1DP		70		0 / 0
2DP		66		0 / 0
10-11'-037				
3DP		20		0 / 0
4DP		32		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

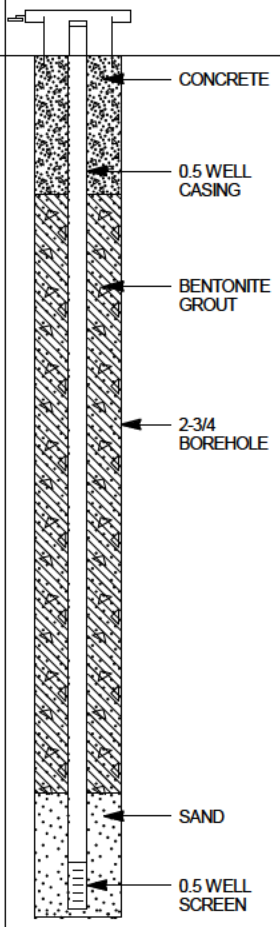
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-33-18
DATE COMPLETED: 22 January 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	SW-SAND (FILL), loose, fine to medium grained, well graded, dark brown, moist	1.00
2	SW-GRAVELLY SAND (FILL), with fine gravel, loose, medium to coarse grained, well graded, brown, dry	2.30
	SM-SILTY SAND (FILL), with fine gravel, slightly consolidated, well graded, dark brown, dry	3.60
4	SW-GRAVELLY SAND (FILL), medium to coarse grained, with fine grained, slightly consolidated, well graded, dark brown, dry - black cinders at 3.7ft BGS	
6	- yellowish brown staining at 4.3ft BGS	6.00
8	SM-SILTY SAND, foundry sand, fine grained, trace coarse grained, consolidated, well graded, light gray, dry	
10	- moist at 11.0ft BGS	
12	GW-SAND GRAVEL (FILL), loose, medium to coarse sand, fine grained, well graded, orangish brown, dry	12 00
14	CL-SANDY CLAY (FILL), fine sand, with medium sand, cohesive, slightly compact, brown, dry	14 00
16		
18	GW-SANDY GRAVEL (native), loose, medium to coarse sand, fine grained, well graded, light brown, dry	17 00
20	END OF BOREHOLE @ 20.0ft BGS	20 00
22		
24		
26		
28		

GAS PROBE



WELL DETAILS
Screened interval:
17 50 to 18.50ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
3.00 to 16.00ft BGS
Material: BENTONITE GROUT
Sand Pack:
16 00 to 18.70ft BGS
Material: #3 SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1DP		70		0 / 0
2DP		94		0 / 0
3DP		40		0 / 0
4DP 17.5-18.5 -078 NEG SUDAN IV		88		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

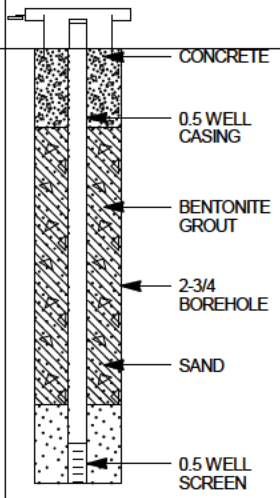
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP-34-18
DATE COMPLETED: July 31, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	TOPSOIL, silt, grass	0.50
2	SW/GW-SAND/GRAVEL (FILL), loose, fine sand, fine gravel, well graded, tan/off-white, dry	
4	SM-SILTY SAND (FILL) (foundry sand), slightly consolidated, fine grained, well graded, gray, dry	3.50 4.00 4.50
6	SW/GW-SAND/GRAVEL (FILL), loose, fine sand, fine gravel, well graded, tan/off-white, dry SW-SAND (FILL), loose, fine to medium grained, well graded, brown/dark gray, dry	
8	SM-SILTY SAND (FILL), consolidated, fine grained, dark brown, dry	7.50 9.00
10	SW/GW-SAND/GRAVEL (NATIVE), loose, medium to coarse sand, fine gravel, well graded, tan/light brown, dry	
12		
14		
16		
18		
20		
22	- wet at 22.3ft BGS	
24	END OF BOREHOLE @ 24.0ft BGS	24 00
26		
28		
30		
32		
34		

GAS PROBE



WELL DETAILS
Screened interval:
10 00 to 11.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFLON LINED POLYETHYLENE
Seal:
2.00 to 9 00ft BGS
Material: BENTONITE GROUT
Sand Pack:
9.00 to 11.00ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm) / RAD
1GP		75		0 / 0
2GP		40		0 / 0
3GP 10-11'		55		0 / 0
4GP		53		0 / 0
5GP		63		0 / 0
6GP NEG SUDAN IV		65		0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ∇
CHEMICAL ANALYSIS ◯

Attachment 2

Table 1

Soil Gas Probes - Field Parameters - March 2018
South Dayton Dump Landfill
Moraine, Ohio

	Field Parameters						
Location	**Pressure (in WC)**	**CO_2 % v/v**	**O_2 % v/v**	**LEL % v/v**	**Methane % v/v**	**H_2S (ppm)**	**VOC (ppm)**
GP01-18	-0 0211	7 3	0.0	>100	21.6	0	0.0
GP02-09	0.00368	11.4	0.0	>100	14.6	0	0.0
GP03-09	-0 00260	0 0	20.9	0	0.0	0	0.6
GP04-09	-0 00937	2 9	1.5	13	0.7	0	0.3
GP05-09	-0 00331	5 8	9.2	0	0.0	0	1.1
GP06-09	Could not be found (flushmount)						
GP07-09	Under a tire pile (flushmount)						
GP08-09	Could not be found (stick up)						
GP09-09	-0 00233	2 8	20.2	0	0.0	0	0.6
GP10-09[2]	0.00253	2 9	0.0	7	0.4	0	0.7
	0.00371	2 9	0.0	7	0.3	0	0.6
GP11-09	-0 00341	2 8	19.5	0	0.0	0	0.5
GP12-09	-0 0241	0.1	21	0	0.0	0	0.0
GP13-09	-0 0158	8 5	2.1	0	0.0	0	0.2
GP14-09	0.00243	1 2	18.3	0	0.0	0	0.5
GP15-09	-0 01462	5 3	14.6	0	0.0	0	0.9
GP16-09	-0 00976	5.4	0.0	50	2.5	0	0.4
GP17-09	Buried under asphalt						
GP18-09	Buried under asphalt						
GP19-18	-0 0494	8 5	0.3	63	3.2	0	4.8
GP20-18	-0 0272	8 3	4.1	0	0.0	0	3.0
GP21-09	-0 0572	Restricted pump flow on GEM2000+ and PID (valve open)					
GP22-13	-0 0393	9 8	0.0	0	0.0	0	0.2
GP23-13	-0 00476	5.4	14.9	0	0	0	0.1
GP24A-13	-0 00728	7 3	13.0	0	0.0	0	0.1
GP24B-13	-0 00069	3.7	17.8	0	0.0	0	0.0
GP25-18	-0 00585	5 2	0.6	58	2.9	0	0.0
GP26-18	-0 0301	7.7	0.0	51	2.5	0	3.3
GP27-18	0.00217	4.7	0.0	17	0.8	0	20.2
GP28-18	0.00323	3 8	0.0	>100	5.3	0	6.5
GP29-18	-0 0213	4.4	2.5	7	0.3	0	10.6
GP30-18	-0 00732	0 0	20.7	0	0.0	0	0.3
GP31-18	0.0152	0 5	19.7	0	0.0	0	2.0
GP32-18	0.01553	9 2	8.0	0	0.0	0	0.0
GP33-18	-0 0301	11.9	2.5	0	0.0	0	0.0
USEPA GP-1 North	-0.462	1.7	19.6	0	0.0	0	0.0
USEPA GP-1 Middle	-0 00342	0.6	20.7	0	0.0	0	0.0
USEPA GP-1 South	-0.431	No flow on GEM2000+; No flow PID					
USEPA GP-2	Excluded from Field Paramter Montoring						
USEPA GP-3 North	-0.00769	2 2	19.1	0	0	0	0.1
USEPA GP-3 SW	0.00512	1.1	19.6	0	0	0	0
USEPA GP-3 SE	0.00225	No flow on GEM2000+; No flow PID					
USEPA GP-4 North	-0.00813	2 5	17.7	0	0.0	0	0.1
USEPA GP-4 Middle	-0 00971	2.4	18.8	0	0.0	0	0.0
USEPA GP-4 South	-0.00778	2 2	19.2	0	0.0	0	0.0
USEPA GP-5 North	-1.115	4.7	15.6	0	0.0	0	0.0
USEPA GP-5 South	-0.00637	4.4	16.2	0	0.0	0	0.0
USEPA GP-6 North	-0.00475	3 2	17.5	0	0.0	0	0.0
USEPA GP-6 Middle	-0 00168	4 0	16.4	0	0.0	0	0.0
USEPA GP-6 South	-0 00316	5.1	14.4	0	0.0	0	0.0
USEPA GP-7	Could not be found						

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

CO_2	Carbon Dioxide
O^2	Oxygen
LEL	Lower Explosive Limit
H_2S	Hydrogen Sulfide
VOC	Volatile Organic Compounds
BTOR	Below Top of Riser
% v/v	Percent by Volume
in WC	Inches Water Column

3/22/2018
Barmoetric Pressure
29.48" Hg
Rel Pressure
-0000.08"
Weather
Clear, sunny, 34^0 F
Forecast
Sunny, 48º F

Table 2a

Soil Gas Probes - Field Parameters - August 2018
South Dayton Dump Landfill
Moraine, Ohio

	Field Parameters							
Location	**Pressure (in WC)**	**CO_2 % v/v**	**CO ppm**	**O_2 % v/v**	**LEL % v/v**	**Methane (Unfiltered) % v/v**	**H_2S (ppm)**	**VOC (ppm)**
GP01-18		16.4	0	0.0	>100	35.4	1	2.6
GP02-09		13.1	1	0.0	>100	14.8	8	0.0
GP03-09		6.4	0	11.5	0	0 0	0	0.0
GP04-09		5 5	1	0.2	5	0 2	0	0.0
GP05-09		10.2	1	7.3	0	0 0	0	0.0
GP06-09		4.7	77	13.8	3	0.1	0	36.4
GP07-18		14.3	57	0.0	>100	60.4	6	205.0
GP08-09	Insufficient gas flow. No readings.							
GP09-09		7 9	0	12.1	0	0 0	0	0.0
GP10-09		2 9	1	0.0	0	0 0	0	0.0
GP11-09		6.4	0	12.5	0	0 0	0	0.0
GP12-09		0 9	0	18.8	0	0 0	0	0.0
GP13-09		14.3	0	0.0	0	0 0	0	0.0
GP14-09		3 3	0	16.2	0	0 0	0	5.4
GP15-09		6 3	0	12.8	0	0 0	0	0.0
GP16-09		9.7	0	0.0	13	0.7	0	0.0
GP19-18		11.2	1	0.0	40	2 0	2	0.0
GP20-18		10.7	1	2.4	0	0 0	0	0.0
GP21-09		1 8	0	0.0	33	1.6	1	0.0
GP22-13		9 3	1	0.0	1	0 0	0	0.0
GP23-13		7 2	0	10.7	0	0 0	0	0.0
GP24A-13		11.8	0	5.5	0	0 0	0	0.0
GP24B-13		6.7	1	11.7	0	0 0	0	0.0
GP25-18		3 8	1	1.6	64	3 2	6	0.0
GP26-18		9.6	4	0.0	52	2.6	0	0.0
GP27-18		7.7	1	0.0	10	0 5	0	2.7
GP28-18		4 5	1	0.0	>100	7 0	2	0.0
GP29-18		5 0	1	0.0	1	0 0	0	0.0
GP30-18		0 0	0	20.0	0	0 0	0	0.0
GP31-18		0 9	0	18.9	0	0 0	0	0.0
GP32-18		17.0	0	0.2	4	0 2	0	0.1
GP33-18		13.1	0	1.0	0	0 0	0	0.0
GP34-18		10.2	0	6.3	0	0 0	0	0.0
USEPA GP-1 North		3.4	1	15.5	0	0 0	0	0.0
USEPA GP-1 Middle		2 3	1	16.9	0	0 0	0	0.0
USEPA GP-1 South	Insufficient gas flow. No readings.							
USEPA GP-2	Excluded from Field Paramters Montoring							
USEPA GP-3 North USEPA GP-3 SW USEPA GP-3 SE	Probe could not be located. No readings.							
USEPA GP-4 North		6.7	0	2.9	0	0 0	0	3.1
USEPA GP-4 Middle		6 8	0	2.5	0	0 0	0	2.9
USEPA GP-4 South		6.1	0	2.1	0	0 0	0	2.7
USEPA GP-5 North USEPA GP-5 South		4.7	0	12.8	0	0 0	0	2.7
USEPA GP-6 North		7 0	0	7.6	0	0 0	0	3.1
USEPA GP-6 Middle		7.6	0	6.7	0	0 0	0	2.9
USEPA GP-6 South		8.1	0	5.7	0	0 0	0	2.7
USEPA GP-7	Probe could not be located. No readings.							

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

CO_2	Carbon Dioxide
O^2	Oxygen
LEL	Lower Explosive Limit
H_2S	Hydrogen Sulfide
VOC	Volatile Organic Compounds
BTOR	Below Top of Riser
% v/v	Percent by Volume
in WC	Inches Water Column

8/24/2018
Barmoetric Pressure
29.34-29.38" Hg
Weather
Clear, 58^0 F
Forecast
Sunny, 81° F, possible afternoon rain

Table 2b

Soil Gas Probes - Field Parameters - September 2018
South Dayton Dump Landfill
Moraine, Ohio

	Field Parameters									
Location	**Pressure (in WC)**	**CO_2 % v/v**	**CO ppm**	**O_2 % v/v**	**LEL (Unfiltered) % v/v**	**LEL (Filtered) % v/v**	**Methane (Unfiltered) % v/v**	**Methane (Filtered) % v/v**	**H_2S (ppm)**	**VOC (ppm)**
GP01-18	0.0212	16.40	0	0.10	>100	>100	34.60	34.7	0	
GP02-09	0.01557	13.50	0	0.10	>100	>100	14.60	14.6	0	
GP03-09	0.00377									
GP04-09	0.0245									
GP05-09	0.00054 to -0.00231									
GP06-09	-0.00247									
GP07-18	-0.00289	14.70	36	0.00	>100/>100	6	39.4/39.3	0.30	0	
GP08-09	0.00011 to -0.00173									
GP09-09	0.00112									
GP10-09	-0.00073									
GP11-09	-0.00690									
GP12-09	-0.00594									
GP13-09	-0.00843									
GP14-09	-0.00326									
GP15-09	-0.00776									
GP16-09	-0.0240	11.30	0	0.00	28	28	1.40	1.40	0	
GP19-18	0.00805									
GP20-18	0.0143									
GP21-09	-0.00252	2.10	0	0.10	37	37	1.80	1.80	0	
GP22-13	0.00241									
GP23-13	-0.00285									
GP24A-13	-0.00408									
GP24B-13	-0.00619									
GP25-18	-0.00025 to 0.00029	3.70	0	1.60	64	61	3.20	3.00	0	
GP26-18	0.0207	10.10	0	0.00	41	40	2.00	2.00	0	
GP27-18	0.00130									
GP28-18	0.00625	4.80	0	0.10	97	96	4.70	4.60	0	
GP29-18	0.01073									
GP30-18	-0.00037									
GP31-18	-0.00707									
GP32-18	0.209									
GP33-18	-0.0146									
GP34-18	0.00442									
USEPA GP-1 North	0.00013 to -0.00133									
USEPA GP-1 Middle	-0.00356									
USEPA GP-1 South	-0.0212									
USEPA GP-2	Excluded from Field Paramter Montoring									
USEPA GP-3 North	-0.1407	5.20	0	11.30	0	n/a	0.00	n/a	0	
USEPA GP-3 SW	-0.00131	3.80	0	14.70	0	n/a	0.00	n/a	0	
USEPA GP-3 SE	0.00348 to -0.00257	Insufficient flow to collect readings								
USEPA GP-4 North	0.00245 to -0.00017									
USEPA GP-4 Middle	-0.422									
USEPA GP-4 South	-0.00352									
USEPA GP-5 North	0.00912									
USEPA GP-5 South										
USEPA GP-6 North	-0.00225									
USEPA GP-6 Middle	0.00046 to -0.00177									
USEPA GP-6 South	-0.00317									
USEPA GP-7 West	-0.00148	8.00	0	9.60	0	n/a	0.00	n/a	0	
USEPA GP-7 Middle	0.00022	8.20	0	9.90	0	n/a	0.00	n/a	0	
USEPA GP-7 East	-0.00078 to 0.00125	6.20	0	12.20	0	n/a	0.00	n/a	0	

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

9/4/18-9/5/18
Barmoetric Pressure
29.38-29.42" Hg

CO_2	Carbon Dioxide
O^2	Oxygen
LEL	Lower Explosive Limit
H_2S	Hydrogen Sulfide
VOC	Volatile Organic Compounds
BTOR	Below Top of Riser
% v/v	Percent by Volume
in WC	Inches Water Column

Table 3

Soil Gas Probes - Field Parameters - November 2018
South Dayton Dump Landfill
Moraine, Ohio

	Field Parameters									
Location	**Pressure (in WC)**	**CO_2 % v/v**	**CO ppm**	**O_2 % v/v**	**LEL (Unfiltered) % v/v**	**LEL (Filtered) % v/v**	**Methane (Unfiltered) % v/v**	**Methane (Filtered) % v/v**	**H_2S (ppm)**	**VOC (ppm)**
GP01-18	-0.00230	12.2	0	0.0	>100	>100	27.6	27.1	0	0.0
GP02-09	-0.0217	14.2	0	0.8	>100	>100	17.3	17.1	0	0.0
GP03-09	0.00314	Insufficient flow to collect readings, probe appear to be flooded								
GP04-09	-0.0120	0.0	0	21.4	3	14	0.1	0.7	0	0.0
GP05-09	0.00700	6.7	0	11.5	3	3	0.1	0.1	0	0.1
GP06-09	-0.00375	2.3	0	15.7	0	0	0.0	0.0	0	0.0
GP07-18	0.00562	13.4	5	0.0	>100	4	5.2	0.2	3	55.8
GP08-09	-0.00601	Insufficient flow to collect readings								
GP09-09	Inaccessible, covered by wood pile									
GP10-09	-0.01253	4.0	0	0.0	5	5	0.2	0.2	0	25.4
GP11-09	-0.00577	4.2	0	16.2	3	3	0.1	0.1	0	0.3
GP12-09	-0.00388	0.3	0	20.9	0	0	0.0	0.0	0	0.7
GP13-09	0.0215	12.2	0	1.6	0	0	0.0	0.0	0	0.0
GP14-09	0.00134	2.3	0	18.7	0	0	0.0	0.0	0	0.0
GP15-09	0.01163	7.4	0	11.5	0	0	0.0	0.0	0	0.0
GP16-09	0.0278	8.8	0	0.0	29	29	1.4	1.4	0	0.0
GP19-18	-0.0792	11.8	0	0.0	38	36	1.9	1.8	1	0.0
GP20-18	0.0247	13.8	0	0.5	0	0	0.0	0.0	0	0.0
GP21-09	0.01913	0.5	0	12.8	32	42	1.6	2.1	0	0.0
GP22-13	-0.0320	12.2	0	0.1	2	2	0.1	0.1	0	1.4
GP23-13	-0.00931	9.9	0	9.8	0	0	0.0	0.0	0	4.9
GP24A-13	-0.00320	13.9	0	6.2	0	0	0.0	0.0	0	4.6
GP24B-13	-0.013459	6.3	0	12.4	0	0	0.0	0.0	0	6.1
GP25-18	0.00000	4.9	0	2.3	95	95	4.7	4.7	4	0.0
GP26-18	-0.0167	10.2	0	1.1	82	80	4.1	4.0	0	0.0
GP27-18	0.00344	6.2	0	0.9	35	32	1.7	1.6	0	5.4
GP28-18	0.00881	5.4	0	0.9	>100	>100	6.5	6.0	1	0.6
GP29-18	-0.01813	5.9	0	1.9	6	6	0.3	0.3	0	1.0
GP30-18	0.00000	0.0	0	21.1	0	0	0.0	0.0	0	0.4
GP31-18	-0.00169	0.0	0	21.3	0	0	0.0	0.0	0	7.7
GP32-18	-0.01732	14.9	0	4.9	0	0	0.0	0.0	0	0.0
GP33-18	0.00124	15.2	0	0.4	0	0	0.0	0.0	0	0.0
GP34-18	-6.80	9.4	0	9.5	0	0	0.0	0.0	0	4.8
USEPA GP-1 North	-0.1290	Insufficient flow to collect readings								
USEPA GP-1 Middle	-0.0346	1.6	0	20.0	0	0	0.0	0.0	0	25.0
USEPA GP-1 South	-3.18	3.7	0	17.6	0	0	0.0	0.0	0	18.5
USEPA GP-2	Excluded from Field Paramter Montoring									
USEPA GP-3 North	-0.268	4.2	0	15.0	0	0	0.0	0.0	0	3.0
USEPA GP-3 SW	0.0788	2.2	0	18.5	0	0	0.0	0.0	0	3.8
USEPA GP-3 SE	-0.00453	Insufficient flow to collect readings								
USEPA GP-4 North	0.0141	5.8	0	10.4	0	0	0.0	0.0	0	0.0
USEPA GP-4 Middle	-0.540	6.1	0	11.0	0	0	0.0	0.0	0	0.0
USEPA GP-4 South	0.00098	6.1	0	10.3	0	0	0.0	0.0	0	0.0
USEPA GP-5 North	0.00284	6.8	0	7.7	0	0	0.0	0.0	0	0.0
USEPA GP-5 South	-0.00136	6.3	0	7.9	0	0	0.0	0.0	0	0.0
USEPA GP-6 North USEPA GP-6 Middle USEPA GP-6 South	Soil gas probe could not be found due to vegetation, snow and ice.									
USEPA GP-7 West	-0.00255	6.6	0	15.1	0	0	0.0	0.0	4.3	0.0
USEPA GP-7 Middle	-0.0073	4.3	0	17.5	0	0	0.0	0.0	0	5.2
USEPA GP-7 East	0.0198	4.3	0	17.4	0	0	0.0	0.0	0	6.2

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

11/12/18 - 11/14/18
Barmoetric Pressure
30.01"-30.55" Hg

CO_2	Carbon Dioxide
O^2	Oxygen
LEL	Lower Explosive Limit
H_2S	Hydrogen Sulfide
VOC	Volatile Organic Compounds
BTOR	Below Top of Riser
% v/v	Percent by Volume
in WC	Inches Water Column