Technical Memorandum

Date:	March 3, 2014, Revised March 27, 2014
To:	Joseph Kelly, Corrective Action Project Manager Remediation and Reuse Branch
From:	Graham Crockford, TRC Project Manager for Tecumseh Products Company
cc:	Susan Perdomo, USEPA Jason Smith, Tecumseh Products Company Douglas McClure, Conlin, McKenney & Philbrick, PC Chris DeWetter, Tecumseh Products Company Roger Jackson, Tecumseh Products Company Stacy Metz, TRC
Project No.:	004311.0001.0000, Phase 5
Subject:	Scope of Work to Accommodate the USEPA Comment Letter Dated January 31, 2014 Regarding the Human Exposure Environmental Indicator Report

Pursuant to Section VI of the above referenced Administrative Order on Consent (AOC) effective March 29, 2010, TRC Environmental Corporation (TRC), on behalf of the Respondent Tecumseh Products Company (TPC), submits this Scope of Work to Accommodate the USEPA Comment Letter Dated January 31, 2014 Regarding the Human Exposure Environmental Indicator Report (SOW).

USEPA provided a response to TPC's September 30, 2013 Supplement to the Human Exposures Under Control Environmental Indicator Report on January 31, 2014. This comment letter is 34 pages long including 21 pages of text. As outlined in the email sent by Jason Smith of TPC on February 12, 2014, TPC suggested that USEPA's requested workplan be deferred until after a project meeting to discuss USEPA's comments and come to consensus on how best to move forward. USEPA responded to that request on February 20, 2014, requesting the submittal of a scope of work prior to scheduling a meeting date. A Draft SOW was provided to USEPA in response to that request on March 3, 2014. On March 11, 2014, USEPA provided comments via email on the March 3, 2014 Draft SOW. This SOW has been prepared to accommodate those comments.

TPC and TRC wish to reiterate their request for a meeting with USEPA to discuss the work proposed and performed under the AOC. The parties are required to meet on at least a semi-annual basis for this purpose. Please propose a time and place for such a meeting.

Source Area Characterization

- Additional source area data -
  TPC intends to expand the passive soil gas (PSG) survey area to complete the lateral coverage over areas identified by USEPA. Existing PSG data are provided on Figure 1. TPC intends to expand the investigation area to cover the former drum storage areas, tank areas, areas adjacent to former railroad spurs where loading/unloading of materials may have occurred, and the area east/southeast of the southern portion of the building where a number of outbuildings and two hazardous waste storage areas were located. This area has been expanded as requested in the March 11, 2014 email to include a larger area northwest of NS-17. The PSG survey expansion areas are outlined on Figure 1. The previous and intended PSG survey data will provide USEPA's requested "high resolution" depiction of the lateral distribution of contaminants in soil and groundwater in the areas noted by USEPA.

- Additional vertical distribution of contaminants data -
  Subsequent to the expanded PSG survey and, to supplement the PSG survey data, a Geoprobe® equipped with a membrane interface probe (MIP) will be used to further delineate the vertical distribution of contaminants in the areas noted by USEPA. Each area identified by PSG data will be evaluated. MIP investigation areas (excluding any additional areas identified through the expanded PSG survey) are outlined on Figure 1.

  The results of the MIP investigation will be evaluated in the context of existing soil and groundwater data in order to select locations for confirmation sampling. These soil and groundwater sample data will be used to compare and calibrate MIP response data to analytical data.

- Additional on-site monitoring wells -
  The results of the MIP investigation and subsequent confirmation sampling will be used to evaluate the existing source area monitoring well network, and identify potential additional monitoring well locations, as appropriate to monitor and confirm plume stability.

  Until these source area investigation activities are complete, the groundwater monitoring location NS-18 (30-35') will be included in the groundwater monitoring program.

Contaminant Plume Characterization -

- Northeast portion of plume -
  TPC intends to conduct a Geoprobe® investigation to verify the distribution of contaminants migrating off-site to the northeast. The Geoprobe® investigation will include collection of

continuous soil samples for soil characterization with the Unified Soil Classification System (USCS) and collection of groundwater samples throughout the saturated zone. Investigation activities will be conducted in transects downgradient of the northern source area. The first transect will be in the right-of-way (ROW) along the northern perimeter of the site as illustrated on Figure 2. As requested in the email comments dated March 11, 2014, this transect will be extended further west. Additional transects will be completed further downgradient to further document and map the horizontal and vertical distribution of contaminants. Approximate transect locations are also illustrated on Figure 2. The actual size and location of downgradient transects will be adjusted, as appropriate, based on groundwater flow direction and the locations of the highest concentrations in the previous up gradient transect.

- East portion of plume -
  USEPA has requested high resolution site characterization (HRSC) in the area between B-49 and MW-20s/d. Eighteen investigation locations have already been completed through this 580-foot long area. Although the "high resolution site characterization" terminology has not been used to describe investigation activities in this area, contaminant migration and site geology through this area were identified well prior to installation of the permeable reactive barrier. However, to accommodate USEPA's apparent concern regarding off site migration east of the site, TPC has expanded the off-site Geoprobe® investigation to include a downgradient transect along Mohawk Street, as illustrated on Figure 2.

- Number of monitoring wells -
  The results of the source area and downgradient investigation will be used to evaluate the existing monitoring well network, and identify potential additional monitoring well locations, as appropriate, to monitor and confirm plume stability.

Human Exposures Under Control

- Residential soil gas screening levels (SGSLs) -
  As noted in the comments provided by USEPA on January 31, 2014, Joseph Kelly of USEPA previously had requested TPC to begin using Michigan Department of Environmental Quality (MDEQ) screening criteria for comparison with soil gas data. The MDEQ Vapor Intrusion Guidance, which was issued in May 2013, includes both sub-slab SGSLs and deep SGSLs. Deep SGSLs are applicable to samples collected 5 feet or more below ground surface. TRC notes that the AOC does not specifically require compliance with **State** ***guidance documents. However, all of the perimeter and off-site soil gas locations are screened a minimum of 5 feet below ground surface. Therefore soil gas data collected since that time were compared to the MDEQ Deep SGSLs. The letter provided on January 31, 2014 was the first notice from USEPA that TRC's application of MDEQ's 2013 VI Guidance is not in alignment with USEPA's apparent interpretation of that guidance.***

TPC would like to discuss the applicability of various soil gas screening levels during the required semi-annual meeting with USEPA. In the interim, TPC intends to compare soil gas data collected from residential areas to MDEQ Deep Soil Gas Screening Levels, and re-evaluate data in that context.

- Potential vapor intrusion around soil gas sample points SG-10, SG-11, SG-20 and further northeast -
  The email response from USEPA stated that TPC should conduct home specific evaluation due to the exceedences of soil gas screening criteria for TCE at soil gas sample points SG-10, SG-11 and SG-20. This comment is inconsistent with the previous discussions with USEPA with regard to the vapor intrusion pathway in this area, to allow for perimeter soil vapor extraction (SVE) system modifications and improvements prior to consideration of residential sampling.

  As stated above, TPC is evaluating an appropriate path forward, and welcomes a meeting with USEPA with regard to this issue. Subsurface investigation activities will be completed as described above. These data will be used to refine and update the conceptual site model. The location and number of existing soil gas sample points will then be evaluated so that adjustments may be made as necessary to verify that current human exposures are under control.

- Non-residential soil gas screening levels -
  In the March 11, 2014 response to the draft SOW, USEPA requested that TRC apply an attenuation factor of 0.03 when evaluating soil gas data collected near commercial buildings, and based on this attenuation factor USEPA asserted that additional soil gas samples must be collected near soil gas sample locations that exceed the SGSL calculated using this attenuation factor. The terms of the AOC do not support USEPA's position that a 0.03 attenuation factor is appropriate for non-residential slab-on-grade structures.

- Martin's Home Center Warehouse located on Maumee Street -
  A perimeter SVE system is under construction to mitigate lateral migration of affected soil gas from the site and to dilute soil gas under the Martin's Home Center building which may be affected by contaminated groundwater. System start-up was completed on March 7, 2014. TPC previously proposed to install and complete quarterly monitoring at four soil gas sample points around the perimeter of the Martin's Home Center warehouse building, subject to owner agreement. The locations of those proposed sample points are illustrated on Figure 3. However, as noted in the email from USEPA on March 11, 2014, the owner may not grant access.

  At a minimum, an access agreement would take time to negotiate. Vacuum monitoring points were installed along the site perimeter to help evaluate the flow performance of the perimeter SVE system. These vacuum monitoring points are constructed in a manner consistent with soil gas sample points. As an initial assessment of system performance, soil gas samples will be collected at perimeter vacuum monitoring points, TVP-S01s, TVP-S07s and TVP-S15s. These data will be compared to appropriate soil gas screening levels to determine if further on-site

sampling is appropriate. If on-site sampling is determined to be appropriate, TPC will proceed to engage with the adjacent property owner with regard to seeking access to install on-site soil gas sample locations as originally proposed.

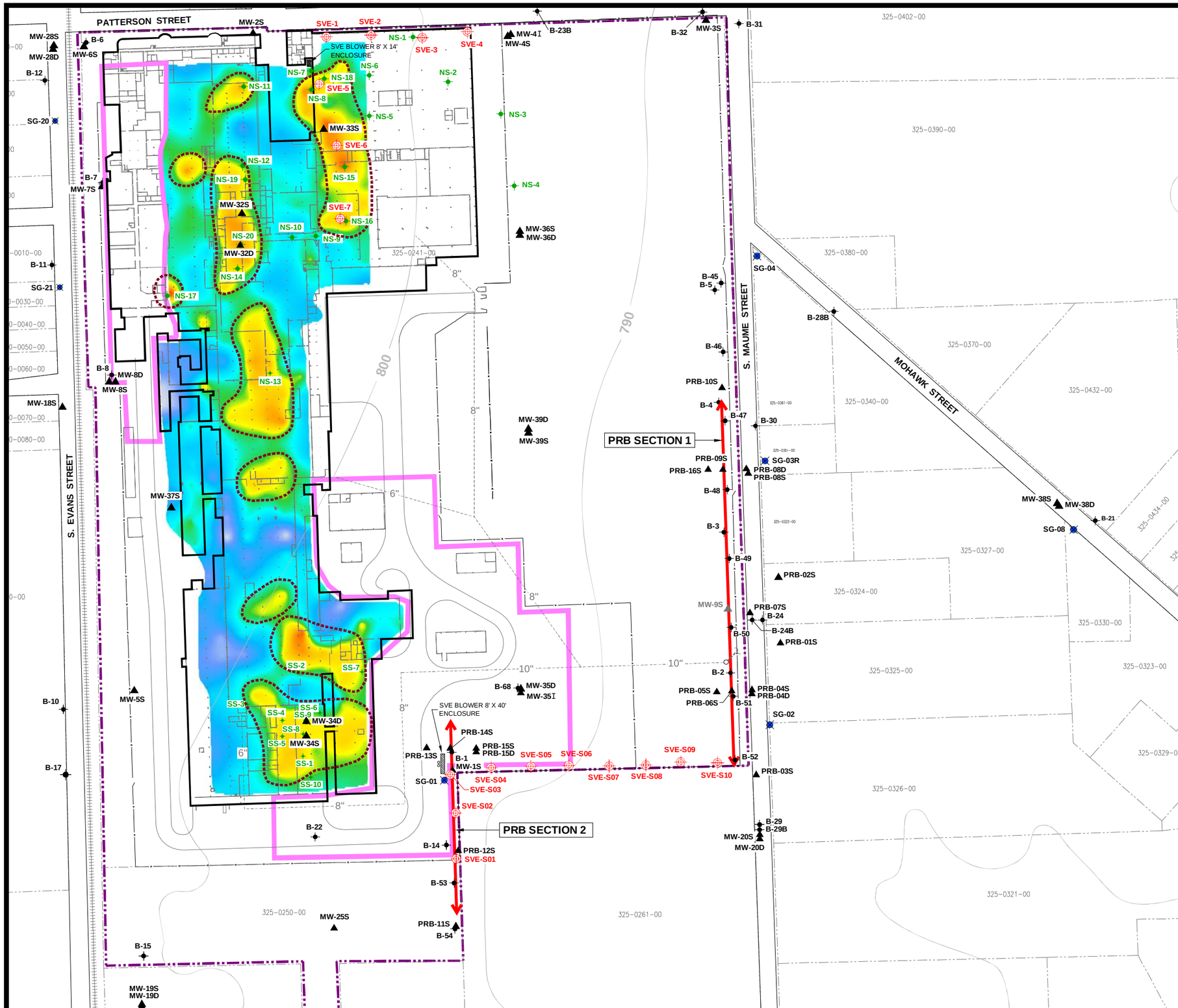
- Groundwater plume stability -
  Subsurface investigation activities will be completed as described above. These data will be used to verify plume stability pursuant to USEPA's Environmental Indicator Guidance and to further verify the adequacy of the area covered by the City of Tecumseh groundwater use ordinance.

- Data that has allegedly not been provided to USEPA –
  USEPA allegations that TPC has withheld data is both unprofessional and unjustified. TPC has consistently communicated in good faith, and has in fact been requested by USEPA to limit the number of submittals. As requested, analytical data are typically provided to USEPA with regular quarterly reports.

  - 2013 Passive Soil Gas Survey Data –
    The final report for passive soil gas survey data completed in 2013 was not received until February 2014. As such, TPC intended to provide these data to USEPA with the First Quarter 2014 Progress Report. The technical memorandum describing these investigation activities, and the finding thereof, is in progress. However, as requested, the analytical report has been included as Attachment 1.

  - Soil Borings B-55 through B-57 –
    These soil borings were conducted in response to USEPA comments during a conference call with M. Mullin and B. Sundar of USEPA on February 14, 2011 regarding the presence and thickness of perched groundwater and the intermediate clay layer northeast of the site. These boring were conducted solely to verify site geology; therefore no samples were collected for analysis. All data collected have been provided to USEPA and are documented in the boring logs for these locations. TRC makes every effort to prepare complete boring logs, if samples had been collected, as alleged by USEPA, that sample collection would be noted in the comments section of the boring log.

Figures



LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- B-54 — PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S — MONITORING WELL LOCATION AND NUMBER
- MW-9S — DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 — SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 — SOIL GAS SAMPLE LOCATION AND NUMBER
- 8" — PIPE DIAMETER AND APPROXIMATE LOCATION OF ON-SITE SANITARY SEWER
- PRB LOCATION
- FENCE LINE
- SVE-S04 — EXTRACTION WELL LOCATION AND NUMBER
- 800 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- PROPOSED PASSIVE GAS SURVEY AREA
- OUTLINE OF MEMBRANE INTERFACE PROBE INVESTIGATION AREAS

COLOR SCALE FOR RELATIVE RESPONSE FROM PASSIVE SOIL GAS SURVEY - TCE AND BREAKDOWN PRODUCTS

450
400
350
300
250
200
150
100
50
0

Color Scale (micrograms)

NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
2. GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S TOPOGRAPHIC QUADRANGLE MAP AND GROUND SURVEY DATA.

0 100 200 300 400
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APPD
3				
2				
1				

PROJ:
FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:
PROPOSED SOURCE AREA INVESTIGATION LOCATIONS

DRAWN BY: DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0001.05	
CHECKED BY: SEM		FILE NO. 004311.0001.06.01.dwg	
APPROVED BY: DM	DATE PRINTED:	FIGURE 1	
DATE: MARCH 2014			

TRC
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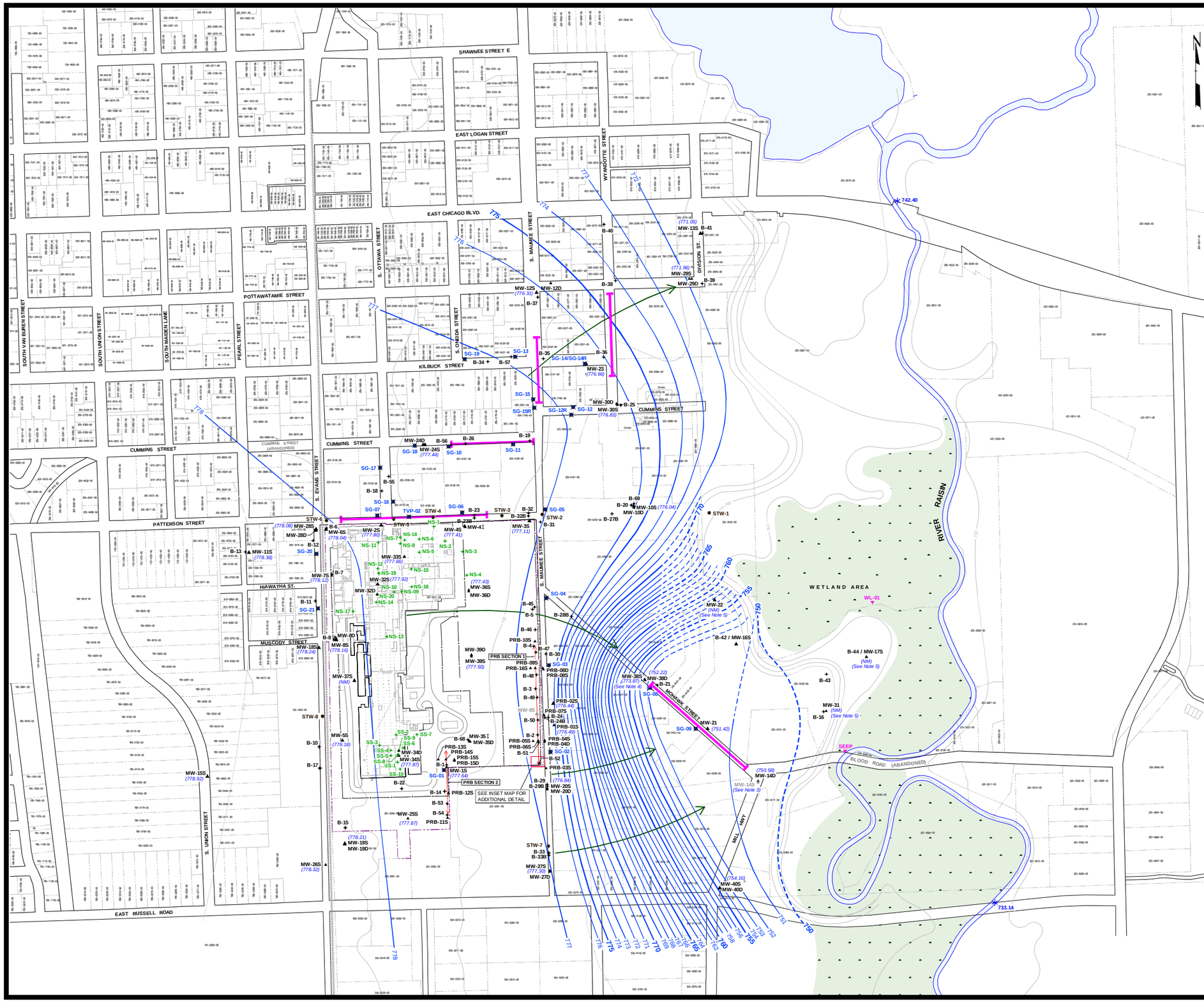
Fax: 734.971.9022

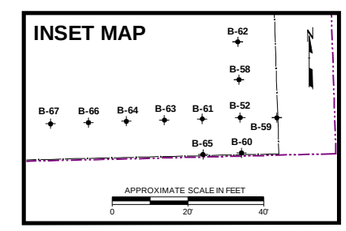


LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- RAILROAD TRACKS (APPROXIMATE LOCATION)
- 750 — APPROXIMATE GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
- B-2 — PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S — MONITORING WELL LOCATION AND NUMBER
- MW-9S — DECOMMISSIONED MONITORING WELL LOCATION AND NUMBER
- SS-2 — SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 — SOIL GAS SAMPLE LOCATION AND NUMBER
- 742.20 — SURFACE WATER ELEVATION REFERENCE POINT
- STW-2 — STORM WATER SEWER SAMPLE LOCATION AND NUMBER
- WL-01 — APPROXIMATE SURFACE WATER SAMPLE LOCATION
- FLOODPLAIN / WOODED WETLAND AREA
- PRB LOCATION
- FENCE LINE
- 770 — 5 FOOT GROUNDWATER CONTOUR LINE (NOVEMBER 2013)
- 771 — 1 FOOT GROUNDWATER CONTOUR LINE (NOVEMBER 2013)
- GROUNDWATER FLOW DIRECTION
- (780.26) — GROUNDWATER / SURFACE WATER ELEVATION (NOVEMBER 2013)
- APPROXIMATE LOCATIONS OF PROPOSED INVESTIGATION TRANSECTS

NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.
2. GROUND TOPOGRAPHY BASED OFF 7.5 MINUTE U.S.G.S TOPOGRAPHIC QUADRANGLE MAP AND GROUND SURVEY DATA.
3. THE GROUNDWATER ELEVATION MEASURED AT MW-14D WAS USED TO DEVELOP GROUNDWATER CONTOURS, BECAUSE MW-14D IS SCREENED IN THE DEEPER WATER BEARING UNIT WHICH IS HYDRAULICALLY CONNECTED TO THE SITE. MW-14S WAS SCREENED IN A DIFFERENT, PERCHED, WATER BEARING UNIT THAN THE OTHER SHALLOW MONITORING WELLS ON-SITE AND HAS SINCE BEEN ABANDONED.
4. DUE TO THE PRESENCE OF AN INTERMEDIATE CLAY LAYER UNDERLAIN BY A HIGHLY PERMEABLE SAND AND GRAVEL UNIT, THE AQUIFER IS BIFURCATED AT MONITORING WELL MW-38S/D. BOTH THE SHALLOW AND THE DEEP WELLS ARE HYDRAULICALLY CONNECTED TO THE SITE. THE WATER LEVEL IN THE DEEPER WELL, WHICH IS SCREENED IN THE HIGHER PERMEABILITY UNIT, WAS USED TO ILLUSTRATE GROUNDWATER CONTOURS AND HORIZONTAL GRADIENT ACROSS THIS AREA.
5. MONITORING WELLS MW-17S, MW-22 AND MW-31 ARE LOCATED ON PRIVATE PROPERTY. THE PROPERTY OWNER WOULD NOT ALLOW TECUMSEH PRODUCTS COMPANY OR ITS REPRESENTATIVE, TRC, ACCESS TO THE SITE DURING THIS SAMPLE EVENT. GROUNDWATER CONTOURS ARE INFERRED BASED ON MORE THAN 3 YEARS OF PREVIOUS GROUNDWATER ELEVATION DATA.



0 300' 600' 900' 1200'
APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APPD
3				
2				
1				

PROJ.: FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE: PROPOSED
OFF-SITE INVESTIGATION TRANSECT LOCATIONS

DRAWN BY: DGS	SCALE: AS INDICATED	PROJ. NO. 004311.0001.05	
CHECKED BY: SEM		FILE NO. 004311.0001.06.02.dwg	
APPROVED BY: GC	DATE PRINTED:	FIGURE 2	
DATE: MARCH 2014			

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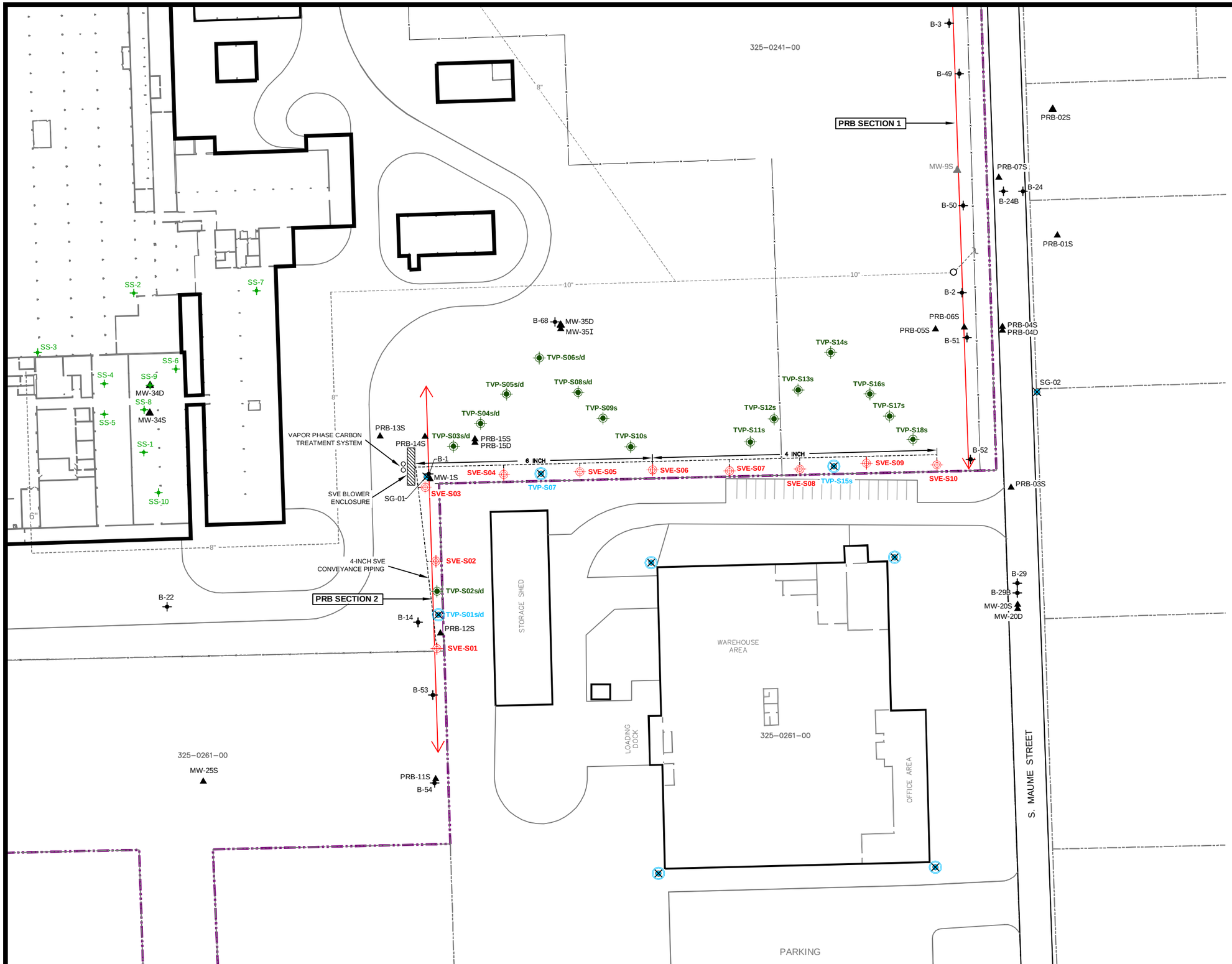
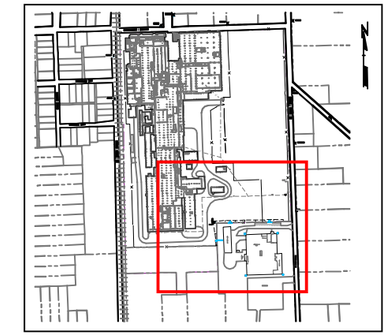


MAP AREA



LEGEND

- FORMER TECUMSEH PRODUCTS SITE BOUNDARY
- PARCEL BOUNDARY
- B-54 — PERIMETER / OFF-SITE INVESTIGATION SOIL BORING LOCATION AND NUMBER
- MW-4S — MONITORING WELL LOCATION AND NUMBER
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- SS-2 — SOURCE AREA INVESTIGATION BORING LOCATION AND NUMBER
- SG-02 — SOIL GAS SAMPLE LOCATION AND NUMBER
- 8" — PIPE DIAMETER AND APPROXIMATE LOCATION OF ON-SITE SANITARY SEWER
- PRB LOCATION
- FENCE LINE
- SVE-S04 — EXTRACTION WELL LOCATION
- TVP-S09 — VACUUM MONITORING POINT LOCATION
- SVE CONVEYANCE PIPING
- PROPOSED SOIL GAS SAMPLE LOCATION

NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY THE CITY OF TECUMSEH, DRAWING NO. CITY.DWG, MARCH 2009.

N

0 50 100 150 200

APPROXIMATE SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D
3				
2				
1				

PROJ:

FORMER TECUMSEH PRODUCTS SITE
TECUMSEH, MICHIGAN

TITLE:

PROPOSED MONITORING LOCATIONS FOR PERIMETER SOIL VAPOR EXTRACTION SYSTEM

DRAWN BY: DGS	SCALE: AS INDICATED	PROJ. NO.	004311.0001.05
CHECKED BY: SEM		FILE NO.	004311.0001.05.03.dwg
APPROVED BY: DM	DATE PRINTED:		FIGURE 3
DATE: MARCH 2014			

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PLOT DATA
Drawing Name: J:_TRC\Tecumseh Products\Tecumseh MI\004311\0001\05_SOV Plot Rev 1\004311.0001.05.03.dwg
Drawing Layout: FIGURE 3 (SOVMR
Drawing Plot Scale: 0.1000000

Attached Xrefs:
Attached Images:
Layout: FIG03 Prop Monitoring

Dwg Size: 8.50 kb
Plot Date: March 27, 2014
Plot Time: 3:00 PM

Attachment 1

TRC
1504 Eisenhower Place
Ann Arbor, MI 48108
Attn: Ms. Stacy Metz

Passive Soil Gas Survey – Analytical Report
Date: February 4, 2014

Beacon Project No. 2704

Project Reference:	Former Tecumseh Products, Tecumseh, MI
Samplers Installed:	July 1 and 2, and September 4 and 5, 2013
Samplers Retrieved:	July 8, and September 11, 2013
Samples Received:	July 10, and September 13, 2013
Analyses Completed:	July 20, and September 18, 2013
Laboratory Data Issued:	July 30, and September 26, 2013

EPA Method 8260C
All samples were successfully analyzed using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation to target a custom compound list following EPA Method 8260C. Laboratory results are reported in micrograms (µg) of specific compound per sample.

Laboratory QA/QC procedures included internal standards, surrogates, and blanks based on EPA Method 8260C. Analyses and reporting were in accordance with BEACON's Quality Assurance Project Plan.

Reporting limits
The reporting limit (RL) is 0.010 micrograms (µg) for vinyl chloride, 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene, trichloroethene, and tetrachloroethene; and 0.025 µg for the remaining individual compounds. **Table 1** provides survey results in micrograms per sampler by sample-point number and compound name for the July analytical results and **Table 2** for the September analytical results. For the six (6) compounds listed above, measurements below the limit of quantitation (0.010 µg) but above the limit of detection (0.005 µg) are flagged with a "J." The RLs represent a baseline above which results exceed laboratory-determined limits of precision and accuracy. Any field sample measurements above the upper calibration standard are estimated; however, these values are reported without qualifiers because all reported measurements are relative to each other and are appropriate to meet the survey objectives of locating source areas and vapor intrusion pathways and defining the lateral extent of contamination.

Calibration Verification
The continuing calibration verification (CCV) values for the calibration check compounds were all within ±20% of the true values as defined by the initial five-point calibration and met the requirements specified in Beacon Environmental's Quality Assurance Project Plan with the following exceptions. In the July analytical results, Freon 113 failed high in ccal/lcs 130718a; however, Freon 113 was not detected in the samples following that CCV. In addition, methylene chloride failed low in ccal/lcs 130718c1, which may result in under reporting of methylene chloride; otherwise, all data is reported with high confidence.

Method Blanks/Trip Blanks
Laboratory method blanks are run with each sample batch to identify contamination present in the laboratory. If contamination is detected on a method blank, measurements of identical compounds in that sample batch are flagged in the laboratory report. The laboratory method blanks analyzed in connection with the present samples revealed no contamination.

The trip blank is a sampler prepared, transported, and analyzed with other samples but intentionally not exposed. Any target compounds identified on the trip blanks are reported in the laboratory data. The analyses of the trip blanks (labeled Trip-1 through Trip-5 in **Table 1** and Trip-1 and Trip-2 in **Table 2**) reported 1,1,1-trichloroethane in Trip-1 (0.134 µg), Trip-3 (0.028 µg), and Trip-5 (0.050 µg) from the July analytical results (**Table 1**).

No other compounds were identified on the trip blanks, which suggests that except for the lower level measurements of these 1,1,1-trichloroethane from the July analytical results, the survey site itself is the source of detected compounds.

Passive Soil-Gas Survey Notes

When sample locations are covered with or near the edge of an artificial surface (*e.g.*, asphalt or concrete), the concentrations of compounds in soil gas are often significantly higher than the concentrations would be if the surfacing were not present. Thus, a reading taken below or near an impermeable surface is much higher than it would be in the absence of such a cap. Therefore, the sample location conditions should be evaluated when comparing results between locations.

Survey findings are exclusive to this project and when the spatial relationships are compared with results of other BEACON Surveys it is necessary to incorporate survey and site information from both investigations (*e.g.*, depth to sources, soil types, porosity, soil moisture, presence of impervious surfacing, sample collection times). BEACON recommends the guidelines stated in **Attachment 1** to establish a relationship between reported soil-gas measurements and actual subsurface contaminant concentrations, which will indicate those measurements representing significant subsurface contamination.

BEACON's passive soil-gas samplers are prepared with two sets of adsorbent cartridges for subsequent duplicate or confirmatory sample analysis. At TRC's request, duplicate analysis was performed for eleven (11) field samples. The field sample duplicates were designated with a "Dup" following the sample number. When comparing quantitative results, a duplicate correspondence should be considered when the relative percent difference (RPD) between the two samples is less than or equal to 100%. For the purpose of calculating correspondences, all non-detections should be assigned, as a baseline value, the CRQL for the specific contaminant. Based on these assumptions, a 100% correlation was found between the field sample duplicates and their base samples.

Project Details

Samplers were deployed on July 1 and 2, and September 4 and 5, 2013, and were retrieved on July 8, and September 11, 2013. **Attachment 2** describes standard field procedures. Individual deployment and retrieval times will be found in the Field Deployment Report (**Attachment 3**).

One hundred forty-one (141) field samples, eight (8) field sample duplicates, and five (5) trip blanks were received by BEACON on July 10, 2013; forty-nine (49) field samples, three (3) field sample duplicates and two (2) trip blanks were received on September 13, 2013. Adsorbent cartridges from the passive samplers were thermally desorbed, then analyzed using gas chromatography/mass spectrometry (GC/MS) equipment, in accordance with EPA Method 8260C, as described in **Attachment 4**. BEACON's laboratory analyzed each sample for the targeted compounds; analyses were completed on July 20, and September 18, 2013. Following a laboratory review, results were provided to TRC on July 30 (**Table 1**), and September 26, 2013 (**Table 2**). The Chain-of-Custody forms, which were shipped with the samples for these surveys, are supplied as **Attachment 5**.

Sample locations are shown on **Figure 1**. The following table lists frequency of detections based on the number of field samples analyzed in the 2013 investigations, the reporting limit, and the maximum value for each mapped compound. The table also includes the transformation and interpolation method for the compound distribution maps provided. The figures include results from an earlier PSG investigation ((Beacon Project 2333, report issued August 26, 2010) at this site, as well as the investigations in July 2013 and September 2013 (which are the subject of this report).

Figure No.	**2**	**3**	**4**
Compound	1,1,1-Trichloroethane	Trichloroethene	Trichloroethene and breakdown products
Frequency	186	190	190
Reporting Limit (micrograms)	0.025	0.010	0.010
Max Value (micrograms)	155.558	358.115	365.280
Transformation Method	Log	Log	Log
Interpolation Method	Kriging	Kriging	Kriging

Attachments:

- **-1-** Applying Results From Passive Soil-Gas Surveys
- **-2-** Field Procedures
- **-3-** Field Deployment Report
- **-4-** Laboratory Procedures
- **-5-** Chain-of-Custody Form

ALL DATA MEET REQUIREMENTS AS SPECIFIED IN THE BEACON ENVIRONMENTAL SERVICES, INC. QUALITY ASSURANCE PROJECT PLAN AND THE RESULTS RELATE ONLY TO THE SAMPLES REPORTED. BEACON ENVIRONMENTAL SERVICES IS ACCREDITED TO ISO 17025:2005, AND THE WORK PERFORMED WAS IN ACCORDANCE WITH ISO 17025 REQUIREMENTS, WITH THE EXCEPTION THAT SAMPLES WERE ANALYZED WITHIN A 24-HOUR TUNE WINDOW AND FREON 113 IS NOT INCLUDED IN BEACON'S SCOPE OF ACCREDITATION. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY. RELEASE OF THE DATA CONTAINED IN THIS HARDCOPY DATA PACKAGE HAS BEEN AUTHORIZED BY THE LABORATORY DIRECTOR OR HIS SIGNEE, AS VERIFIED BY THE FOLLOWING SIGNATURES:

Steven C. Thornley
Laboratory Director

Patti J. Riggs
Quality Manager

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	mb130718a	Trip-1	Trip-2	Trip-3	Trip-4	Trip-5
Project Number:		2704	2704	2704	2704	2704
Lab File ID:	A13071803	A13071806	A13071807	A13071808	A13071809	A13071810
Received Date:		7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	9:01	10:06	10:28	10:50	11:12	11:33
Matrix:						
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
cis-1,2-Dichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloroform	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	<0.025	**0.134**	<0.025	**0.028**	<0.025	**0.050**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	151	152	153	154	155	155 DUP
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071811	A13071812	A13071813	A13071814	A13071815	A13071816
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	11:55	12:17	12:38	13:00	13:22	13:44
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.506**	**0.577**	**0.383**	**0.795**	**0.049**	**0.081**
1,1-Dichloroethene	**0.059**	**0.454**	**0.027**	**0.015**	**0.231**	**0.053**
Methylene Chloride	**0.038**	<0.025	<0.025	<0.025	**0.028**	**0.037**
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.020**	<0.010	<0.010	<0.010	**0.007 J**	**0.008 J**
1,1-Dichloroethane	**0.027**	**0.027**	<0.025	<0.025	**0.032**	**0.044**
cis-1,2-Dichloroethene	**0.091**	**0.018**	<0.010	<0.010	**0.016**	**0.020**
Chloroform	**0.035**	**0.043**	<0.025	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**6.439**	**5.937**	**1.161**	**0.373**	**3.264**	**5.801**
Carbon Tetrachloride	**0.095**	**0.068**	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**23.680**	**19.590**	**4.497**	**0.266**	**3.563**	**5.197**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.093**	**0.110**	**0.090**	**0.008 J**	**0.006 J**	**0.008 J**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	156	157	158	159	160	160 DUP
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071817	A13071818	A13071819	A13071820	A13071821	A13071822
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	14:06	14:28	14:50	15:12	15:34	15:56
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**8.143**	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.069**	**0.064**	**1.128**	**0.085**	<0.025	<0.025
1,1-Dichloroethene	**2.920**	**0.186**	**1.619**	**0.052**	**1.170**	**1.024**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**2.458**	**0.030**	**0.041**	**0.015**	**0.274**	**0.260**
1,1-Dichloroethane	**0.135**	**0.043**	**0.088**	<0.025	**0.150**	**0.230**
cis-1,2-Dichloroethene	**34.234**	**0.219**	**0.188**	**0.044**	**1.461**	**1.360**
Chloroform	**0.174**	**0.078**	**0.138**	<0.025	**0.139**	**0.196**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**15.381**	**13.021**	**18.985**	**1.135**	**51.994**	**57.959**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**86.153**	**30.169**	**54.132**	**1.398**	**120.015**	**137.673**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.114**	**0.244**	**0.179**	**0.010 J**	**0.228**	**0.336**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	161	162	163	164	165	166
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071823	A13071824	A13071825	A13071906	A13071827	A13071828
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/19/2013	7/18/2013	7/18/2013
Analysis Time:	16:18	16:40	17:02	12:09	17:46	18:08
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	**0.018**	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.028**	<0.025	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	**1.433**	**1.405**	**0.972**	**0.649**	**2.265**	**0.638**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.117**	**0.171**	**1.041**	**0.957**	**2.009**	**0.854**
1,1-Dichloroethane	**0.074**	**0.066**	**0.466**	**0.992**	**1.053**	**0.192**
cis-1,2-Dichloroethene	**0.659**	**1.088**	**6.448**	**3.926**	**6.805**	**2.526**
Chloroform	**0.147**	**0.099**	**0.112**	**0.127**	**0.205**	**0.081**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**38.989**	**43.141**	**45.451**	**42.820**	**55.455**	**30.890**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**107.756**	**105.620**	**76.244**	**66.261**	**145.368**	**98.354**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.647**	**0.135**	**0.089**	**0.075**	**0.304**	**0.222**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	167	168	169	170	171	172
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071829	A13071830	A13071831	A13071832	A13071833	A13071834
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	18:30	18:52	19:14	19:36	19:57	20:19
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	**1.029**	**0.152**	**0.291**	**0.281**	**0.600**	**0.862**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.742**	**0.228**	**0.092**	**0.383**	**1.182**	**2.402**
1,1-Dichloroethane	**0.107**	<0.025	<0.025	**0.138**	**0.182**	**0.342**
cis-1,2-Dichloroethene	**2.577**	**0.555**	**0.269**	**2.200**	**3.714**	**7.423**
Chloroform	**0.112**	**0.077**	**0.033**	**0.097**	**0.130**	**0.074**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**11.639**	**4.956**	**3.166**	**11.555**	**37.010**	**42.600**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**76.455**	**63.179**	**55.205**	**79.549**	**161.949**	**132.952**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.056**	**0.092**	**0.163**	**0.170**	**0.457**	**0.579**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	173	174	175	176	177	178
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071835	A13071836	A13071837	A13071838	A13071839	A13071907
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/19/2013
Analysis Time:	20:41	21:03	21:25	21:47	22:08	12:31
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	**52.056**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	**1.027**	**0.954**	<0.025
1,1-Dichloroethene	**2.015**	**0.994**	**3.450**	**0.093**	**0.051**	**0.280**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**1.082**	**0.908**	**0.158**	<0.010	**0.016**	**3.446**
1,1-Dichloroethane	**0.925**	**0.381**	**0.098**	<0.025	**0.203**	**0.101**
cis-1,2-Dichloroethene	**5.001**	**4.463**	**0.718**	<0.010	**0.114**	**4.775**
Chloroform	**0.129**	**0.140**	**0.132**	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**41.741**	**45.117**	**41.844**	**6.900**	**0.879**	**0.050**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**89.403**	**141.536**	**128.749**	**4.186**	**1.420**	**0.524**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.156**	**0.284**	**0.224**	**0.048**	**0.015**	<0.010
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	179	180	181	182	183	183 DUP
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071908	A13071842	A13071843	A13071844	A13071845	A13071846
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/18/2013	7/18/2013	7/18/2013	7/19/2013	7/19/2013
Analysis Time:	12:53	23:12	23:34	23:56	0:17	0:40
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**2.509**	**0.019**	<0.010	<0.010	**0.038**	**0.018**
Trichlorofluoromethane (Freon 11)	<0.025	**0.060**	**0.051**	<0.025	**0.171**	**0.138**
1,1-Dichloroethene	**0.103**	**0.029**	**0.051**	**0.520**	**0.667**	**0.948**
Methylene Chloride	<0.025	<0.025	<0.025	**0.060**	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**2.064**	**0.962**	**0.029**	**0.362**	**0.195**	**0.207**
1,1-Dichloroethane	**0.037**	<0.025	**0.045**	**0.054**	**1.335**	**0.915**
cis-1,2-Dichloroethene	**7.515**	**1.759**	**0.156**	**1.425**	**1.182**	**1.172**
Chloroform	<0.025	<0.025	<0.025	**0.267**	**0.102**	**0.071**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**0.043**	**0.263**	**0.852**	**38.923**	**16.279**	**15.210**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**5.312**	**11.215**	**2.246**	**95.407**	**65.089**	**48.665**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	<0.010	**0.931**	**0.031**	**0.800**	**0.368**	**0.313**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	184	185	185 DUP	186	187	188
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071847	A13071848	A13071849	A13071850	A13071851	A13071852
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	1:01	1:23	1:45	2:06	2:28	2:49
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	**0.081**	<0.010	**0.043**	<0.010
Trichlorofluoromethane (Freon 11)	**0.433**	**0.028**	**0.027**	**0.059**	<0.025	<0.025
1,1-Dichloroethene	**0.328**	**9.995**	**10.235**	**0.032**	**3.861**	**0.694**
Methylene Chloride	<0.025	**0.055**	**0.056**	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.228**	**0.065**	**0.059**	<0.010	<0.010	**0.042**
1,1-Dichloroethane	**0.069**	**3.919**	**3.682**	**0.143**	**0.625**	**0.054**
cis-1,2-Dichloroethene	**0.540**	**0.103**	**0.111**	<0.010	**0.021**	**0.053**
Chloroform	**0.042**	**0.217**	**0.190**	<0.025	**0.207**	**0.729**
1,2-Dichloroethane	<0.025	**0.038**	**0.025**	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**5.361**	**143.408**	**132.153**	**1.359**	**122.529**	**43.273**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**34.838**	**32.927**	**28.324**	**0.084**	**20.544**	**64.200**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.599**	**0.127**	**0.168**	<0.010	**0.016**	**0.167**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	189	190	191	192	193	194
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071853	A13071854	A13071855	A13071856	A13071857	A13071858
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	3:11	3:32	3:54	4:16	4:38	5:00
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	**0.062**	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	**0.073**	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	**0.884**	<0.010	**0.010 J**	**0.420**	**0.170**	**0.031**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.027**	<0.010	<0.010	<0.010	**0.007 J**	<0.010
1,1-Dichloroethane	<0.025	<0.025	<0.025	**0.056**	**0.055**	<0.025
cis-1,2-Dichloroethene	**0.053**	<0.010	<0.010	**0.016**	**0.006 J**	<0.010
Chloroform	<0.025	<0.025	<0.025	**0.239**	**0.586**	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**23.224**	**0.173**	**0.190**	**25.251**	**14.977**	**1.450**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**84.138**	**0.662**	**0.426**	**35.330**	**13.424**	**1.156**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.992**	**0.018**	**0.013**	**0.234**	**0.041**	<0.010
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	195	mb130718c1	196	197	198	199
Project Number:	2704		2704	2704	2704	2704
Lab File ID:	A13071859	C13071803	C13071807	C13071808	C13071809	C13071810
Received Date:	7/10/2013		7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	5:22	11:35	13:04	13:27	13:49	14:11
Matrix:	Soil Gas		Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	**0.013**	**0.008 J**	<0.010	**0.011**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	**0.040**	**0.052**	**0.045**	<0.025
1,1-Dichloroethene	**0.225**	<0.010	**0.007 J**	**0.345**	**0.012**	**0.220**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethane	**0.036**	<0.025	<0.025	<0.025	<0.025	<0.025
cis-1,2-Dichloroethene	**0.008 J**	<0.010	<0.010	<0.010	<0.010	<0.010
Chloroform	**0.786**	<0.025	<0.025	<0.025	<0.025	**0.103**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**23.121**	<0.025	**0.149**	**11.858**	**1.189**	**7.875**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**31.666**	<0.010	**0.076**	**7.401**	**0.924**	**3.671**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.036**	<0.010	<0.010	**0.034**	<0.010	<0.010
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	200	201	202	203	204	204 DUP
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	C13071811	C13071812	C13071813	C13071814	C13071815	C13071816
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	14:33	14:55	15:17	15:40	16:03	16:25
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.079**	<0.010	<0.010	**0.036**	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	**0.027**	**0.168**	<0.025	**0.027**	<0.025
1,1-Dichloroethene	**4.343**	**0.590**	**0.067**	**0.332**	**0.308**	**0.193**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.037**	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethane	**1.405**	**0.049**	**0.047**	<0.025	**0.028**	<0.025
cis-1,2-Dichloroethene	**0.055**	<0.010	<0.010	<0.010	<0.010	**0.006 J**
Chloroform	**0.207**	**0.443**	<0.025	<0.025	**0.424**	**0.193**
1,2-Dichloroethane	**0.361**	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**120.343**	**26.584**	**6.058**	**2.691**	**17.334**	**12.556**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**21.661**	**23.771**	**3.988**	**13.581**	**28.224**	**23.193**
1,1,2-Trichloroethane	**0.078**	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.739**	**0.014**	<0.010	**0.040**	**0.082**	**0.089**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	205	206	207	208	209	210
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	C13071817	C13071818	C13071819	C13071820	C13071821	C13071822
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	16:47	17:10	17:32	17:54	18:17	18:39
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	**0.113**	**0.036**	<0.010	**0.094**
Trichlorofluoromethane (Freon 11)	**0.027**	<0.025	**0.029**	**0.130**	**0.180**	**0.026**
1,1-Dichloroethene	**0.375**	**2.495**	**4.371**	**1.160**	**0.139**	**7.526**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	**0.035**
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	<0.010	**0.022**	<0.010	**0.006 J**	**0.039**
1,1-Dichloroethane	**0.089**	**0.116**	**0.270**	**0.132**	**0.068**	**1.422**
cis-1,2-Dichloroethene	**0.023**	**0.128**	**0.050**	**0.019**	**0.060**	**0.172**
Chloroform	**0.436**	**0.578**	**1.236**	**0.966**	**0.109**	**0.231**
1,2-Dichloroethane	<0.025	**1.416**	<0.025	<0.025	<0.025	**0.068**
1,1,1-Trichloroethane	**55.861**	**123.712**	**75.201**	**69.938**	**13.839**	**131.297**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**63.539**	**127.144**	**104.745**	**68.796**	**13.917**	**80.820**
1,1,2-Trichloroethane	**0.036**	**0.159**	**0.276**	**0.141**	<0.025	**0.051**
Tetrachloroethene	**0.061**	**0.128**	**0.324**	**0.259**	**0.019**	**0.107**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	211	212	213	214	215	216
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	C13071823	C13071824	C13071825	C13071826	C13071827	C13071828
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	19:01	19:23	19:46	20:08	20:30	20:52
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	**0.062**	**0.070**	**0.136**	**0.131**	**0.141**
Trichlorofluoromethane (Freon 11)	**0.031**	<0.025	**0.395**	**0.093**	**0.038**	<0.025
1,1-Dichloroethene	**0.323**	**1.349**	**0.507**	**0.771**	**0.307**	**19.262**
Methylene Chloride	<0.025	<0.025	**0.029**	**0.044**	<0.025	**0.099**
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	**0.018**	**2.209**	**9.063**	**4.130**	**1.030**
1,1-Dichloroethane	<0.025	**0.053**	**0.629**	**1.416**	**1.216**	**18.685**
cis-1,2-Dichloroethene	<0.010	<0.010	**5.443**	**18.520**	**20.903**	**4.332**
Chloroform	**0.061**	**0.200**	**0.102**	**0.783**	**0.544**	**0.455**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	**1.101**
1,1,1-Trichloroethane	**24.449**	**52.662**	**58.560**	**111.926**	**78.342**	**155.558**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**12.340**	**20.045**	**73.803**	**165.520**	**228.935**	**113.041**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	**0.027**	<0.025	**0.059**
Tetrachloroethene	**0.058**	**0.211**	**1.047**	**0.606**	**0.608**	**0.793**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	217	218	219	220	221	223
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	C13071829	C13071830	C13071831	C13071832	C13071833	C13071834
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013
Analysis Time:	21:14	21:37	21:59	22:21	22:43	23:05
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.083**	**0.037**	**0.131**	**0.050**	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.365**	**0.054**	<0.025	<0.025	**0.096**	**0.179**
1,1-Dichloroethene	**0.746**	**6.072**	**3.453**	**4.648**	<0.010	<0.010
Methylene Chloride	**0.086**	**0.048**	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	**0.140**	**4.689**	**0.099**	<0.010	<0.010
1,1-Dichloroethane	**0.189**	**4.234**	**3.941**	**0.210**	<0.025	<0.025
cis-1,2-Dichloroethene	**0.026**	**1.257**	**44.926**	**0.931**	**0.044**	**0.019**
Chloroform	**0.029**	**0.125**	**0.102**	**0.125**	<0.025	<0.025
1,2-Dichloroethane	<0.025	**0.416**	<0.025	**0.028**	<0.025	<0.025
1,1,1-Trichloroethane	**56.740**	**123.937**	**96.788**	**133.441**	**0.556**	**0.683**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**3.211**	**42.558**	**50.101**	**142.982**	**1.070**	**10.102**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.020**	**0.904**	**4.530**	**35.418**	**0.040**	**0.015**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	**0.040**	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	224	225	226	227	228	229
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	C13071835	C13071836	C13071837	C13071838	C13071839	C13071840
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/18/2013	7/18/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	23:28	23:50	0:12	0:35	0:59	1:22
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.119**	**0.100**	**0.057**	**0.046**	**0.051**	**0.039**
1,1-Dichloroethene	**0.105**	**0.363**	<0.010	**0.126**	<0.010	<0.010
Methylene Chloride	**0.032**	<0.025	<0.025	**0.029**	**0.034**	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.020**	**0.131**	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethane	**0.060**	**0.135**	<0.025	**0.028**	<0.025	<0.025
cis-1,2-Dichloroethene	**0.179**	**0.988**	<0.010	**0.024**	**0.035**	<0.010
Chloroform	<0.025	**0.160**	<0.025	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**4.444**	**15.154**	**13.071**	**11.276**	**0.727**	**0.421**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**18.674**	**62.343**	**15.151**	**9.670**	**2.556**	**0.594**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.073**	**1.330**	**2.898**	**0.115**	**0.056**	**0.087**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	230	231	232	233	234	235
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	C13071841	C13071842	C13071843	C13071844	C13071845	C13071846
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	1:44	2:06	2:28	2:50	3:13	3:35
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	**0.510**	**0.020**	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.026**	**0.048**	<0.025	**0.038**	**0.100**	**0.111**
1,1-Dichloroethene	**0.229**	<0.010	<0.010	<0.010	**0.051**	<0.010
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	**0.052**	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.010**	<0.010	**0.049**	<0.010	<0.010	**0.350**
1,1-Dichloroethane	<0.025	<0.025	<0.025	**0.080**	<0.025	**0.025**
cis-1,2-Dichloroethene	**0.016**	<0.010	**1.118**	**0.125**	**0.029**	**1.189**
Chloroform	<0.025	<0.025	<0.025	<0.025	**0.036**	**0.351**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**10.198**	**1.213**	**0.119**	**0.087**	**1.655**	**2.404**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**20.124**	**1.466**	**7.036**	**0.343**	**8.687**	**46.909**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**2.397**	**0.073**	<0.010	**0.010 J**	**0.322**	**0.169**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	236	237	238	239	240	241
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	C13071847	C13071848	C13071849	C13071850	C13071851	C13071852
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	3:58	4:20	4:42	5:04	5:26	5:48
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.069**	**0.076**	**0.064**	**0.052**	**0.033**	<0.025
1,1-Dichloroethene	**0.041**	<0.010	**0.109**	**0.238**	**0.546**	**0.643**
Methylene Chloride	<0.025	**0.035**	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.079**	**0.026**	**0.427**	**0.029**	**0.026**	**0.035**
1,1-Dichloroethane	<0.025	<0.025	<0.025	**0.124**	**0.859**	**0.104**
cis-1,2-Dichloroethene	**0.237**	**0.039**	**0.572**	**0.118**	**0.128**	**0.179**
Chloroform	**0.033**	**0.084**	**0.110**	**0.102**	**0.043**	**0.054**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**1.441**	**0.773**	**3.966**	**31.398**	**41.433**	**29.281**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**7.713**	**9.994**	**43.771**	**35.768**	**34.445**	**65.914**
1,1,2-Trichloroethane	**0.087**	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.088**	**0.093**	**0.483**	**3.189**	**8.122**	**1.177**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	242	243	mb130719a	244	245	246
Project Number:	2704	2704		2704	2704	2704
Lab File ID:	C13071853	C13071854	A13071904	A13071909	A13071910	A13071911
Received Date:	7/10/2013	7/10/2013		7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	6:11	6:33	11:25	13:14	13:36	13:58
Matrix:	Soil Gas	Soil Gas		Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.035**	**0.063**	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	<0.010	<0.010	<0.010	**0.034**	**0.016**	**0.033**
Methylene Chloride	<0.025	**0.076**	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethane	**0.035**	<0.025	<0.025	<0.025	<0.025	<0.025
cis-1,2-Dichloroethene	<0.010	<0.010	<0.010	**0.006 J**	<0.010	<0.010
Chloroform	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**2.418**	**2.380**	<0.025	**3.931**	**1.059**	**6.097**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**7.467**	**1.218**	<0.010	**5.545**	**1.263**	**2.896**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.033**	**0.014**	<0.010	**0.058**	**0.016**	**0.027**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	247	248	249	250	251	252
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071912	A13071913	A13071914	A13071915	A13071916	A13071917
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	14:20	14:42	15:04	15:26	15:48	16:10
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	**0.025**	<0.025	<0.025	<0.025	**0.025**
1,1-Dichloroethene	**0.016**	**0.057**	**0.027**	**0.183**	**0.024**	**0.159**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	**0.040**
1,1-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	**0.658**
cis-1,2-Dichloroethene	<0.010	<0.010	<0.010	<0.010	<0.010	**0.260**
Chloroform	<0.025	<0.025	<0.025	<0.025	<0.025	**0.126**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**1.292**	**1.908**	**2.613**	**2.957**	**4.873**	**10.877**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**0.343**	**0.335**	**0.983**	**1.456**	**2.747**	**12.036**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.007 J**	**0.029**	**0.020**	**0.035**	**0.041**	**0.098**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	253	254	255	256	257	258
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071918	A13071919	A13071920	A13071921	A13071922	A13071923
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	16:32	16:54	17:16	17:38	18:00	18:22
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.051**	**0.154**	**0.040**	<0.025	<0.025	<0.025
1,1-Dichloroethene	**0.097**	**0.101**	**0.009 J**	**0.044**	**0.143**	**0.083**
Methylene Chloride	<0.025	<0.025	**0.038**	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	<0.010	**0.009 J**	**0.006 J**	<0.010	<0.010
1,1-Dichloroethane	**0.166**	<0.025	<0.025	<0.025	<0.025	<0.025
cis-1,2-Dichloroethene	**0.014**	<0.010	**0.037**	**0.008 J**	**0.006 J**	<0.010
Chloroform	**0.230**	**0.058**	<0.025	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**8.986**	**2.392**	**0.626**	**2.927**	**4.881**	**2.937**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**6.323**	**2.652**	**1.971**	**3.731**	**15.603**	**11.210**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.130**	**0.141**	**0.084**	**0.088**	**0.053**	**0.013**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	258 DUP	259	260	261	261 DUP	262
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071924	A13071925	A13071926	A13071927	A13071928	A13071929
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	18:44	19:06	19:28	19:50	20:11	20:33
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	**0.035**	**0.027**	**0.033**	**0.041**	**0.030**
1,1-Dichloroethene	**0.110**	**0.275**	**0.179**	**0.987**	**0.812**	**0.377**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	**0.010 J**	<0.010	**0.012**	**0.013**	**0.013**
1,1-Dichloroethane	<0.025	**0.280**	**0.298**	**0.519**	**0.755**	**0.044**
cis-1,2-Dichloroethene	<0.010	**0.022**	**0.026**	**0.023**	**0.024**	**0.037**
Chloroform	<0.025	**0.056**	**0.041**	**0.176**	**0.235**	**0.072**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**3.159**	**10.877**	**13.223**	**39.413**	**50.701**	**8.554**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**9.964**	**17.340**	**6.392**	**7.066**	**8.424**	**14.930**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.013**	**0.192**	**0.740**	**0.671**	**0.613**	**0.362**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	263	264	265	266	267	268
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071930	A13071931	A13071932	A13071933	A13071934	A13071935
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013	7/19/2013
Analysis Time:	20:55	21:16	21:38	22:00	22:21	22:43
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	**0.054**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	**0.028**	<0.025	<0.025	<0.025
1,1-Dichloroethene	**2.643**	**1.311**	**0.712**	**0.828**	**0.552**	**0.674**
Methylene Chloride	**0.097**	<0.025	<0.025	<0.025	**0.083**	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.021**	**0.018**	**0.009 J**	**0.013**	**0.006 J**	**0.013**
1,1-Dichloroethane	**0.193**	**0.105**	**0.093**	**0.106**	**0.046**	**0.368**
cis-1,2-Dichloroethene	**0.174**	**0.074**	**0.096**	**0.077**	**0.020**	**0.031**
Chloroform	**0.091**	**0.061**	**0.039**	**0.048**	**0.043**	**0.060**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**72.728**	**61.903**	**46.898**	**29.747**	**10.495**	**24.127**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**44.639**	**26.414**	**20.346**	**36.033**	**26.563**	**25.064**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**8.521**	**2.465**	**0.825**	**0.267**	**0.038**	**2.273**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	269	270	270 DUP	271	272	273
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071936	A13071937	A13071938	A13071939	A13071940	A13071941
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/19/2013	7/19/2013	7/19/2013	7/20/2013	7/20/2013	7/20/2013
Analysis Time:	23:05	23:27	23:49	0:11	0:33	0:54
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.048**	**0.028**	**0.099**	**0.044**	<0.010	**0.036**
Trichlorofluoromethane (Freon 11)	**0.038**	**0.029**	<0.025	**0.036**	<0.025	**0.039**
1,1-Dichloroethene	**0.901**	**1.769**	**1.375**	**0.037**	**6.435**	**5.481**
Methylene Chloride	<0.025	**0.036**	**0.035**	**0.034**	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.016**	**0.060**	**0.055**	<0.010	**0.129**	**0.096**
1,1-Dichloroethane	**0.172**	**0.801**	**0.458**	<0.025	**0.602**	**0.270**
cis-1,2-Dichloroethene	**0.042**	**0.445**	**0.420**	<0.010	**1.368**	**1.398**
Chloroform	**0.052**	**0.126**	**0.077**	<0.025	**0.259**	**0.263**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	**0.070**	**0.055**
1,1,1-Trichloroethane	**35.927**	**73.118**	**70.236**	**2.715**	**136.517**	**104.451**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**22.138**	**36.264**	**31.106**	**0.427**	**119.123**	**133.631**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**2.752**	**3.811**	**3.642**	**0.014**	**17.498**	**3.681**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	**0.054**	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	274	275	276	277	278	279
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071942	A13071943	A13071944	A13071945	A13071946	A13071947
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/20/2013	7/20/2013	7/20/2013	7/20/2013	7/20/2013	7/20/2013
Analysis Time:	1:16	1:38	2:00	2:22	2:44	3:06
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	**0.030**	**0.028**	**0.026**	<0.025	<0.025	<0.025
1,1-Dichloroethene	**5.651**	**1.963**	**0.419**	**0.179**	**0.430**	**1.681**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.069**	**0.105**	**0.022**	**0.021**	**0.013**	**0.026**
1,1-Dichloroethane	**0.272**	**0.091**	**0.095**	**0.080**	**0.063**	**0.074**
cis-1,2-Dichloroethene	**1.124**	**1.442**	**0.178**	**0.209**	**0.074**	**0.147**
Chloroform	**0.253**	**0.122**	**0.048**	**0.086**	**0.056**	**0.101**
1,2-Dichloroethane	**0.064**	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**114.683**	**91.061**	**9.702**	**12.319**	**9.601**	**47.285**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**134.087**	**167.614**	**38.289**	**60.403**	**37.316**	**95.755**
1,1,2-Trichloroethane	<0.025	**0.385**	**0.083**	**0.197**	<0.025	<0.025
Tetrachloroethene	**1.064**	**0.726**	**0.184**	**0.085**	**0.054**	**0.123**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	280	281	282	283	284	285
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071948	A13071949	A13071950	A13071951	A13071952	A13071953
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/20/2013	7/20/2013	7/20/2013	7/20/2013	7/20/2013	7/20/2013
Analysis Time:	3:28	3:49	4:11	4:33	4:55	5:16
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	**0.041**	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	**1.726**	**3.907**	**1.418**	**3.514**	**4.711**	**4.436**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.035**	**0.101**	**0.042**	**0.143**	**0.085**	**0.098**
1,1-Dichloroethane	**0.191**	**0.126**	**0.089**	**0.309**	**0.336**	**0.453**
cis-1,2-Dichloroethene	**0.491**	**1.155**	**0.319**	**1.881**	**0.942**	**0.643**
Chloroform	**0.262**	**0.215**	**0.092**	**0.295**	**0.395**	**0.590**
1,2-Dichloroethane	<0.025	**0.074**	<0.025	**0.060**	**0.050**	<0.025
1,1,1-Trichloroethane	**92.232**	**108.366**	**71.303**	**118.667**	**132.814**	**133.142**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**129.502**	**176.616**	**81.939**	**126.339**	**127.608**	**110.193**
1,1,2-Trichloroethane	**0.302**	<0.025	<0.025	**0.546**	<0.025	**0.257**
Tetrachloroethene	**0.135**	**0.954**	**0.379**	**1.800**	**1.179**	**1.632**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	286	287	288	289	290	291
Project Number:	2704	2704	2704	2704	2704	2704
Lab File ID:	A13071954	A13071955	A13071956	A13071957	A13071958	A13071959
Received Date:	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013	7/10/2013
Analysis Date:	7/20/2013	7/20/2013	7/20/2013	7/20/2013	7/20/2013	7/20/2013
Analysis Time:	5:38	6:00	6:22	6:44	7:06	7:28
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	**0.074**	**0.113**	<0.010	<0.010	**0.121**
Trichlorofluoromethane (Freon 11)	**0.027**	**0.026**	**0.047**	**0.035**	**0.042**	**0.039**
1,1-Dichloroethene	**2.025**	**0.424**	**1.193**	**0.217**	**0.151**	**1.158**
Methylene Chloride	**0.063**	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.106**	<0.010	**0.208**	**1.090**	**0.157**	**0.034**
1,1-Dichloroethane	**0.480**	**0.232**	**0.450**	**0.025**	**0.135**	**0.679**
cis-1,2-Dichloroethene	**0.527**	**0.019**	**0.900**	**5.857**	**0.495**	**0.053**
Chloroform	**0.430**	<0.025	**0.283**	**0.144**	**0.243**	**0.437**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	**0.071**
1,1,1-Trichloroethane	**101.571**	**5.392**	**60.440**	**10.334**	**25.172**	**128.934**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**68.055**	**2.271**	**78.309**	**358.115**	**31.150**	**78.194**
1,1,2-Trichloroethane	**0.328**	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**1.787**	**0.100**	**0.406**	**0.075**	**0.018**	**0.366**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 1

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	292
Project Number:	2704
Lab File ID:	A13071960
Received Date:	7/10/2013
Analysis Date:	7/20/2013
Analysis Time:	7:50
Matrix:	Soil Gas
Units:	ug

COMPOUNDS	
Vinyl Chloride	<0.010
Trichlorofluoromethane (Freon 11)	<0.025
1,1-Dichloroethene	**0.323**
Methylene Chloride	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025
trans-1,2-Dichloroethene	**0.022**
1,1-Dichloroethane	**0.046**
cis-1,2-Dichloroethene	**0.107**
Chloroform	<0.025
1,2-Dichloroethane	<0.025
1,1,1-Trichloroethane	**6.815**
Carbon Tetrachloride	<0.025
Trichloroethene	**7.965**
1,1,2-Trichloroethane	<0.025
Tetrachloroethene	**0.010 J**
1,1,1,2-Tetrachloroethane	<0.025
Chlorobenzene	<0.025
1,1,2,2-Tetrachloroethane	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	mb130917c	Trip-1	Trip-2	293	294	295
Project Number:		2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	C13091703	C13091718	C13091719	C13091720	C13091721	C13091722
Received Date:		9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013
Analysis Time:	11:07	16:42	17:04	17:26	17:49	18:11
Matrix:				Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	**0.024**	**0.018**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	**0.068**	<0.025	<0.025
1,1-Dichloroethene	<0.010	<0.010	<0.010	**0.051**	**1.980**	**1.450**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	<0.010	<0.010	<0.010	**0.050**	**0.063**	**0.036**
1,1-Dichloroethane	<0.025	<0.025	<0.025	<0.025	**0.751**	**0.136**
cis-1,2-Dichloroethene	<0.010	<0.010	<0.010	**0.062**	**0.384**	**0.150**
Chloroform	<0.025	<0.025	<0.025	**0.110**	**0.051**	**0.049**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	<0.025	<0.025	<0.025	**0.967**	**48.363**	**27.574**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	<0.010	<0.010	<0.010	**21.159**	**88.267**	**45.395**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	<0.010	<0.010	<0.010	**0.154**	**25.979**	**0.875**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	296	297	298	299	300	301
Project Number:	2704.2	2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	C13091723	C13091724	C13091725	C13091726	C13091727	C13091728
Received Date:	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013
Analysis Time:	18:33	18:56	19:22	19:44	20:06	20:28
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.011**	**0.021**	<0.010	**0.032**	**0.044**	**0.011**
Trichlorofluoromethane (Freon 11)	<0.025	**0.038**	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	**1.159**	**1.506**	**0.693**	**2.434**	**5.526**	**1.416**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.202**	<0.010	<0.010	**0.026**	**0.092**	**0.125**
1,1-Dichloroethane	**0.063**	**0.047**	**0.124**	**0.083**	**0.120**	**0.059**
cis-1,2-Dichloroethene	**1.274**	**0.008 J**	**0.012**	**0.151**	**0.246**	**0.632**
Chloroform	**0.048**	<0.025	**0.028**	**0.086**	**0.154**	**0.079**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**9.950**	**20.814**	**6.562**	**41.935**	**49.701**	**34.209**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**78.995**	**16.917**	**13.470**	**126.830**	**162.315**	**90.107**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	**0.131**	**0.092**	**0.050**
Tetrachloroethene	**3.995**	**3.468**	**0.261**	**0.904**	**0.334**	**0.739**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	302	303	304	305	306	307
Project Number:	2704.2	2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	C13091729	C13091730	C13091731	C13091732	C13091733	C13091734
Received Date:	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013
Analysis Time:	20:51	21:14	21:36	21:58	22:20	22:43
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.067**	**0.068**	**0.126**	**0.074**	**0.034**	**0.092**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	**0.037**	**0.100**	**0.055**	**0.027**
1,1-Dichloroethene	**4.259**	**4.612**	**1.668**	**0.949**	**0.366**	**3.989**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.168**	**0.217**	**0.185**	<0.010	**0.012**	**0.089**
1,1-Dichloroethane	**0.585**	**1.553**	**0.207**	**0.069**	**0.030**	**2.591**
cis-1,2-Dichloroethene	**0.371**	**1.148**	**1.005**	<0.010	<0.010	**0.238**
Chloroform	**0.146**	**0.393**	**0.040**	**0.025**	<0.025	**0.200**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**42.943**	**92.073**	**9.449**	**8.306**	**2.471**	**33.780**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**74.346**	**125.734**	**57.548**	**8.001**	**10.859**	**44.474**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.055**	**0.380**	**1.124**	**0.016**	**0.020**	**0.043**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	308	309	310	311	312	312 DUP
Project Number:	2704.2	2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	C13091735	C13091736	C13091737	C13091738	C13091739	C13091740
Received Date:	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/17/2013	9/17/2013	9/17/2013	9/18/2013	9/18/2013	9/18/2013
Analysis Time:	23:06	23:28	23:50	0:12	0:35	0:57
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.019**	**0.031**	**0.075**	**0.009 J**	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	**0.082**	**0.029**	**0.036**
1,1-Dichloroethene	**2.165**	**0.977**	**2.438**	**0.249**	**0.258**	**0.247**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.092**	**1.301**	**0.424**	**0.009 J**	<0.010	<0.010
1,1-Dichloroethane	**0.721**	**5.261**	**2.136**	<0.025	<0.025	<0.025
cis-1,2-Dichloroethene	**0.147**	**3.892**	**1.549**	<0.010	<0.010	<0.010
Chloroform	**0.089**	**0.340**	**0.153**	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**36.284**	**72.118**	**81.498**	**2.887**	**2.375**	**2.723**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**48.499**	**247.031**	**205.482**	**8.539**	**15.132**	**12.689**
1,1,2-Trichloroethane	<0.025	**0.028**	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.092**	**0.188**	**0.094**	**0.016**	**0.256**	**0.114**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	313	314	315	316	317	318
Project Number:	2704.2	2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	C13091741	C13091742	C13091743	C13091744	C13091745	C13091746
Received Date:	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/18/2013	9/18/2013	9/18/2013	9/18/2013	9/18/2013	9/18/2013
Analysis Time:	1:19	1:41	2:04	2:26	2:48	3:11
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.020**	**0.021**	**0.029**	<0.010	**0.010 J**	**0.008 J**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	**0.058**	<0.025	<0.025	<0.025
1,1-Dichloroethene	**1.017**	**1.969**	**1.743**	**0.269**	**0.541**	**0.578**
Methylene Chloride	**0.037**	<0.025	<0.025	<0.025	**0.054**	**0.091**
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.087**	**0.041**	**0.030**	**0.052**	**0.363**	**0.323**
1,1-Dichloroethane	**0.529**	**0.056**	**0.047**	**0.037**	**0.215**	**0.150**
cis-1,2-Dichloroethene	**0.215**	**0.018**	**0.009 J**	**0.441**	**3.164**	**0.900**
Chloroform	**0.264**	**0.112**	**0.051**	**0.051**	**0.107**	**0.065**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**80.716**	**53.119**	**38.801**	**21.139**	**37.489**	**20.438**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**136.079**	**128.433**	**80.106**	**91.431**	**178.667**	**160.301**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	**0.037**	<0.025	<0.025
Tetrachloroethene	**0.164**	**0.354**	**0.178**	**0.192**	**0.091**	**0.157**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	319	320	321	322	323	324
Project Number:	2704.2	2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	C13091747	C13091748	C13091749	C13091750	C13091751	C13091752
Received Date:	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/18/2013	9/18/2013	9/18/2013	9/18/2013	9/18/2013	9/18/2013
Analysis Time:	3:33	3:55	4:17	4:39	5:02	5:24
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	**0.105**	<0.010	**0.015**	<0.010	**0.021**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	**0.055**	**0.053**	**0.038**
1,1-Dichloroethene	**0.459**	**1.537**	**0.643**	**0.341**	<0.010	**0.644**
Methylene Chloride	<0.025	<0.025	**0.078**	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.152**	**0.168**	**0.177**	**0.024**	<0.010	**0.025**
1,1-Dichloroethane	**0.186**	**0.154**	**0.146**	**0.025**	<0.025	**0.662**
cis-1,2-Dichloroethene	**1.049**	**1.918**	**6.614**	**0.055**	**0.031**	**0.388**
Chloroform	**0.124**	**0.055**	**0.146**	**0.029**	<0.025	**0.077**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**4.597**	**10.164**	**36.068**	**3.938**	**0.146**	**9.848**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**97.417**	**130.581**	**176.594**	**42.266**	**2.023**	**48.102**
1,1,2-Trichloroethane	<0.025	<0.025	**0.361**	<0.025	<0.025	<0.025
Tetrachloroethene	**0.194**	**0.080**	**0.491**	**0.834**	**0.044**	**0.296**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	325	326	mb130917a	327	327 DUP	328
Project Number:	2704.2	2704.2		2704.2	2704.2	2704.2
Lab File ID:	C13091753	C13091754	A13091703	A13091705	A13091706	A13091707
Received Date:	9/13/2013	9/13/2013		9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/18/2013	9/18/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013
Analysis Time:	5:46	6:09	11:27	12:20	12:47	13:14
Matrix:	Soil Gas	Soil Gas		Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	**0.024**	**0.038**	<0.010	**0.015**	**0.012**	**0.013**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	<0.025	**0.030**	<0.025
1,1-Dichloroethene	**0.914**	**0.995**	<0.010	**0.063**	**0.057**	**0.165**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.091**	**0.079**	<0.010	**0.589**	**0.510**	**0.208**
1,1-Dichloroethane	**0.084**	**0.322**	<0.025	<0.025	<0.025	**0.028**
cis-1,2-Dichloroethene	**1.330**	**1.471**	<0.010	**2.919**	**2.846**	**4.358**
Chloroform	**0.075**	**0.126**	<0.025	**0.051**	**0.109**	**0.041**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**25.164**	**22.005**	<0.025	**0.589**	**0.990**	**7.009**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**191.636**	**156.760**	<0.010	**153.962**	**205.888**	**245.348**
1,1,2-Trichloroethane	<0.025	**0.081**	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**2.407**	**0.945**	<0.010	**62.525**	**64.200**	**1.543**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	329	330	331	332	333	334
Project Number:	2704.2	2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	A13091708	A13091709	A13091710	A13091711	A13091712	A13091713
Received Date:	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013
Analysis Time:	13:40	14:07	14:33	15:00	15:26	15:53
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	<0.010	<0.010	<0.010	**0.021**	**0.010**
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1-Dichloroethene	**0.008 J**	<0.010	<0.010	<0.010	**0.168**	**0.078**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.008 J**	<0.010	<0.010	<0.010	<0.010	<0.010
1,1-Dichloroethane	<0.025	<0.025	<0.025	<0.025	**1.762**	**0.283**
cis-1,2-Dichloroethene	**0.062**	<0.010	<0.010	<0.010	<0.010	**0.025**
Chloroform	<0.025	<0.025	<0.025	<0.025	<0.025	**0.057**
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	<0.025	<0.025	<0.025	<0.025	**5.857**	**4.356**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**9.195**	**0.120**	**0.149**	**1.823**	**0.189**	**2.046**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**1.427**	**0.042**	**0.026**	**0.091**	**0.075**	**1.014**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	**0.031**
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	335	336	337	338	339	339 DUP
Project Number:	2704.2	2704.2	2704.2	2704.2	2704.2	2704.2
Lab File ID:	A13091714	A13091715	A13091716	A13091717	A13091718	A13091719
Received Date:	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013	9/13/2013
Analysis Date:	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013
Analysis Time:	16:20	16:47	17:13	17:40	18:06	18:33
Matrix:	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
Units:	ug	ug	ug	ug	ug	ug
COMPOUNDS						
Vinyl Chloride	<0.010	**0.059**	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	<0.025	<0.025	<0.025	**0.027**	<0.025
1,1-Dichloroethene	**0.023**	**0.134**	**0.027**	**0.042**	**0.012**	**0.011**
Methylene Chloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
trans-1,2-Dichloroethene	**0.008 J**	**0.072**	**0.011**	**0.027**	**0.033**	**0.025**
1,1-Dichloroethane	<0.025	**0.029**	<0.025	<0.025	<0.025	<0.025
cis-1,2-Dichloroethene	**0.011**	**0.529**	**0.057**	**0.167**	**0.263**	**0.233**
Chloroform	<0.025	**0.044**	<0.025	<0.025	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,1-Trichloroethane	**0.280**	**1.474**	**0.509**	**0.423**	**0.056**	**0.043**
Carbon Tetrachloride	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Trichloroethene	**11.911**	**37.456**	**10.192**	**10.042**	**7.316**	**5.574**
1,1,2-Trichloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Tetrachloroethene	**0.878**	**0.215**	**0.114**	**0.066**	**0.044**	**0.021**
1,1,1,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Chlorobenzene	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.

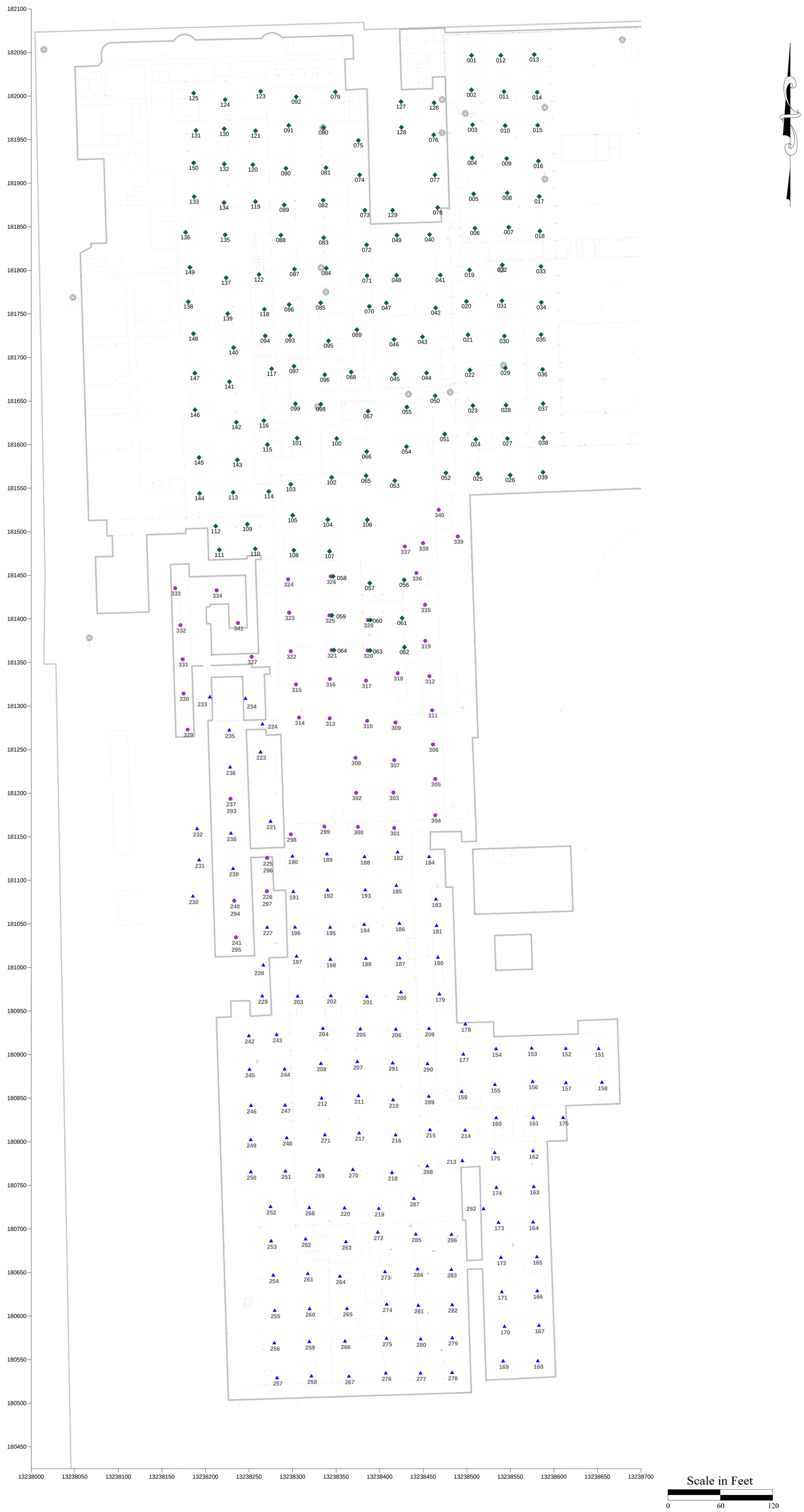
Table 2

Beacon Environmental Services, Inc.
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA

Analysis by EPA Method 8260C

Client Sample ID:	340	341
Project Number:	2704.2	2704.2
Lab File ID:	A13091720	A13091721
Received Date:	9/13/2013	9/13/2013
Analysis Date:	9/17/2013	9/17/2013
Analysis Time:	19:00	19:26
Matrix:	Soil Gas	Soil Gas
Units:	ug	ug
COMPOUNDS		
Vinyl Chloride	<0.010	<0.010
Trichlorofluoromethane (Freon 11)	<0.025	<0.025
1,1-Dichloroethene	**0.019**	**0.051**
Methylene Chloride	<0.025	<0.025
1,1,2-Trichlorotrifluoroethane (Fr.113)	<0.025	<0.025
trans-1,2-Dichloroethene	**0.007 J**	<0.010
1,1-Dichloroethane	<0.025	<0.025
cis-1,2-Dichloroethene	**0.024**	<0.010
Chloroform	<0.025	<0.025
1,2-Dichloroethane	<0.025	<0.025
1,1,1-Trichloroethane	**0.170**	**0.384**
Carbon Tetrachloride	<0.025	<0.025
Trichloroethene	**7.035**	**0.930**
1,1,2-Trichloroethane	<0.025	<0.025
Tetrachloroethene	**0.221**	**0.350**
1,1,1,2-Tetrachloroethane	<0.025	<0.025
Chlorobenzene	<0.025	<0.025
1,1,2,2-Tetrachloroethane	<0.025	<0.025

Results in micrograms (ug). J = Values below limit of quantitation (LOQ) but above limit of detection (LOD). B = Detected in method blank.



LEGEND

001 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2010)

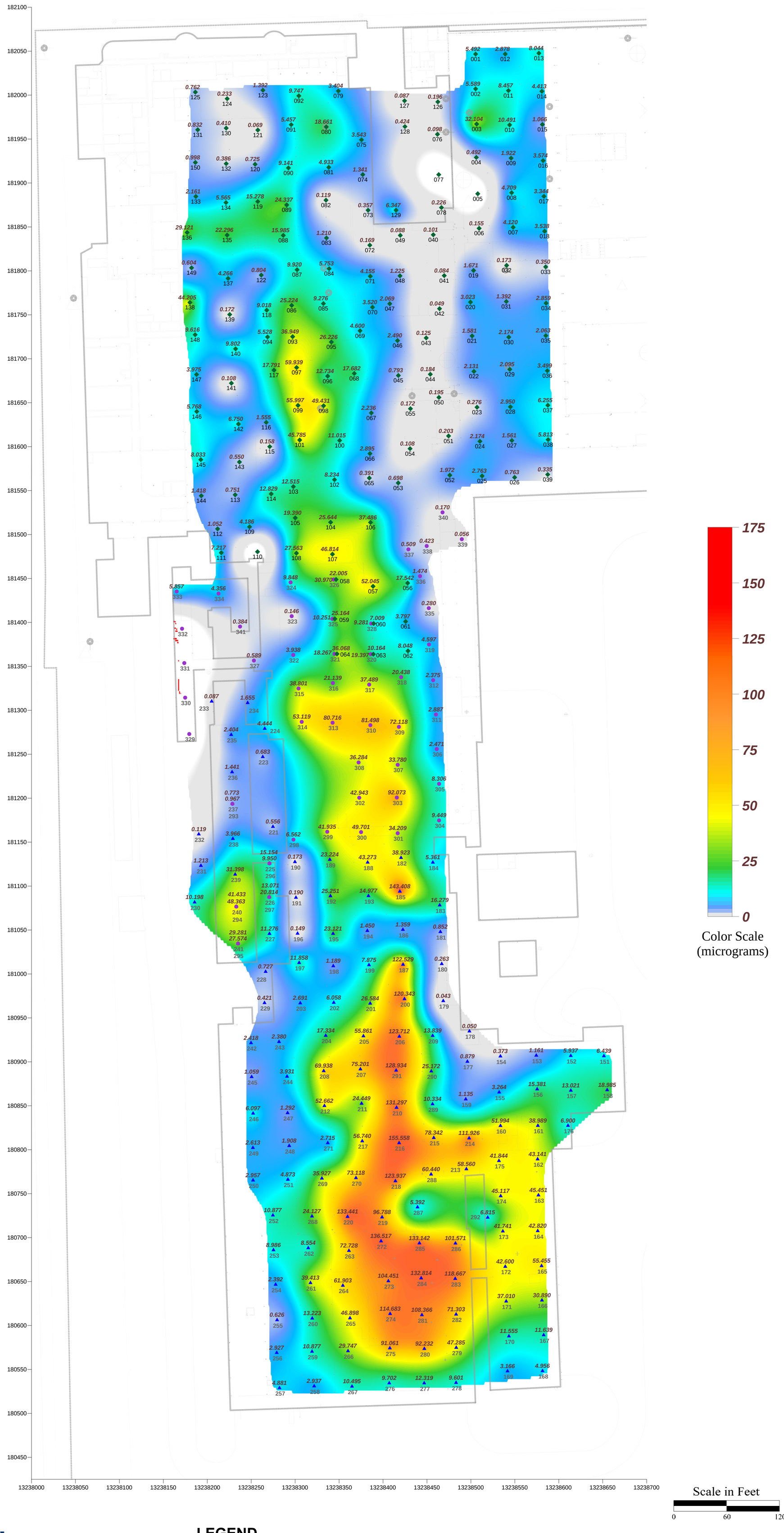
267 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2013)

311 PASSIVE SOIL-GAS SAMPLE LOCATION (September 2013)

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 2704, October 2013

Figure 1
Passive Soil-Gas Survey
Sample Locations

Former Tecumseh Products
Tecumseh, MI



BEACON ENVIRONMENTAL SERVICES, INC.

2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 2704, October 2013

LEGEND

1,000 MICROGRAMS/SAMPLER

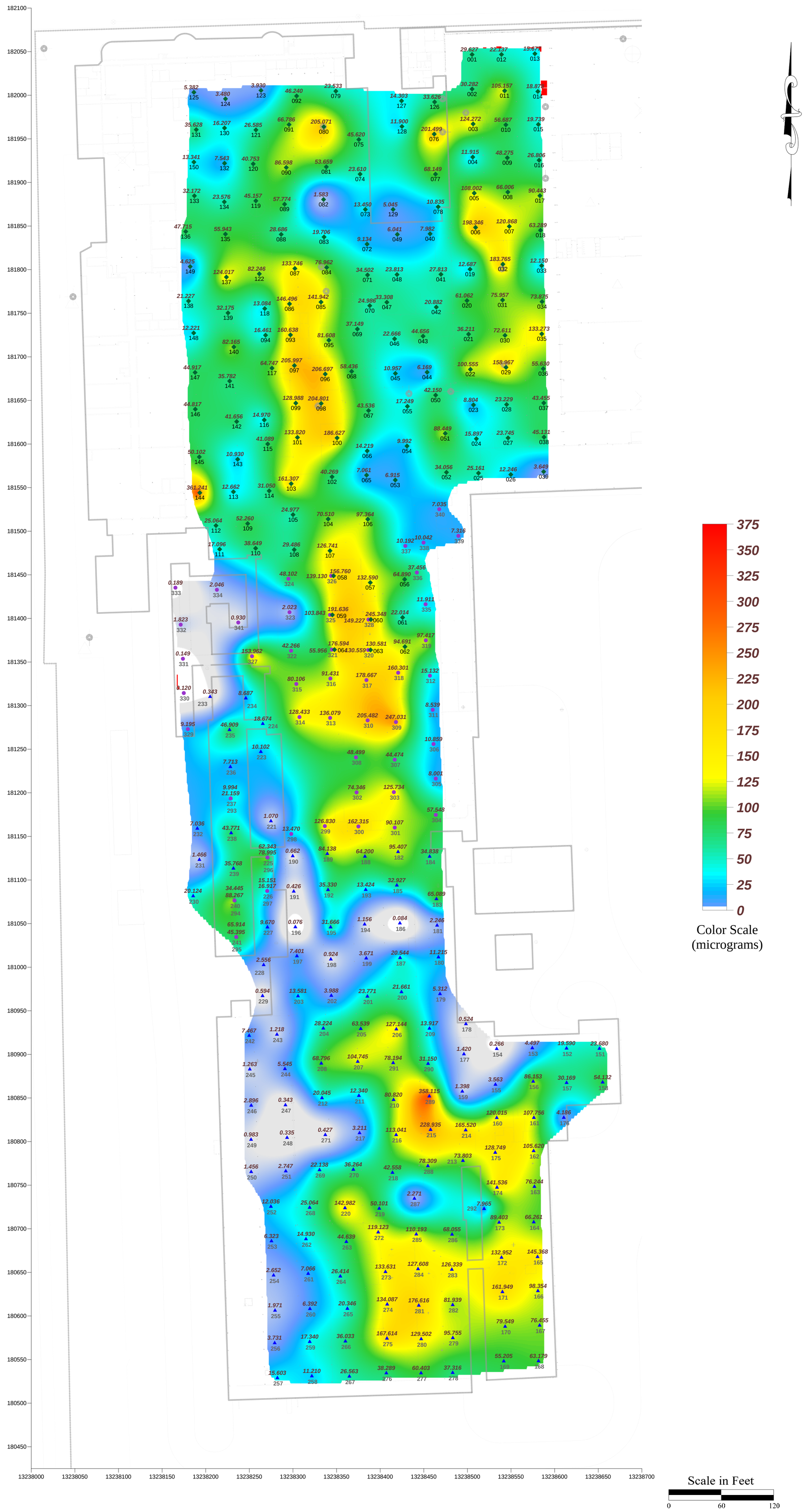
001 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2010)

267 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2013)

311 PASSIVE SOIL-GAS SAMPLE LOCATION (September 2013)

Figure 2
Passive Soil-Gas Survey
1,1,1-Trichloroethane

Former Tecumseh Products
Tecumseh, MI



BEACON ENVIRONMENTAL SERVICES, INC.

2203A Commerce Road, Suite 1, Forest Hill, MD 21050 USA
www.Beacon-USA.com 1-410-838-8780
Beacon Project No. 2704, October 2013

LEGEND

1,000 MICROGRAMS/SAMPLER

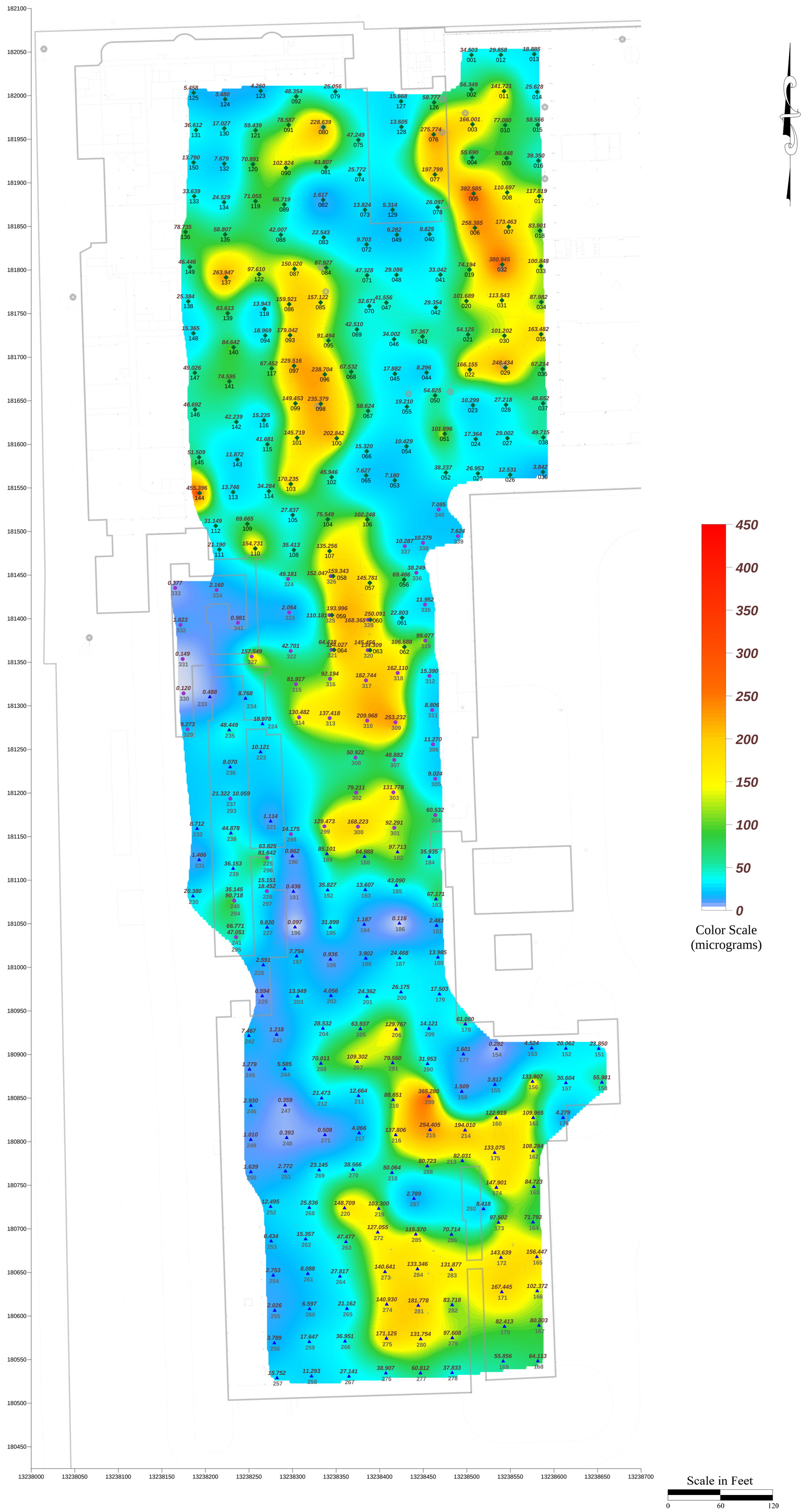
001 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2010)

267 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2013)

311 PASSIVE SOIL-GAS SAMPLE LOCATION (September 2013)

Figure 3
Passive Soil-Gas Survey
Trichloroethene

Former Tecumseh Products
Tecumseh, MI



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LEGEND

1,000 MICROGRAMS/SAMPLER

001 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2010)

267 PASSIVE SOIL-GAS SAMPLE LOCATION (July 2013)

311 PASSIVE SOIL-GAS SAMPLE LOCATION (September 2013)

Figure 4
Passive Soil-Gas Survey
TCE and Breakdown Products

Former Tecumseh Products
Tecumseh, MI

Attachments

Attachment 1

APPLYING RESULTS FROM PASSIVE SOIL-GAS SURVEYS

The utility of soil-gas surveys is directly proportional to their accuracy in reflecting and representing changes in the subsurface concentrations of source compounds. Passive soil-gas survey results are the mass collected from the vapor-phase emanating from the source(s). The vapor-phase is merely a fractional trace of the source(s) and, as a matter of convenience, the units used in reporting detection values from passive soil-gas surveys are smaller than those employed for source-compound concentrations.

Passive soil gas data are reported in mass of compounds identified per sample location (e.g., nanograms (ng) or micrograms (µg) per sampler). Results from a passive soil gas survey typically are then used to guide where follow-on intrusive samples should be collected to obtain corresponding concentrations of the contaminants in soil, soil gas, and/or groundwater, as well as eliminate those areas where intrusive samples are not required. It is not practical to report passive soil gas data as concentration because the sampler's uptake rates of the compounds are often greater than the replenishment rates of the compounds around the sampler, which results in low bias measurements, and the replenishment rates will be dependent on several factors that include, at a minimum, soil gas concentrations, soil porosity and permeability, and soil moisture level.

Whatever the relative concentrations of source and associated soil gas, best results are realized when the ratio of soil-gas measurements to actual subsurface concentrations remains as close to constant as the real world permits. It is the reliability and consistency of this ratio, not the particular units of mass (*e.g.*, micrograms) that determine usefulness. Thus, BEACON emphasizes the necessity of conducting — at minimum — follow-on intrusive sampling in areas that show relatively high soil-gas measurements to obtain corresponding concentrations of soil and groundwater contaminants. These correspondent values furnish the basis for approximating a relationship. For extrapolating passive soil gas results to vapor intrusion evaluations, we recommend a minimum of three passive soil gas locations be converted to a shallow vapor well then sampled using an active soil gas method. Once a relationship is established, it can be used in conjunction with the remaining soil-gas measurements to estimate subsurface contaminant concentrations across the survey field. (See www.beacon-usa.com/passivesoilgas.html, Publication 1: *Mass to Concentration Tie-In for PSG Surveys* and Publication 4: *Groundwater and PSG Correlation*.) It is important to keep in mind, however, that specific conditions at individual sample points, including soil porosity and permeability, depth to contamination, and perched ground water, can have an impact on soil-gas measurements at those locations.

When passive soil-gas surveys are utilized as described above, the data provide information that can yield substantial savings in drilling costs and in time. They furnish, among other things, a checklist of compounds expected at each survey location and help to determine how and where drilling budgets can most effectively be spent. Passive soil-gas surveys can also be used as a remediation or general site monitoring tool that can be implemented on a quarterly, semi-annual or annual basis.

Attachment 2

FIELD PROCEDURES FOR PASSIVE SOIL-GAS SURVEYS

The following field procedures are routinely used during a BEACON Passive Soil-Gas Survey. Modifications can be and are incorporated from time to time in response to individual project requirements. In all instances, BEACON adheres to EPA-approved Quality Assurance and Quality Control practices.

A. Field personnel carry a BESURE Sample Collection Kit™ and support equipment to the site and deploy the passive samplers in a prearranged survey pattern. A passive sampler consists of a borosilicate glass vial containing hydrophobic adsorbent cartridges with a length of wire attached to the vial for retrieval. Although samplers require only one person for emplacement and retrieval, the specific number of field personnel required depends upon the scope and schedule of the project. Each Sampler emplacement generally takes less than two minutes.

B. At each survey point a field technician clears vegetation as needed and, using a hammer drill with a 1″- to 1½″-diameter bit, creates a hole 12 to 14 inches deep. [Note: For locations covered with asphalt, concrete, or gravel surfacing, the field technician drills a 1″- to 1½″-diameter hole through the surfacing to the soils beneath]. The technician then, using a hammer drill with a ½″ diameter bit, creates a hole three-feet deep. The hole is then sleeved with a 1″-diameter metal sleeve.

C. The technician then removes the solid plastic cap from a sampler and replaces it with a Sampling Cap (a plastic cap with a hole covered by screen meshing). The technician inserts the sampler, with the Sampling Cap end facing down, into the hole (**see attached figure**). The sampler is then covered with an aluminum foil plug and soils for uncapped locations or, for capped locations, an aluminum foil plug and a concrete patch. The sampler's location, time and date of emplacement, and other relevant information are recorded on the Field Deployment Form.

D. One or more trip blanks are included as part of the quality-control procedures.

E. Once all the samplers have been deployed, field personnel schedule sampler recovery and depart, taking all other equipment and materials with them.

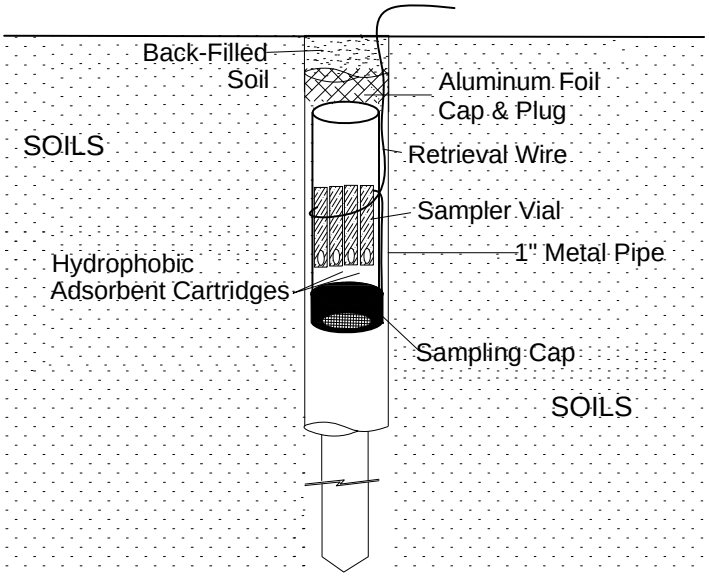
F. Field personnel retrieve the samplers at the end of the exposure period. At each location, a field technician withdraws the sampler from its hole, removes the retrieval wire, and wipes the outside of the vial clean using gauze cloth; following removal of the Sampling Cap, the threads of the vial are also cleaned. A solid plastic cap is screwed onto the vial and the sample location number is written on the label. The technician then records sample-point location, date, time, etc. on the Field Deployment Form.

G. Sampling holes are refilled with soil, sand, or other suitable material. If samplers have been installed through asphalt or concrete, the hole is filled to grade with a plug of cold patch or cement.

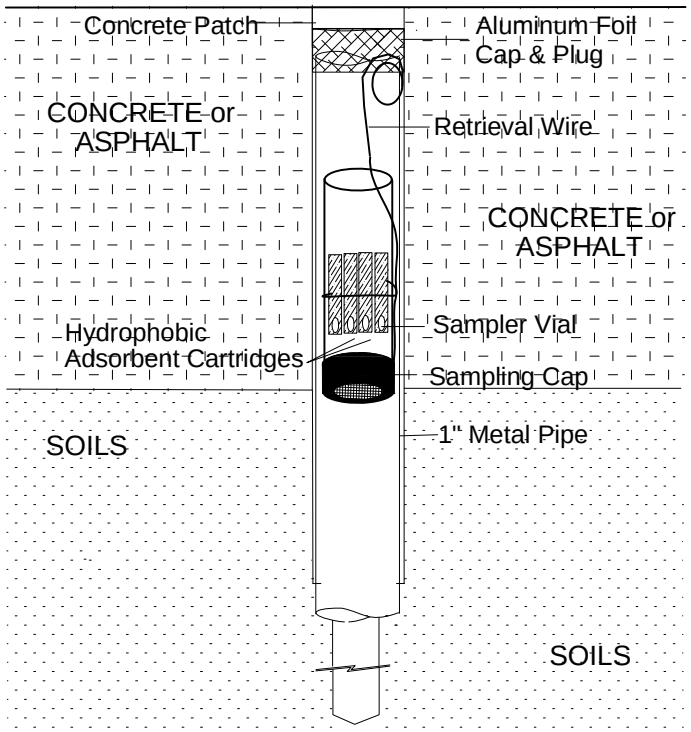
H. Following retrieval, field personnel ship or transport the passive samplers to BEACON's laboratory.

BEACON'S PASSIVE SOIL-GAS SAMPLER

DEPLOYMENT THROUGH SOILS



DEPLOYMENT THROUGH AN ASPHALT/CONCRETE CAP



Attachment 3

Field Deployment Report

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
July 2013

Sample ID	Grid Location	Boring Depth (inches)	PID Reading (ppm)	Installation Date	Installation Time	Removal Date	Removal Time	Additional Notes
151	L30	36	22.8	7/1/13	1040	7/9/13	1050	
152	K30		30.5		1102		1052	
153	J30		31.9		1111		1054	
154	I30		101.2		1130		1055	2 holes - sample in furthest East
155	I31		16.6		1150		1103	DUP-02
156	J31		76.5		1224		1104	
157	K31		84.4		1228		1107	
158	L31		120.8		1235		1111	
159	H31		147.6		1241		1059	
160	I32		37.6		1246		1233	DUP-07
161	J32		18.9		1251		1230	
162	J33		12.2		1257		1237	
163	J34		8.3		1311		1240	
164	J35		0.0		1319		1245	
165	J36		24.3		1414		1251	
166	J37		21.2		1417		1301	
167	J38		56.7		1422		1307	
168	J39		40.2		1426		1318	
169	I39		21.3		1429		1316	
170	I38		24.4		1434		1311	
171	I37		24.3		1438		1257	
172	I36		30.0		1440		1255	
173	I35		44.9		1445		1249	
174	I34		48.1		1452		1241	
175	I33		–		1454	✓	1235	Started raining, couldn't use PID

Chris Kaiser 7/3/13

P:\6070 Tecumseh - Tecumseh MI\11 PSG Survey

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
July 2013

Sample ID	Grid Location	Boring Depth (inches)	PID Reading (ppm)	Installation Date	Installation Time	Removal Date	Removal Time	Additional Notes
176	K32	36	—	7/1/13	1457	7/8/13	1220	No PID due to rain
177	H30				1459		1056	
178	H29				1503		0933	
179	H28				1506		0923	
180	H27				1509		0906	
181	H26				1511		0904	
182	G24				1516		0835	
183	H25				1518		0902	DUP-08
184	H24				1520		0900	
185	G25				1522		0840	DUP-03
186	G26				1525		0844	UNDER H_2O
187	G27				1527		0908	
188	F24				1529		0830	
189	E24				1531	7/8/13	0825	
190	D24				1533	7/8/13	0820	
191	D25				1534		0849	
192	E25				1535		0846	
193	F25				1536		0842	
194	F26				1537		0858	
195	E26				1538		0855	
196	D26				1539		0853	
197	D27				1540		0915	
198	E27				1555		0911	UNDER H_2O
199	F27				1557		0851	UNDER H_2O
200	G28				1559		0921	

Chris Aiazzi 7/7/13

P:\8070 Tecumseh - Tecumseh MI\11 PSG Survey

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
July 2013

Sample ID	Grid Location	Boring Depth (inches)	PID Reading (ppm)	Installation Date	Installation Time	Removal Date	Removal Time	Additional Notes
201	F28	36	DNM	7/1/13	1604	7/8/13	0920	NO PID due to rain
202	E28				1606		0919	
203	D28				1607		0917	
204	D29				1610		0931	DUP-01
205	E29				1614		0929	
206	F29				1616		0927	
207	E30				1620		0942	
208	D30				1624		0937	
209	G29				1629		0925	
210	F31				1630		0951	
211	E31				1634		0944	
212	D31				1635		0953	
213	H33				1639		1009	UNDER H_2O
214	H32				1642		1005	
215	G32				1705		1002	
216	F32				1707		1000	
217	E32				1710		0957	
218	F33				1720		1014	
219	F34				1723		1033	
220	E34				1730		1023	
221	C23			7/2/13	0827		1617	
222	~~C22~~ C22				0829		NO SAMPLE	Raccoon stole vial
223	C21				0831		1613	
224	C20				0834		1611	
225	C24				0839		1623	

Chris Lainger 7/3/13

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
July 2013

Sample ID	Grid Location	Boring Depth (inches)	PID Reading (ppm)	Installation Date	Installation Time	Removal Date	Removal Time	Label	Additional Notes
226	C25	36	DNM	7/2/13	0843	7/8/13	1625	✓	
227	C26				0845		1627		
228	C27				0847		~~1602~~ 1629		
229	C28				0857		1526		
230	A25				0857		1531		
231	A24				0905		1630		moved ~7ft east to avoid proximity to MW-3.
232	A23				0907		1632		
233	B19				0911		1634		saturated
234	C19				0916		1636		
235	B20				0924		1609		
236	B21				0929		1607		
237	B22				0942		1605		
238	B23				0947		1602		
239	B24				0950		1600		
240	B25				0954		1558		
241	B26				0957		1556		
242	B29				1037		1521		
243	C29				1039		1524		
244	C30				1043		1518		
245	B30				1045		1519		
246	B31				1049		1514		
247	C31				1052		1517		
248	C32				1055		1510		
249	B32	30"			1103		1512		Hit Rock while drilling
250	B33				1108		1506		

Chris Steiger 7/3/13

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
July 2013

Sample ID	Grid Location	Boring Depth (inches)	PID Reading (ppm)	Installation Date	Installation Time	Removal Date	Removal Time	Label	Additional Notes
251	C33	36	DNM	7/2/13	1111	7/8/13	1508	✓	
252	C34				1116		1505		
253	C35				1130		1503		
254	C36				1137		1501		
255	C37				1142		1457		
256	C38				1145		1455		
257	C39				1149		1453		
258	D39				1153		1449		DUP-05
259	D38				1156		1447		
260	D37				1159		1445		
261	D36				1201		1443		DUP-04
262	D35				1204		1442		
263	E35				1323		1437		
264	E36				1326		1439		
265	E37				1328		1434		
266	E38				1331		1431		
267	E39				1333		1429		
268	D34				1349		1021		
269	D33				1352		1019		
270	E33				1355		1017		DUP-~~07~~ 06
271	D32				1359		0954		
272	F35				1406		1420		
273	F36				1418		1421		
274	F37				1419		1424		
275	F38				1421	✓	1425		

Chris Lingle 7/3/13

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
July 2013

Sample ID	Grid Location	Boring Depth (inches)	PID Reading (ppm)	Installation Date	Installation Time	Removal Date	Removal Time	Label	Additional Notes
276	F39	36	DNM	7/8/13	1422	7/8/13	1427	✓	
277	G39				1425		1410		
278	H39				1426		1407		
279	H38				1428		1406		
280	G38				1430		1411		
281	G37				1437		1414		
282	H37				1438		1403		
283	H36				1439		1401		
284	G36				1442		~~1414~~ END 1416		
285	G35				1444		1418		
286	H35				1447		1359		
287	G34	24			1457		1035		
288	G33	36			1503		1016		
289	G31				1509		0949		
290	G30				1511		0947		
291	F30				1514		0940		
292	H34				1520	↓	1245		void space
293									
294									
295									
296									
297									
298									
299									
300									

Chris Seiger 7/2/13

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
September 2013

Sample ID	Grid Location	Boring Depth (inches)	Installation		Removal		Label	Additional Notes
			Date	Time	Date	Time		
293	B22	32	9/4/13	0900	9/11/13	0904	✓	Drilled all holes to 32" depth
294	B25			0926		0910	✓	
295	B26			0937		0913	✓	
296	C24			0955		1222	✓	
297	C25			1002		1220	✓	
298	D23			1018		1224	✓	
299	E23			1029		1227	✓	
300	F23			1033		1230	✓	
301	G23			1037		1233	✓	
302	F22			1050		0954	✓	
303	G22			1055		0957	✓	
304	H23			1103		1107	✓	
305	H22			1109		1101	✓	
306	H21			1112		1058	✓	
307	G21			1118		1000	✓	
308	F21			1132		0951	✓	
309	G20			1136		1003	✓	
310	F20			1150		0947	✓	
311	H20			1156		1055	✓	
312	H19			1325		1052	✓	DUP

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
September 2013

Sample ID	Grid Location	Boring Depth (inches)	Installation		Removal		Label	Additional Notes
			Date	Time	Date	Time		
313	E20	32	9/4/13	1330	9/11/13	0927	✓	
314	D20			1339		0922	✓	
315	D19			1345		0919	✓	
316	E19			1350		0931	✓	
317	F19			1421		0945	✓	
318	G19			1432		1006	✓	
319	H18			1438		1049	✓	
320	~~G18~~ F18			1445		0942	✓	
321	E18			1454		0933	✓	
322	D18			1505		0938	✓	
323	D17			1515		1016	✓	
324	D16			1520		1149	✓	
325	E17			1526		1012	✓	
326	E16			1534		1152	✓	
327	C18			1550		1020	✓	DUP
328	F17			1545		1009	✓	
329	A20			1618		1156	✓	
330	A19			1626		1200	✓	cap loose - pieces fell out. Only 2 retrieved.
331	A18			1630		1203	✓	had to be moved slightly west due to rebar
332	A17			1637		1205		

Passive Soil Gas Survey
Tecumseh Products
Tecumseh, MI
September 2013

Sample ID	Grid Location	Boring Depth (inches)	Installation		Removal		Label	Additional Notes
			Date	Time	Date	Time		
333	A16	32	9/4/13	~~1~~ 1646	~~9/11/13~~ RWS	1207	✓	
334	B16		↓	1657	9/11/13	1210	✓	
335	H17		HK ~~9~~ 9/5/13	0912		1046	✓	
336	H16			0922		1040	✓	
337	G15			0926		1036	✓	~15% full of water
338	H15			0940		1032	✓	H_2O in vial ~~DUP~~ RWS
339	I15			1000		1024	✓	DUP
340	H14			1007		1029	✓	H_2O droplets in vial when retrieved
341	C17		9/4/13	~1650		1213	✓	forgot to record installation in order
342								
343								
344								
345								
346								
347								
348								
349								
350								
351								
352								

Attachment 4

LABORATORY PROCEDURES FOR PASSIVE SOIL-GAS SAMPLES

Following are laboratory procedures used with BEACON Passive Soil-Gas Surveys, a screening technology for expedited site investigation. After exposure, adsorbent cartridges from the passive samplers are analyzed using U.S. EPA Method 8260C as a guidance document, a capillary gas chromatographic/mass spectrometric method, modified to accommodate high temperature thermal desorption of the adsorbent cartridges and to meet the objecitves of reporting semi-quantitative data. This procedure is summarized as follows:

A. The adsorbent cartridges are loaded with internal standards and surrogates prior to loading the autosampler with the cartridges. The loaded cartridges are purged in a helium flow. Then the cartridges are thermally desorbed in a helium flow onto a focusing trap. Any analytes in the helium stream are adsorbed onto a focusing trap.

B. Following trap focusing, the trap is thermally desorbed onto a Rxi-624Sil MS 20m, 0.18 mm ID, 1.00 micron filament thickness capillary column.

C. The GC/MS is scanned between 35 and 270 Atomic Mass Units (AMU) at 3.12 scans per second.

D. BFB tuning criteria and the initial five-point calibration procedures are those stated in method SW846-8260C. System performance and calibration check criteria are met prior to analysis of samples. A laboratory method blank is analyzed after the daily standard to determine that the system is contaminant-free.

E. The instrumentation used for these analyses includes:

- Agilent 6890-5973a Gas Chromatograph/Mass Spectrometer;
- Markes Unity thermal desorber;
- Markes UltrA autosampler; and
- Markes Mass Flow Controller Modules

and

- Agilent 7890-5975c Gas Chromatograph/Mass Spectrometer;
- Markes Unity2 thermal desorber;
- Markes UltrA2 autosampler; and
- Markes Mass Flow Controller Modules.

Attachment 5

Chain-of-Custody Form

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Scieszka
Contact Phone No.:	(760) 504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy)			
	Notes	Date	Time	Initial
151				
152				
153				
154				
155				
155 - D				
156				
157				
158				
159				
160				
160 - D				
161				
162				
163				
164				
165				
166				
167				
168				

Shipment of Field Kit to Site — Custody Seal # 3014073 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rachel M. Sotto	7/1/13 / 0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Chris Scieszka	7/9/13 / 1200	Fed Ex	Steven Thornley	7.10.13 / 1230

Page _____ of _____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Scieszka
Contact Phone No.:	760-504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
169				
170				
171				
172				
173				
174				
175				
176				
177				
178				
179				
180				
181				
182				
183				
183-D				
184				
185				
185-D				
186				

Shipment of Field Kit to Site — Custody Seal # 3014073 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rachel M. Sutter	7/1/13 / 0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Chris Scieszka	7/9/13 / 1200	Fed Ex	Steven Thornley	7.10.2013 / 1230

Page _____ of _____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Sciestka
Contact Phone No.:	760-504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy)			
	Notes	Date	Time	Initial
187				
188				
189				
190				
191				
192				
193				
194				
195				
196				
197				
198				
199				
200				
201				
202				
203				
204				
204-D				
205				

Shipment of Field Kit to Site — Custody Seal # 3014073 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rachelle Santos	7/1/13 / 0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Chris Sciestka	7/9/13 / 1200	Fed Ex	Steven Thornley	7.10.13 / 1230

Page _____ of _____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
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Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Scieszka
Contact Phone No.:	760-504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
206				
207				
208				
209				
210				
211				
212				
213				
214				
215				
216				
217				
218				
219				
220				
221				
222	No sample, Animal took vial	7/8/13	1615	CS
223				
224				
225				

Shipment of Field Kit to Site — Custody Seal # 3014073 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rodrick N. Soto	7/1/13 / 0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Chris Scieszka	7/9/13 / 1200	FedEx	Steven Thornley	7.10.13 / 1230

Page _____ of _____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

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Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Scieszka
Contact Phone No.:	760-504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
226				
227				
228				
229				
230				
231				
232				
233				
234				
235				
236				
237				
238				
239				
240				
241				
242				
243				
244				
245				

Shipment of Field Kit to Site — Custody Seal # 3014073 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rachelle M. Sotte	7/1/13 / 0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Christopher Scieszka	7/9/13 / 1200	FedEx	Steven J Lowney	7.10.13 / 1230

Page _____ of _____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

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Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Sciesz Ka
Contact Phone No.:	760-504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
246				
247				
248				
249				
250				
251				
252				
253				
254				
255				
256				
257				
258				
258-D				
259				
260				
261-D				
CS ~~262~~ 261				
CS ~~263~~ 262				
CS ~~264~~ 263				

Shipment of Field Kit to Site — Custody Seal # 3014073 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rachel Stone	7/1/13 / 0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Chris Sciesz	7/9/13 / 1200	Fed Ex	Steven Thornley	7.10.13 / 1230

Page _____ of _____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

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Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Scieszka
Contact Phone No.:	760-504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
264				
265				
266				
267				
268				
269				
270				
270-D				
271				
272				
273				
274				
275				
276				
277				
278				
279				
280				
281				
282				

Shipment of Field Kit to Site — Custody Seal # 3014073 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rachel T. Sa[illegible]	7/1/13/0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Chris Sciesz[illegible]	7/9/13 / 1200	FedEx	Steven Thomley	7/10/13 / 1230

Page ____ of ____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

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Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Chris Scieszka
Contact Phone No.:	760-504-1171

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
283				
284				
285				
286				
287				
288				
289				
290				
291				
292				
Trip.1				
Trip.2				
Trip.3				
Trip.4				
Trip.5				

Shipment of Field Kit to Site — Custody Seal # 3014073 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
	06-26-2013 / 1700 Hours	FedEx	Rachel T. Sotter	7/1/13/0700

Shipment of Field Kit to Laboratory — Custody Seal # 3014074 Intact? (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Chris Scieszka	7/9/13 / 1200	Fed Ex	Steven Thomley	7.10.13 / 1230

Page _____ of _____

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704.2
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Stacy Metz
Contact Phone No.:	734-585-7825

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
Trip 1		—	—	SEM
Trip 2		—	—	
~~B22~~ 293	B22 → ~~Sample~~ Same location as sample 237	9/11/13	0904	
~~B~~ 294	B25 → Same location as sample 240		0910	
295	B26 → Same location as sample 241		0913	
296	C24 → Same location as sample 225		1222	
297	C25 → Same location as sample 226		1220	
298	D23		1224	
299	E23		1227	
300	F23		1230	
301	G23		1233	
302	F22		0954	
303	G22		0957	
304	H23		1107	
305	H22		1101	
306	H21		1058	
307	G21		1000	
308	F21		0951	
309	G20		1003	
310	F20		0947	

Shipment of Field Kit to Site — Custody Seal # 3014090 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Ipeacho	08-29-2013 / 1700 Hours	FedEx	Rachel T. Soltz	9/3/13

Shipment of Field Kit to Laboratory — Custody Seal # 3014108 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Rachel T. Soltz	9/12/13 1345	Fed Ex	[illegible]	9.13.13 / 1230

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704.2
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
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800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Stacy Metz
Contact Phone No.:	734-585-7825

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
311	H20	9/11/13	1055	SEW
312	H19		1052	
312-D	H19		1052	
313	E20		0927	
314	D20		0922	
315	D19		0919	
316	E19		0931	
317	F19		0945	
318	G19		1006	
319	H18		1049	
320	F18 Same location as sample 063		0942	
321	E18 Same location as sample 064		0933	
322	D18		0938	
323	D17		1016	
324	D16		1149	
325	E17 Same location as sample 059		1012	
326	E16 Same location as sample 058		1152	
327	C18		1020	
327-D	C18		1020	
328	F17 Same location as 060		1009	

Shipment of Field Kit to Site — Custody Seal # 3014090 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Ipacho	08-29-2013 / 1700 Hours	FedEx	Rachel M. Sortez	9/3/13

Shipment of Field Kit to Laboratory — Custody Seal # 3014108 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Rachel M. Sortez	9/12/13 1345	Fed Ex	Stephen Thornley	9.13.13/1230

CHAIN-OF-CUSTODY
PASSIVE SOIL-GAS SAMPLES

Project Information	
Beacon Project No.:	2704.2
Site Name:	Former Tecumseh Products
Site Location:	Tecumseh, MI
Analytical Method:	EPA Method 8260C
Target Compounds:	Beacon Project Number 2704 Target Compound List

BEACON ENVIRONMENTAL SERVICES, INC.
2203A Commerce Road | Suite 1
Forest Hill, MD 21050 USA
800-878-5510 | 1-410-838-8780

Client Information	
Company Name:	TRC
Office Location:	Ann Arbor, MI
Samples Submitted By:	Stacy Metz
Contact Phone No.:	734-585-7825

Field Sample ID	Comments (only necessary if problem or discrepancy) Notes	Date	Time	Initial
329	A20	9/11/13	1156	SEM
330	A19 black cap loose when retrieved. ~~Cart~~ Cartridges fell out, only two recovered.		1200	
331	A18		1203	
332	A17		1205	
333	A16		1207	
334	B16		1210	
335	H17		1046	
336	H16		1040	
337	G15		1036	
338	water droplets in vial upon retrieval; H15		1032	
~~338-D~~ 339	I15		SEM ~~1032~~ 1024	
339 - D	I15		1024	
340	~15% full of water upon retrieval; H14		1029	
341	C17		1213	

Shipment of Field Kit to Site — Custody Seal # 3014090 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Kenny Tjacho	08-29-2013 / 1700 Hours	FedEx	Rachel M. Sortez	9/3/13

Shipment of Field Kit to Laboratory — Custody Seal # 3014108 **Intact?** (Y) N

Relinquished by:	Date/Time	Courier	Received by:	Date/Time
Rachel M. Sortez	9/12/13 1345	FedEx	Stel Thomly	9.13.13/1230