GM COMPONENTS HOLDINGS, LLC
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK BUILDING 10
2014 SVE/SSD OPERATION &
MONITORING REPORT

PREPARED FOR:
New York State Department of Environmental Conservation

PREPARED BY:
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Buffalo, New York

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1.0 INTRODUCTION AND BACKGROUND

On behalf of GM Components Holdings, LLC (GMCH), GZA GeoEnvironmental of New York (GZA) has prepared this Soil Vapor Extraction (SVE) and Sub-slab Depressurization (SSD) System Operation and Monitoring Report to summarize the extraction and treatment of soil vapor from beneath a portion of Building 10 (Figure 1). Building 10 is part of the GMCH Lockport Facility located at 200 Upper Mountain Road, Lockport, New York. Building 10 (Site ID #C932140) was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) in May 2010, when NYSDEC issued and executed a Brownfield Cleanup Agreement (BCA) with GMCH. In April 2014, a letter was filed with NYSDEC requesting the consolidation of three BCP sites (Site ID# C932138, C932139, and C932140) which were all contained within the property boundaries of the GMCH Lockport Facility. Consolidation approval was granted following this request and there is currently one BCA (Site ID# C932138) with GMCH Lockport which includes Buildings 7, 7A, 8, and 10.

The SVE/SSD System was installed in the northern portion of Building 10 by Delphi Harrison Thermal Systems Division of Delphi Automotive Systems LLC (Delphi) to address concerns related to soil impacts and consequent vapor intrusion concerns associated with subsurface contamination, primarily tetrachloroethene (PCE), identified in the Building 10 Focused Environmental Assessment[1] (Bldg 10 FEA). This report was submitted by Delphi to NYSDEC in August 2007.

The SVE/SSD System was designed and installed based on the SVE Pilot Test Summary and SVE System Design Report[2] (SVE Design Report), which was also submitted by Delphi to NYSDEC in November 2007.

Delphi initiated operation of the SVE/SSD system in March 2009 and submitted a SVE/SSD System Installation Document[3] in July 2009. GMCH submitted an Operation, Maintenance & Monitoring (OM&M) Plan[4] to NYSDEC in March 2010 which was approved by NYSDEC in a September 20, 2010 letter to Mr. James Hartnett (GMCH). This SVE/SSD System Operation Report, which will be referred to as the "2014 Operation & Monitoring Report," covers the monitoring period from January 2014 through December 2014 and provides monitoring data, SVE operational information, conclusions regarding overall system effectiveness, and recommendations for modifications to the SVE/SSD system, as appropriate.

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[1] "Focused Environmental Assessment, Building 10, Lockport, New York" dated August 27, 2007.
[2] "Soil Vapor Extraction (SVE) Pilot Test Summary and SVE System Design Report, Delphi Automotive, Northern Portion of Building 10, Lockport Complex, 200 upper Mountain Road, Lockport, New York" dated November 2007.
[3] "SVE/SSD System, Installation Document, Delphi Automotive, Lockport, New York" dated July 2009.
[4] "Operation, Maintenance & Monitoring Plan, SVE/SSD System, GM Components Holdings, LLC, Lockport, New York" dated March 2010.

1.1 NATURE AND EXTENT OF SUBSURFACE CONTAMINATION

The subsurface investigation work completed as part of the Bldg. 10 FEA and SVE Design Report identified an approximately 14,000 square-foot area with detected PCE concentrations in soil above 300 ppm (the Part 375 Industrial Soil Cleanup Objective (ISCO)) as shown on Figure 2. Based on the impacted area having an average PCE concentration in the soil (360 ppm), and the depth of the unsaturated zone (approximately 6.5 feet below floor grade), it was estimated that approximately 3,600 pounds of PCE were present to be treated prior to system start-up in this unsaturated zone (see Appendix A for calculations). This mass determination of PCE is used in the effectiveness evaluation of the SVE/SSD System presented in Section 4.0 of this report.

We note that during the Remedial Investigation (RI) completed in December 2010, six additional soil samples were collected from the 14,000 square-foot area with detected PCE concentrations above soil cleanup objectives (see Figure 2). The average PCE concentration detected in these six samples is approximately 300 ppm and the recalculation of the average concentration using the 23 samples collected from this area is 340 ppm (a difference of about 5%). Therefore, the initially calculated mass (3,600 pounds) and average PCE concentration (360 ppm) in soil will be used in the effectiveness evaluation for consistency purposes.

2.0 SOIL VAPOR EXTRACTION/SUBSLAB DEPRESSURIZATION SYSTEM

This section provides a general description of the SVE/SSD system and adjustments made during the reporting period.

2.1 SVE/SSD SYSTEM OVERVIEW

There are two subsurface components to the Building 10 SVE/SSD system: a vertical well SVE system and a horizontal perforated pipe SSD system (see Figure 2).

- The vertical well SVE system consists of 17 4-inch diameter vertical extraction wells (see Figure 2). The 17 extraction wells were installed using rotary drilling methods and are constructed of 4-inch diameter flush threaded polyvinyl chloride (PVC) riser and screen. Depth of the wells ranges from approximately 5.5 to 7 feet below ground surface (bgs) with the screened portion of the wells ranging from approximately 3.5 to 5 feet in length and consisting of #10 (0.010-inch) machine slotted PVC pipe. The annulus around the well screen was backfilled with a #00 sand pack and an approximately 2-foot thick layer of bentonite was placed above the sand filter. Three trenches were excavated to an approximate depth of 2 feet bgs through the concrete slab-on-grade, subbase and soil for installation of the piping that connects the extraction wells to the manifold located within the SVE shed. The trenches were backfilled with pea stone to approximately 6 to 8 inches below the concrete slab, with concrete poured and finished flush with the surrounding slab.

- The horizontal SSD piping was installed in the upper portion of the pea stone in the SVE manifold trenches. The subsurface SSD system piping consists of 2-inch inner diameter #10 machine slotted PVC well screen lengths, connected with PVC couplers, and covered with a fabric sleeve. The three lengths, called sub-slab (SS) legs 1, 2 and 3 are connected to the manifold inside the SVE shed via 1.5-inch diameter HDPE piping, as shown on Figure 3.

  The trenches were topped with approximately 6 inches of compacted crushed stone and covered with concrete to meet the existing slab-on-grade. Cracks and seams in the existing concrete floor were filled using a self-leveling polyurethane caulk.

  Additional SVE/SSD system construction details are provided in the Installation Document referenced above. The system is designed to operate continuously at a consistent vacuum pressure and flow rate to remove soil vapor from the impacted area.

  The SVE/SSD System's main aboveground components consist of a moisture separator, air filter, positive displacement blower, heat exchanger and two vapor-phase granular activated carbon (GAC) vessels each containing approximately 1,800 pounds of granular activated carbon. The entire system is skid mounted, with vacuum, temperature, pressure and flow instrumentation, and is operated through a control panel. Figure 3 shows the process and instrumentation diagram for the SVE/SSD System.

  2.2 SVE SYSTEM ADJUSTMENTS

  No significant SVE system adjustments were made during this reporting period.

3.0 OPERATION AND MONITORING

This section discusses the operation and monitoring activities performed for the SVE/SSD system during the current reporting period. The system startup began under Delphi on March 2, 2009. The system has generally been running continuously since March 3, 2009. Table 1 is a breakdown of the monitoring activities completed.

A GZA operator monitored the SVE/SSD system generally on a monthly basis from January 2014 through December 2014 and routine monitoring forms were used to document operation and monitoring events (see Appendix B). We note that the monthly monitoring for the month of March 2014 was not completed, leaving a 48-day period from February 19, 2014 until April 8, 2014 without any documentation of system performance. There is no indication that any abnormal occurrences took place with the SVE system during this time period.

In addition to system readings to measure the approximate system flow rates, three types of extracted vapor monitoring/samples have been collected by GZA to assess the system performance, operating conditions and contaminant removal rate. The vapor monitoring sample types are as follows.

1. Field screening with organic vapor meter (Field Screening Sample);
2. Colorimetric Detector tubes for PCE (Detector Tube); and
3. Tedlar® bag air samples for gas chromatography (GC Sample) or laboratory analysis (Lab Analysis Sample).

Tedlar® bag air samples for laboratory analysis were collected from:

1. Pre-Carbon influent-extracted vapor samples from the system,
2. Mid-Carbon vapor after the first of two GAC treatment vessels, and
3. Post-Carbon vapor after the second GAC treatment vessel and prior to discharge.

See Table 1 for the SVE/SSD System Monitoring Results Summary.

Field Screening Samples collected by GZA during each monitoring event (see Table 1) were screened for total volatile organics using an organic vapor meter (OVM, MiniRae 3000) equipped with a photoionization detector (PID) and 10.6 eV lamp[5]. The OVM was calibrated using isobutylene gas with a concentration of 100 parts per million by volume (ppmV). Based on information provided by Rae Systems (the manufacturer of the OVM), isobutylene has a response factor of 1.0, while PCE has a response factor of 0.57[6]. Since PCE is the primary compound of concern, the field screening readings in Table 1 were adjusted to reflect the PCE response factor.

A GC Sample was collected during the January event by GZA for screening with a gas chromatograph by Haley & Aldrich at their office in Rochester, New York. The total VOC and PCE concentrations detected for this and subsequent monitoring events are included on Table 1. The January GC screening results are included with the Routine Monitoring Forms in Appendix B. The remaining ten monitoring events which occurred during 2014 had laboratory analyses for volatile organics performed by Paradigm Environmental Services. The total VOC and PCE concentrations detected for these monitoring events are included on Table 1. The laboratory analytical results are included with the routine monitoring forms in Appendix B.

Detector tube readings were also taken directly from the air stream at specific monitoring points during monthly sampling events as follows:

Pre-Carbon:	November 2014
Mid-Carbon:	August 2014, November 2014
Post-Carbon:	November 2014

Generally, detector tube readings were taken to make field decisions regarding GAC breakthrough on the first GAC vessel, (i.e., when the field screening results of the Mid-carbon monitoring point were greater than 2 ppm). The OM&M Plan indicates that if detector tube

[5] OVM readings were obtained by collecting soil vapor samples in Tedlar® bags. Prior to sampling, the bags were purged with the same soil vapor as was being sampled for analysis using a dedicated Tedlar bag for the respective sampling location.
[6] Rae Systems Inc., Technical Note TN-106 "Correction Factors, Ionization Energies and Calibration Characteristics" Revised December 2007.

readings for PCE at the Mid-Carbon monitoring location are greater than 2 ppm, then a carbon change-out is required. A GAC vessel change-out occurred in October 2014.

GZA has evaluated these various screening results collected during the monthly monitoring events to assess the mass of PCE extracted by the SVE/SSD system, as well as the efficiency of the treatment system.

For this 2014 operation & monitoring period, 11 monitoring events were conducted between January 2014 and December 2014 for which data are available for pre-carbon samples. Generally, the correlation between the field screening samples, GC samples and the pre-carbon detector tube results in this reporting period, is within a reasonable range of consistency for lower-level concentrations. There was a discrepancy between the field screening samples and GC samples for three monitoring events (August, September and October 2014). The GC sample screening results for these three events were two or three times higher than the associated adjusted field screening results and detector tube results. When assessing the data since system start-up, we also note that GC sample screening results generally have not been greater than 10 ppmV other than in June, July, and August of 2010. Therefore, the pre-carbon adjusted field screening results were used to reflect the estimated concentrations of PCE within the extracted vapor prior to treatment.

The calculated PCE concentrations (average between the monitoring events) were used along with the system average flow rates (average between the monitoring events) and the system operation time to estimate the PCE mass removal between monitoring events (2nd last column of Table 1), the PCE mass removal per day (last column of Table 1) and the total PCE mass removal since the startup (summated total in lower right hand corner of Table 1).

Using the above method, it is estimated that approximately 186 pounds of PCE have been removed in this reporting period and a total of 2,561 pounds of PCE have been removed since March 3, 2009 (see Figure 4). This is approximately 71% of the total mass of PCE (3,600 pounds) estimated to have been initially present in the subsurface, as discussed in Section 1.0.

4.0 SYSTEM EVALUATION AND CONCLUSIONS

4.1 SYSTEM EVALUATION

Operation and monitoring data collected, as shown on Table 1, indicates that the system has operated as designed. The SVE/SSD system generally operated at steady state condition with an approximate 4.2" Hg vacuum pressure which yielded a SVE/SSD system average air flow rate of approximately 320 standard cubic feet per minute (SCFM).

Field screening sample results from the OVM were used along with the operating hours and SVE flow rate to assess the PCE mass removal for this monitoring period. We estimate, as shown on Table 1, that approximately 2,561 pounds of PCE has been removed from the subsurface since

the start of the system and 186 pounds during the 2014 reporting period. The daily PCE removal rates for 2014 are estimated at approximately 0.5 pounds per day.

One GAC vessel, containing approximately 1,700 pounds of GAC, was sent to Evoqua Water Technology Corporation Darlington, Pennsylvania for reactivation in 2014. The efficiency removal rate of GAC for PCE removal from a dry air stream can be approximately 10 to 15% by weight. Therefore, the GAC vessels used can each adsorb approximately 170 to 255 pounds of PCE, before reaching saturation and break-through begins to occur.

4.2 CONCLUSIONS

The SVE/SSD system generally operated on a continuous basis during the reporting. The system continues to extract soil vapor from the remedial area as a total of 2,561 pounds of PCE (the primary contaminant of concern) have been extracted from the subsurface, from system start up in March 2009 through December 2014. It is estimated that approximately 3,600 pounds of PCE were initially present in the subsurface soil in the remedial zone at system start-up. Therefore, approximately 71% of the estimated initial PCE mass has been removed.

The cumulative mass of PCE removed versus time, depicted on Figure 4, illustrates the overall mass of PCE removed by the system since startup. Figure 4 also depicts the cumulative mass of PCE removed in pounds for this current reporting period. As illustrated on Figure 4 and detailed in Table 1, the mass removal rate since the startup has decreased to a generally steady-state of approximately 0.5 pounds per day since December of 2011. Since the initial startup of the SVE system, the system was shut down during two time events (September 2010 through November 2010 and December 2012 through January 2013). Upon system restarting after each shut-down event, the influent concentrations and pounds-per-day removal rate returned to their pre-shut down status.

As a result, GMCH requested permission from NYSDEC to shut down the SVE portion of the SVE/SSD system while continuing to operate the SSD portion of the system. On October 7, 2014, NYSDEC provided written approval of the requested conversion.

5.0 PROPOSED 2015 ACTIVITIES

GMCH intends to convert the SVE/SSD system to be an SSD system only. Once the alteration has occurred and the SSD portion of the system is in operation, indoor air samples will be collected from the perimeter of the system footprint, similar to the SSD systems installed in Buildings 7, 7A and 8, to determine if the system is effective in mitigating potential vapor intrusion.

In support of the planned system conversion, a pilot study will be completed to determine the sizing requirements of the blowers required to apply vacuum influence to the previously determined limits of soil with PCE concentrations greater than 300 ppm. The Work Plan for this pilot study is provided in Appendix C.

6.0 CERTIFICATION

I certify that the following statements are true related to the SVE/SSD system installed in the northern portion of Building 10:

- The operation and monitoring of the SVE/SSD system, to confirm the effectiveness of the SVE/SSD System, was performed under my direction;
- The operation of the SVE/SSD system has generally been consistent from the date of system start-up;
- No significant event, as monitored by GZA, has occurred that would impair the ability of the SVE/SSD System to protect the public health and environment;
- Access to the SVE/SSD system will continue to be provided to NYSDEC (with valid Contractor Safety Orientation Card) to evaluate the SVE/SSD System remedy, including access to evaluate the continued maintenance of this system;
- The SVE/SSD system is performing as designed and is effective;
- To the best of my knowledge and belief, the work and conclusions described in this report are in accordance with generally accepted engineering practices; and
- The information presented in this report is accurate and complete.

I certify[7] that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Bart A. Klettke, P.E., of GZA GeoEnvironmental of New York, am certifying as a GMCH Representative.

Bart A. Klettke
Printed Name

Bart A. Klettke
Signature

March 30, 2015
Date

[7] Certify means to state or declare a professional opinion based on knowledge and facts available to the professional making such certification at the time the certification is made.

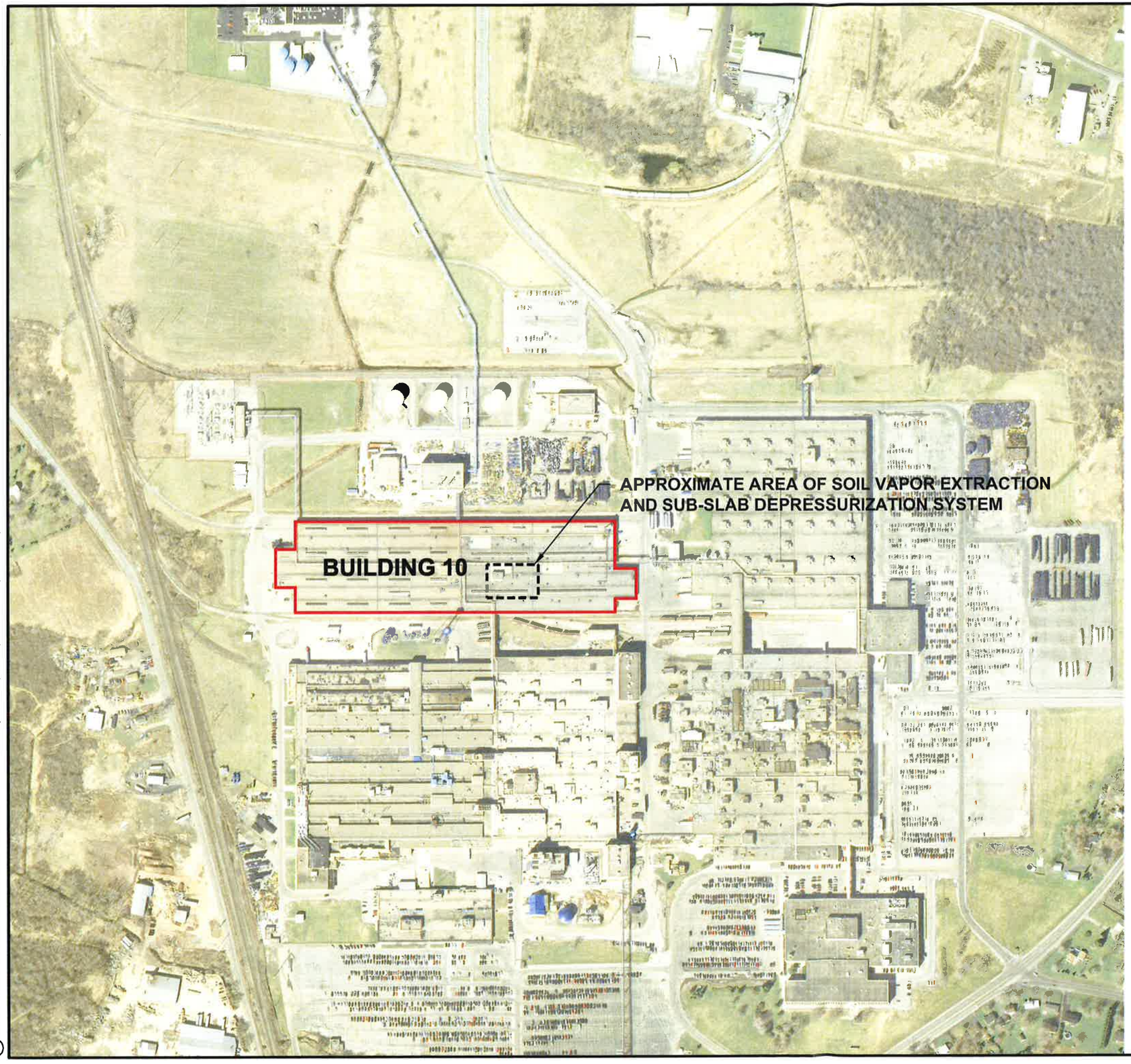
TABLES

TABLE 1
SVE/SSD MONITORING SUMMARY
2014 ANNUAL SVE/SSD SYSTEM MONITORING REPORT
BUILDING 10 SVE/SSD SYTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

DATE	RUN TIME	# OF DAYS BETWEEN READINGS	SYSTEM FLOW RATE	OPERATING VACUUM	PRECARBON MONITORING POINT				MID-CARBON MONITORING POINT				POST-CARBON MONITORING POINT				Estimated PCE Concentrations from Field Screening Results	Pound of PCE Removed Since Previous Measurement	PCE Removed in pounds per days
	hours	DAYS	SCFM	in Hg	Field Screening with PID	Adjusted Field Screening Results ppmv	Detector Tube ppm	Total VOCs from Lab Analysis or GC Screen Total VOC / PCE Conc. ppmv	Field Screening with PID	Adjusted Field Screening Results ppmv	Detector Tube ppm	Total VOCs from Lab Analysis or GC Screen Total VOC / PCE Conc. ppmv	Field Screening with PID	Adjusted Field Screening Results ppmv	Detector Tube ppm	Total VOCs from Lab Analysis or GC Screen Total VOC / PCE Conc. ppmv	See Note 1 ppm	See Note 6 pounds	pounds
2009 Report Data																			
3/2/2009	4		125	12.5	250	143											107		
3/3/2009	30	1.1	150	11	1500	855			0.7	0.4			0.7	0.4			641	**34**	31.4
3/6/2009	98	2.8	280	4.5	450	257			1.5	0.9			0.9	0.5			192	**155**	54.6
3/9/2009	168	2.9	300	5	95	54			0.6	0.3			0.6	0.3			41	**60**	20.6
3/13/2009	252	3.5	325	4	85	48	15	2.9 / 1.6 [2]	1.5	0.9		1.3 / 0.003 [1]	0.8	0.5		1.6 / 0.003 [1]	36	**58**	16.6
3/20/2009	432	7.5	325	3.5	68	39			1.9	1.1			1	0.6			29	**49**	6.5
3/27/2009	529	4.0	270	8.5	200	114			2.3	1.3			0.6	0.3			86	**42**	10.4
4/9/2009	766	9.9	320	2.75	50	29	19	3.8 / 3.2 [3]	1	0.6	ND	0.17 / 0.004 [2]	2	1.1		0.12 / 0.001 [2]	21	**100**	10.1
4/17/2009	958	8.0	315	3	82	47			1.2	0.7			0.9	0.5			35	**44**	5.5
4/27/2009	1,203	10.2	330	4.5	40	23			0.9	0.5			0.8	0.5			17	**52**	5.1
5/8/2009	1440	9.9	315	5	46	26			1.1	0.6			0.4	0.2			20	**36**	3.6
5/29/2009	1,945	21.0	280	3	52	30			13	7.4	5.5 [3]		0.7	0.4			22	**80**	3.8
6/12/2009	2,280	14.0	350	3	38	22	25 [4]		0.6	0.3			0.4	0.2			16	**52**	3.7
6/25/2009	2,594	13.1	330	3	41	23			1.6	0.9			0.9	0.5			18	**46**	3.5
7/10/2009	2,953	15.0	340	3.25	58	33			3	1.7			0.5	0.3			25	**65**	4.3
8/3/2009	3,528	24.0	310	3	34	19			19	10.8	15		2	1.1	0.5		15	**93**	3.9
2/8/2010	8,064	189.0	285	2.5	9	5	6	11.6 / 7.1	5.1	2.9	5	6 / 5.9	1.6	0.9	1.25	1.5 1.3	4	**315**	1.7
3/16/2010	8,928	36.0	335	4	10.5	6	7	9.8 / 8.0	5	2.9	7.5	6.7 / 5.6	0.5	0.3	ND	0.9 / ND	4	**28**	0.8
4/23/2010	9,840	38.0	310	3	8	5	7	9.2 / 7.2	4.2	2.4	5	6.0 / 5.4	0.5	0.3	ND	ND / ND	3	**30**	0.8
2010 Reporting Data																	**Pounds of PCE Removed May 2009 through April 2010:**	**1337**	
5/14/2010	10,342	20.9	340	4	17	10	10	21.7 / 8.7	11.2	6.4	8	8.8 / 8.3	0	0.0	0	1.2 / 0	7	**22**	1.1
6/24/2010	11,330	41.2	320	4	17	10	20	14.4 / 13.9	0.2	0.1	0	1.2 / 0	0	0.0	0	1.2 / 0	7	**60**	1.5
7/19/2010	11,926	24.8	315	3.5	21	12	20	19.8 / 16.5	0	0.0	0	2 / 0.09	0	0.0	0	No Sample	9	**38**	1.5
8/26/2010	12,835	37.9	300	4	18	10	15	29.3 / 22.4	10	5.7	9	20.9 / 11.9	0	0.0	0	0.2 / 0	8	**59**	1.6
12/16/2010	12,835	112.0	315	4	65	37	13	25.5 / 23.6	0	0.0	0	0 / 0	0	0.0	0	0 / 0	28	**0 (See Note 10)**	0.0
12/20/2010	12,937	4.3	315	4	25	14	NM	NM		0.0	NM	NM		0.0	NM	NM	11	**16**	3.7
2/7/2011	14,046	50.5	315	4	9.7	6	9	9.7 / 5	0	0.0	0	0.7 / 0	0	0.0	NM	0 / 0	4	**72**	1.4
3/17/2011	14959	38.0	310	4	9.1	5	NM	2.9 / 2.1	0	0	MN	6.1 / 0	0.3	0.2	NM	0.8 / 0.2	4	**29**	0.8
4/26/2011	15914	39.8	315	4	6.8	4	NM	3.8 / 3.4	0	0	NM	0.5 / 0	0	0.0	NM	0.5 / 0	3	**26**	0.6
2011 - 2013 Reporting Data									5.4				0.7				**Pounds of PCE Removed May 2010 through April 2011:**	**322**	
5/25/2011	16615	29.2	315	4	11	6	NM	4.9 / 4.2	5.4	3.078	NM	Sample broke	0.7	0.4	NM	0.09 / 0.8	6	**26**	0.9
6/30/2011	17476	35.9	315	4	11.5	7	NM	10.2 / 6	0	0	NM	5.4 / 1.5	0	0.0	NM	4.6 / 0	7	**44**	1.2
7/28/2011	18146	27.9	315	4	12.7	7	NM	9 / 8.1	1.2	0.684	NM	0.2 / 0	0	0.0	NM	0 /0	7	**37**	1.3
8/31/2011	18956	33.8	315	4	12.1	7	NM	8.5 / 8.4	4.9	2.793	0	0.1 / 0	4.8	2.7	0	0 / 0	7	**46**	1.4
9/27/2011	19606	27.1	325	4.25	8.8	5	NM	13.1 / 8.6	0	0	NM	4.2 / 0.3	0	0.0	NM	Apr-00	5	**31**	1.2
11/1/2011	20441	34.8	315	4.25	3.5	2	NM	5.4 / 5.1	0	0	NM	6.5 / 1.8	0	0.0	NM	0.5 / 0	2	**24**	0.7
11/28/2011	21096	27.3	315	4	3	2	NM	11.5 / 5.6	0.6	0.342	NM	10.7 / 4.9	0	0.0	NM	5.9 / 0	2	**10**	0.4
1/5/2012	22001	37.7	325	4.25	3	2	5	9.1 / 4.1	3	1.71	5	8.7 / 3.5	0	0.0	0	4.9 / 0	2	**13**	0.3
1/31/2012	22626	26.0	325	4.25	4	2	NM	8.5 / 3.7	1	0.57	NM	4.8 / 0.17	0.8	0.5	NM	4.6 / 0	2	**10**	0.4
3/1/2012	23351	30.2	315	4	3.6	2	NM	8.8 / 3.58	0	0	NM	4.9 / 0.08	0	0.0	NM	5 / 0.08	2	**13**	0.4
4/5/2012	24185	34.8	320	4	5.1	3	NM	10.3 / 4.29	0	0	NM	5 / 0	0	0.0	NM	4.5 / 0	3	**17**	0.5
5/2/2012	24831	26.9	327	4.5	4	2	NM	9.6 / 3.36	0.9	0.513	NM	6.1 / 0	0.6	0.3	NM	5.2 / 0	2	**14**	0.5
5/31/2012	25528	29.0	322	4.25	3.5	2	NM	8.6 / 5.35	0.2	0.114	NM	0.9 / 0	0.1	0.1	NM	3.2 / 0	2	**12**	0.4
7/17/2012	26655	47.0	322	4	10	6	NM	8.5 / 8.5	3.9	2.223	1	3 / 1.9	0.1	0.1	NM	0.3 / 0.22	6	**35**	0.8
8/23/2012	27543	37.0	320	4	6.2	4	5	18.5 / 18.3	3.9	2.223	3	7.3 / 6.9	0	0.0	NM	0 / 0	4	**33**	0.9
9/18/2012	28164	25.9	320	4	9.5	5	NM	15.9 / 15.7	0	0	NM	0 / 0	0	0.0	NM	0 / 0	5	**23**	0.9
11/1/2012	29223	44.1	319	4	7.2	4	NM	15.1 / 10.7	0.1	0.057	NM	5.3 / 0	0	0.0	NM	0.8 / 0	4	**41**	0.9
11/29/2012	29894	28.0	322	4	8.3	5	NM	10.7 / 9.2	0	0	NM	5.3 / 0	0	0.0	NM	5.3 / 0	5	**24**	0.9
2/26/2013	30830	39.0	328	4	7	4	NM	10.5 / 5.2	0.3	0.171	NM	5.5 / 0	0.1	0.1	NM	5.6 / 0	4	**34**	0.9
3/26/2013	31509	28.3	328	4	5.7	3	NM	8 / 4.1	0.7	0.399	NM	3.8 / 0	0.6	0.3	NM	3.6 / 0	3	**20**	0.7
4/24/2013	32199	28.8	328	4	6.2	4	NM	6.4 / 5	0.5	0.285	NM	0.7 / 0	0.3	0.2	NM	0.6 / 0	4	**19**	0.7
5/30/2013	33066	36.1	328	4.25	5.3	3	NM	4.7 / 4.7	2.2	1.254	NM	1 / 0.3	0.8	0.5	NM	0 / 0	3	**24**	0.7
6/26/2013	33677	25.5	319	4	9.2	5	NM	12.3 / 8.24	3.8	2.166	NM	4 / 1.3	0.5	0.3	NM	4.4 / 0	5	**21**	0.8
7/29/2013	34454	32.4	329	4.5	8	5	NM	11.1 / 7.1	0.4	0.228	NM	0.4 / 0	0.4	0.2	NM	3.8 / 0	5	**31**	1.0
8/26/2013	35114	27.5	329	4.5	7.7	4	NM	10.7 / 6.3	0.4	0.228	NM	5.7 / 0	0.3	0.2	NM	4.6 / 0	4	**25**	0.9
9/16/2013	35625	21.3	330	4.5	6	3	NM	7.5 / 6.8	0.5	0.285	NM	0.6 / 0	0.1	0.1	NM	0.5 / 0	3	**17**	0.8
10/22/2013	36488	36.0	330	4.5	8.2	5	4	9.6 / 4.6	2.7	1.539	0.5	7.2 / 0.4	1.2	0.7	NM	5.6 / 0	5	**29**	0.8
12/5/2013	37547	44.1	323	4.25	4.4	3	NM	12.3 / 5.4	1	0.57	NM	8.6 / .3	0.4	0.2	NM	7.8 / 7.8	3	**32**	0.7
12/30/2013	38074	22.0	330	5	4.9	3	NM	8.6 / 4.3	0.7	0.399	NM	5.3 / 0.3	0	0.0	NM	4.3 / 0	3	**12**	0.5
2014 Reporting Data																	**Pounds of PCE Removed May 2011 through December 2013**	**716**	
1/22/2014	38628.3	23.1	325	4.2	3.6	2	NM	9.7/4.26	1.1	0.627	NM	9.5/0.59	0.3	0.2	NM	4.9/0	2	**11**	0.5
2/19/2014	39301	28.0	325	4.2	4.4	3	NM		1.3	0.741	NM		0.6	0.3	NM		3	**13**	0.5
4/8/2014	40454.4	48.1	325	4.2	2.9	2	NM	0.75/0.75	1.3	0.741	NM	0.38/0.38	0	0.0	NM	ND	2	**20**	0.4
5/1/2014	41006.6	23.0	324	4.2	3.9	2	NM	0.97/0.97	3	1.71	NM	0.60/0.60	0.3	0.2	NM	ND	2	**9**	0.4
6/5/2014	41839.8	34.7	320	4.2	3.5	2	NM	1.23/1.23	4.6	2.622	NM	1.59/1.59	1.1	0.6	NM	ND	2	**14**	0.4
7/25/2014	43045.2	50.2	319	4.2	6.3	4	NM	1.34/1.34	9.7	5.529	NM	2.43/2.43	0	0.0	NM	ND	4	**27**	0.5
8/18/2014	43622.2	24.0	318	4	6.4	4	NM	1.56/1.56	1.7	0.969	0.3	ND	0.2	0.1	NM	ND	4	**17**	0.7
9/17/2014	44338.4	29.8	315	4.4	5.6	3	NM	1.29/1.29	1.7	0.969	NM	0.40/0.0	0.4	0.2	NM	ND	3	**20**	0.7
10/20/2014	45133.2	33.1	317	4.4	5.4	3	NM	1.6/1.6	2.1	1.197	NM	ND	1	0.6	NM	ND	3	**20**	0.6
11/25/2014	45996.6	36.0	318	4.4	6	3	3.75	7.35/4.13	0.8	0.456	0.3	2.53/1.32	0	0.0	0	1.11/0.58	3	**23**	0.6
12/16/2014	46499.1	20.9	325	4.5	4.7	3	NM	0.77/0.77	0.5	0.285	NM	ND	0	0.0	NM	ND	3	**13**	0.6
																	Pounds of PCE Removed January 2014 through December 2014	**186**	
																	Total pounds of PCE removed since start up	**2561**	

Notes:
1 - Estimated PCE concentrations were determined using the Adjusted Field Screening Results.
2 - GC Screening performed by Haley & Aldrich, in Rochester, New York.
3 - in Hg = inches of mercury
4 - ND = non detect
5 - ppmv = pers per million by volume
6 - See Appendix A for sample calculation.
7 - SVE/SSDS was shut down from December 17, 2012 through February 1, 2013 due to varible frequency drive malfunction..
8 - NM = not measured
9 - Valve on tedlar bag broke in transit and had arrived empty, no sample was screened.
10 - SVE/SSDS was shut down from August 26 through December 16, 2010, approximately 4 months, per NYSDEC approval.

FIGURES



NORTH

LEGEND:

INDICATES BUILDING 10 FOOTPRINT

APPROXIMATE LOCATION OF SVE/SSD SYSTEM

NOTES:

1. BASE MAP ADAPTED FROM A 2005 AERIAL PHOTOGRAPH DOWNLOADED FROM http://www.nysgis.state.ny.us/gateway/mg/interactive_main.html AND SITE OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW

DATE: April 2014

GZA GeoEnvironmental of New York

APPROXIMATE SCALE IN FEET

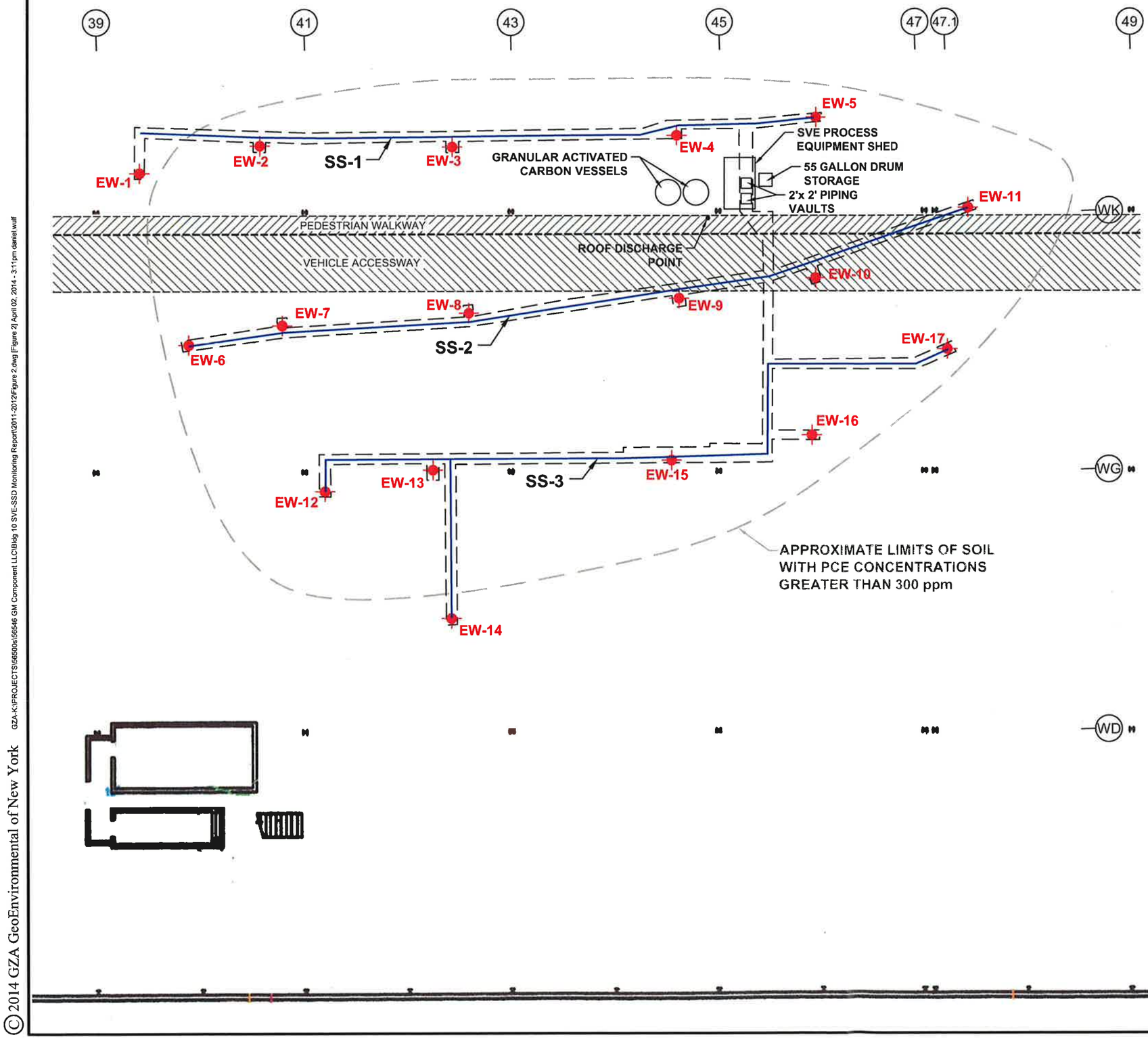
0 200 400 800

GM COMPONENTS HOLDINGS, LLC
LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK
BUILDING 10
SVE / SSD SYSTEM 2011-2013 MONITORING REPORT
SITE PLAN

PROJECT No.
21.0056546.00

FIGURE No.
1

GZA-K:\PROJECTS\56500s\56546 GM Component LLC\Bldg 10 SVE-SSD Monitoring Report\2011-2012\Figure 1.dwg [FIGURE 1] April 02, 2014 - 3:18pm daniel.wulf



LEGEND:

APPROXIMATE LOCATION OF TRENCHES INSTALLED BENEATH CONCRETE SLAB FOR SVE AND SSD PIPING

SS-1 — SUB-SLAB LEG 1

EW-1 — APPROXIMATE LOCATION AND DESIGNATION OF 4-INCH DIAMETER SOIL VAPOR EXTRACTION WELL

NOTES:

1. BASE MAP ADAPTED FROM A SITE PLAN PROVIDED BY THE CLIENT.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

DRAWN BY: DEW

DATE: April 2014

GZA GeoEnvironmental of New York

APPROXIMATE SCALE IN FEET
0 10 20 40

GM COMPONENTS HOLDINGS, LLC
LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK
BUILDING 10
SVE / SSD SYSTEM 2011-2013 MONITORING REPORT
SVE / SSD SYSTEM LAYOUT

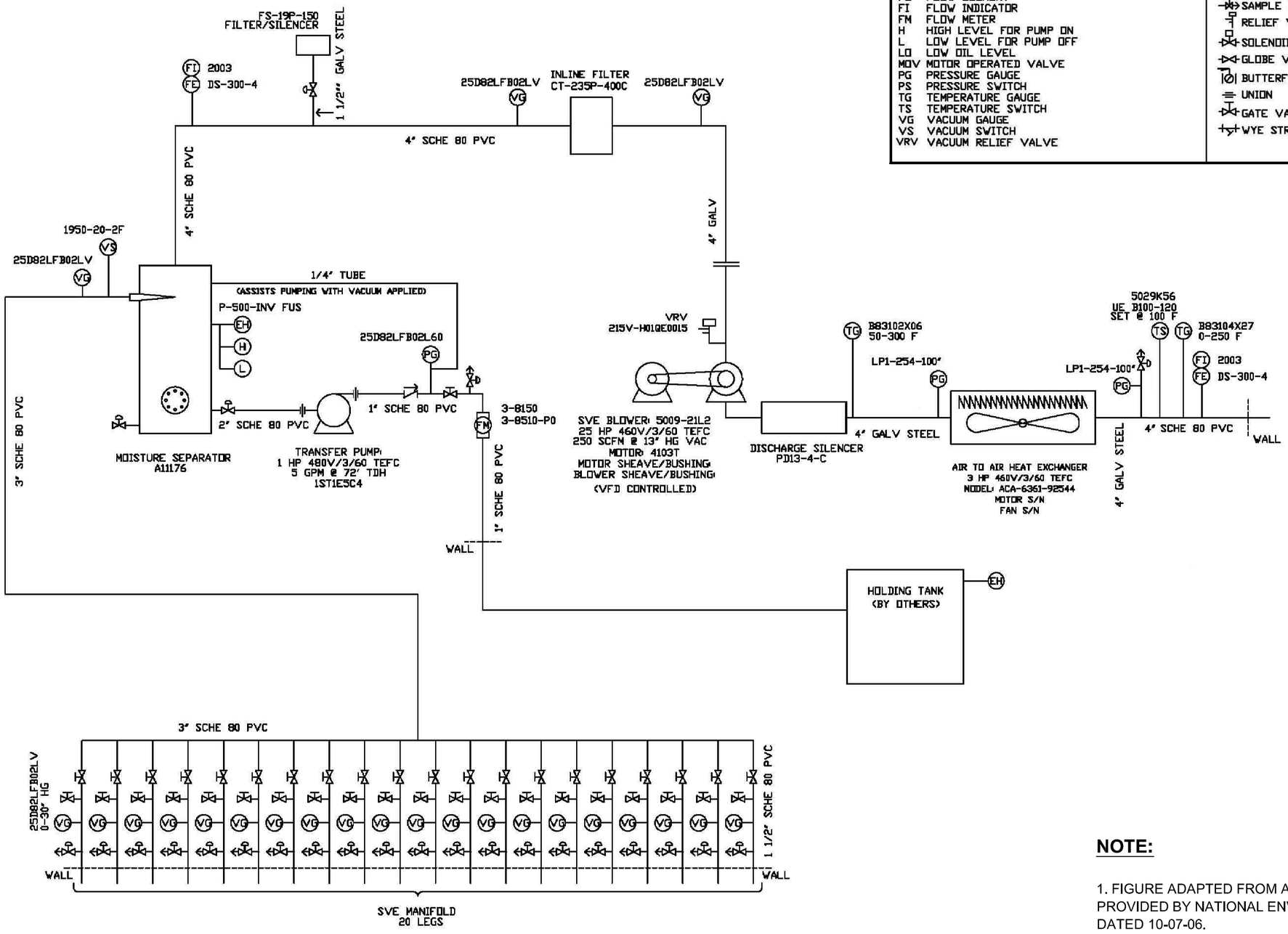
PROJECT No.
21.0056546.00

FIGURE No.
2

G:\Bldg 10 SVE-SSD Monitoring Report\2011-2012\Figure 2.dwg [Figure 2] April 02, 2014 - 3:11pm daniel.wulf
GZA-K:\PROJECTS\56500s\56546 GM Component LLC\Bldg 10 SVE-SSD Monitoring Report\2011-2012\Figure 2.dwg [Figure 2] April 02, 2014 - 3:11pm daniel.wulf

LEGEND:

DPT	DIFFERENTIAL PRESSURE TRANSMITTER		CHECK VALVE
EH	EMERGENCY HIGH SWITCH		BALL VALVE
FE	FLOW ELEMENT		SAMPLE PORT
FI	FLOW INDICATOR		RELIEF VALVE
FM	FLOW METER		SOLENOID VALVE
H	HIGH LEVEL FOR PUMP ON		GLOBE VALVE
L	LOW LEVEL FOR PUMP OFF		BUTTERFLY VALVE
LO	LOW OIL LEVEL		UNION
MOV	MOTOR OPERATED VALVE		GATE VALVE
PG	PRESSURE GAUGE		WYE STRAINER
PS	PRESSURE SWITCH		
TG	TEMPERATURE GAUGE		
TS	TEMPERATURE SWITCH		
VG	VACUUM GAUGE		
VS	VACUUM SWITCH		
VRV	VACUUM RELIEF VALVE		



NOTE:

1. FIGURE ADAPTED FROM A DRAWING DEVELOPED AND PROVIDED BY NATIONAL ENVIRONMENTAL SYSTEMS, DATED 10-07-06.

DRAWN BY: DEW

DATE: April 2014

GZA GeoEnvironmental of New York

NOT TO SCALE

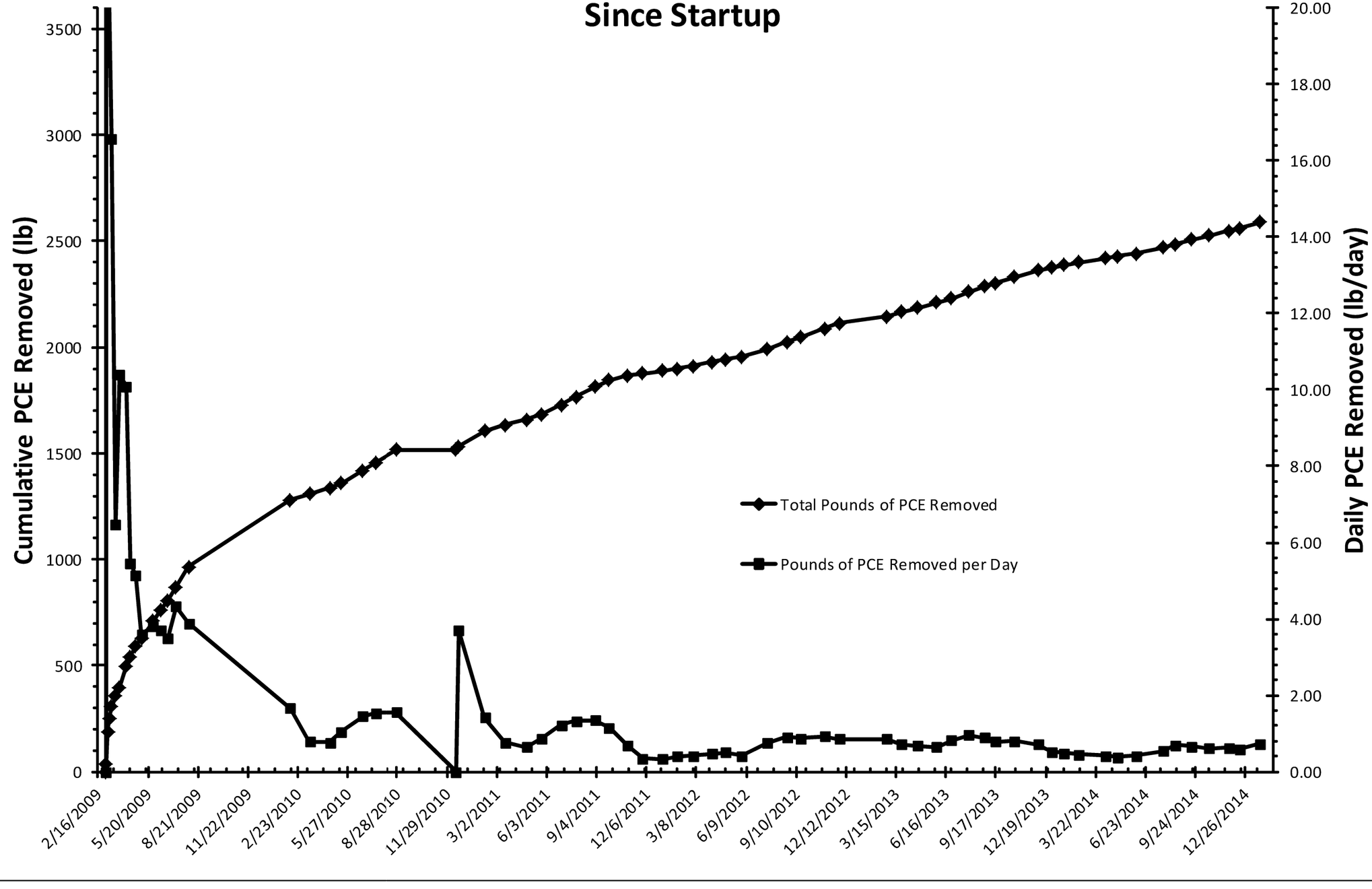
GM COMPONENTS HOLDINGS, LLC
LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK
BUILDING 10

SVE / SSD SYSTEM 2011-2013 MONITORING REPORT
SVE / SSD SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM

PROJECT No.
21.0056546.00

FIGURE No.
3

Building 10 SVE/SSDS System Performance Since Startup



DRAWN BY: DEW

DATE: APRIL 2014

GZA GeoEnvironmental of New York

NOT TO SCALE

GM COMPONENTS HOLDINGS, LLC

LOCKPORT FACILITY

200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK

BUILDING 10

SVE / SSD SYSTEM 2014 MONITORING REPORT

BLDG 10 SVE SYSTEM PERFORMANCE 2014

PROJECT No.

21.0056546.00

FIGURE No.

4

G:\GZA-K:\PROJECTS\58500s\58546 GM Component LLC\Bldg 10 SVE-SSD Monitoring Report\2011-2012\Figure 5.dwg [Figure 1] April 03, 2014 - 11:57am daniel.wulf

AREA ASSOCIATED WITH BUILDING 10 BCP SITE

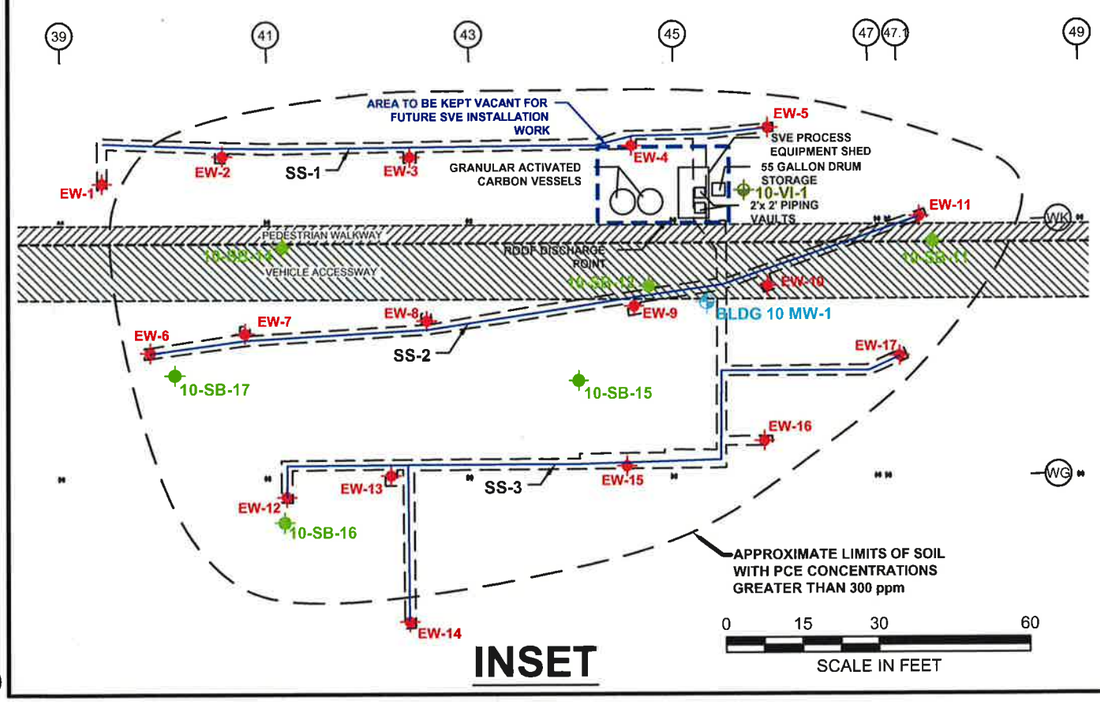
NORTH

10-SB-18
10-SB-21
10-SB-19
10-SB-20

10-SB-7
10-SB-10
10-SB-6
10-SB-3
10-SB-2
BUILDING 10
APPROXIMATE FOOTPRINT OF SVE SYSTEM (SEE INSET)
10-VI-2
10-VI-1
10-SB-14
10-SB-12
10-SB-11
BLDG 10 MW-1
10-SB-17
10-SB-15
10-SB-16
10-SB-1
10-SB-9
10-SB-8
10-SB-5
10-SB-4
MW-10-2
MW-10-3

EXPLORATION PLAN

0 50 100 200
SCALE IN FEET



INSET

0 15 30 60
SCALE IN FEET

LEGEND:

- 10-SB-1 — APPROXIMATE LOCATION OF SOIL PROBES COMPLETED AS PART OF THE BCP INVESTIGATION
- MW-10-2 — APPROXIMATE LOCATION OF BEDROCK MONITORING WELLS INSTALLED AND SAMPLED AS PART OF THE BCP INVESTIGATION
- 10-VI-1 — APPROXIMATE LOCATION OF INTERIOR VAPOR INTRUSION SAMPLES COMPLETED AS PART OF THE BCP INVESTIGATION
- BLDG 10 MW-1 — APPROXIMATE LOCATION AND DESIGNATION OF EXISTING MONITORING WELLS SAMPLED AS PART OF THE BCP INVESTIGATION

DRAWN BY: DEW

DATE: April 2014

GZA GeoEnvironmental of New York

APPROXIMATE SCALE IN FEET

AS SHOWN

GM COMPONENTS HOLDINGS, LLC
LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK
BUILDING 10
SVE / SSD SYSTEM 2011-2013 MONITORING REPORT
BUILDING 10 SITE ID# 932140
EXPLORATION PLAN

PROJECT No.
21.0056546.00

FIGURE No.
5

APPENDIX A

PCE MASS CALCULATIONS

GZA GeoEnvironmental of New York
Engineers and Scientists

Project GMHC Bldg 10 SVE/SSD System — File No. 21.0056546.0
Location Lockport NY — Date 5/5/10 — By CLB.
Subject Ave. PCE Conc. in SVE Footprint — Checked 5/6/10 — By DJT
Based on Lab Data. — Revised 3/30/14 — By CZB

17 Soil Samples were collected from within the SVE area footprint as follows w/ PCE conc.

SP-1: 0-2 ft: 72 ppm; 2-4: 119; 4-6: 177; 6-8: 506
SP-2: 2-4 ft: 5 ppm
SP-3: 2-4 ft: 770 ppm
SP-4: 6-7.1 ft: 447 ppm
SP-7: 4-6 ft: 297 ppm
SP-13: 4-6 ft: 260 ppm; 6-8 ft: 105 ppm
SP-14: 2-4 ft: 25 ppm; 4-6 ft: 1,120 ppm
SP-15: 6-8 ft: 5 ppm; 8-9 ft: 4 ppm
SP-20: 0-2 ft: 28 ppm; 2-4 ft: 1035 ppm; 4-6 ft: 1090 ppm

Ave. PCE Conc: 359 ppm

Say 360 ppm

3/30/14 Six (6) additional soil samples were collected during the Remedial Investigation in December 2010. The PCE conc. of these 6 samples were as follows.

10-SB-11 2-4 ft: 21 ppm
10-SB-12 4-6 ft: 460 ppm
10-SB-14 6-8 ft: 870 ppm
10-SB-15 6-8 ft: 350 ppm
10-SB-16 2-4 ft: 70 ppm
10-SB-17 4-6 ft: 5 ppm

The average PCE conc. of the 23 soil samples collected is 342 ppm.

Therefore previous average PCE conc. calculated on 5/5/10 will be use a difference is about 5%.

GZA GeoEnvironmental of New York
Engineers and Scientists

Project GWHC TSldg 10 SVE/SSD			File No. 21.0056546.0
Location Lockport NY	Date 5/5/10	By	cdo.
Subject Mass of PCE in Unsaturated Soil	Checked 5/6/10	By	DST
Based on	Revised	By	

Mass of PCE in unsaturated soil to be addressed w/ SVE System in TSldg 10

- Area to be addressed is ~14,000 sq. ft.
- Assume Unsaturated soil thickness is 6.0 ft. (6.5 ft to water table − 0.5 ft for concrete + fill)
- Assume 360 ppm PCE average soil concentration.
- Assume 10% of volume contains utilities

$14{,}000 \text{ sq ft} \times 6 \text{ ft} = 84{,}000 \text{ ft}^3 \; (3{,}111 \text{ yds}^3)$

$3{,}111 \text{ yds}^3 \times 0.90 = 2{,}800 \text{ yd}^3 \text{ (vol. w/out utilities)}$

$2{,}800 \text{ yds}^3 * 1.6 \text{ tons/yd}^3 = 4{,}480 \text{ tons of soil}$

$4{,}480 \text{ tons} * 1{,}016 \text{ kg/ton} = 4{,}551{,}680 \text{ kg}$

$360 \text{ mg/kg} * 4{,}551{,}680 \text{ kg} = 1{,}638{,}604{,}800 \text{ mg}$

$1{,}638{,}604{,}800 \text{ mg} * 2.2046 \times 10^{-6} = 3{,}613 \text{ pounds}$
(convert mg to pounds)

Say 3,600 lbs of PCE

GZA GeoEnvironmental of New York
Engineers and Scientists

Project GMCH Bldg 10 SVE/SSD System — File No. 21.0050546.0
Location Lockport, NY — Date 5/5/10 — By cdo
Subject PLE Removal Rate Calc. — Checked 5/6/10 — By DJT
Based on — Revised — By

Pounds of PCE Removed by SVE Sys for Time Period
3/6/09 → 3/9/09.

Days between Readings: 2.9 days

Ave System Flow between Readings: (300 scfm + 280 scfm) ÷ 2

290 scfm

Estimate Average PCE Conc. between Readings: $\frac{41\ \text{ppmv} + 192\ \text{ppmv}}{2}$

= 117 ppmv

$2.9\ \text{day} * 290\ \text{scfm} * 24\ \frac{\text{hr}}{\text{day}} * 60\ \frac{\text{min}}{\text{hr}}$

= 1,211,040 ft³

$1{,}211{,}040\ \text{ft}^3 * 0.02832$ (convert ft³ to m³) = 34,297 m³

$117\ \text{ppmv} * 6.78$ (convert ppmv to mg/m³) = 793 mg/m³

$34{,}297\ \text{m}^3 * 793\ \text{mg/m}^3 = 27{,}197{,}521\ \text{mg}$

(27,198 g)

$27{,}198\ \text{g} * 0.002205$ (convert g to pounds) = **60 pounds PCE REMOVED**

APPENDIX B

ROUTINE MONITORING FORMS

(JANUARY 2014 – DECEMBER 2014)

ROUTINE MONITORING FORM

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

other work performed

Name: T. Bohlen | Time On-Site: 1200 | Time Off-Site: 1630

Date: 1/22/14 | SVE Blower Run Time: 28456.3 + 10172 hours | VDF: 60.0 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:				
Alarm lights off:	(YES)	NO	If no:				
Autodialer Alarm On:	YES	(NO)	If Yes:				
Postion of Swing Panel HOA Switches:							
Control Power Switch	(ON)	OFF	SVE Blower Switch	HAND	OFF	(AUTO)	
M/S Effluent Pump Switch	HAND	(OFF) AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)	
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				
Moisture Separator Tank Level:	(Empty)	1/4 Full	1/2 Full	3/4 Full	Full	Volume Tranfered:	gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.2	in Hg	**System Monitoring Notes:**	
Vacuum Gauge Post-Inline Filter:	5.1	in Hg		
Temperature on Discharge Silencer:	106	° F		
Temperature after Heat Exchanger:	72	° F		
Pressure After Heat Exchanger	17	in H_2O		
Pressure Before Heat Exchanger	21	in H_2O	Flow Rate Based on Pressure Gauge:	cfm
Pressure Magnehelic Gauge:	2.7	in H_2O	Flow Rate Based on Vacuum Gauge:	cfm
Vacuum Magnehelic Gauge:	>2	in H_2O		
Vacuum Gauge After Manifold:	1.1	in Hg		

EXTRACTION WELL VACUUM GAUGE READINGS

EW-1:	<1	in Hg	EW-11:	1	in Hg	**Vaccum Gauge Reading Notes:**
EW-2:	1.1	in Hg	EW-12:	<1	in Hg	
EW-3:	1	in Hg	EW-13:	<1	in Hg	
EW-4:	<1	in Hg	EW-14:	1.2	in Hg	
EW-5:	<1	in Hg	EW-15:	1	in Hg	
EW-6:	<1	in Hg	EW-16:	1	in Hg	
EW-7:	<1	in Hg	EW-17:	<1	in Hg	
EW-8:	<1	in Hg	SS-1:	<1	in H2O	
EW-9:	1	in Hg	SS-2:	1	in H2O	
EW-10:	1.3	in Hg	SS-3:	<1	in H2O	

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.5	ppm	Detector Tube Readings			
Background Inside SVE Shed:	0.5	ppm	Pre Carbon	YES	(NO)	ppm
Pre Carbon Discharge:	3.6	ppm	Mid Carbon	YES	(NO)	ppm
Mid Carbon Discharge:	1.1	ppm	Post Carbon	YES	(NO)	ppm
Post Carbon Discharge:	0.3	ppm				

Additional Notes:
- sharpie used for Tedlar labels - allowed to dry to ND prior to sampling / screening
- Mid point - duplicate

GAS CHROMATOGRAPHY REPORT SHEET
GC SCREENING RESULTS
DIRECT INJECT

Client: GM Lockport
File No: 36795-010
Sample Type: BLDG-10 SVE/SSD

Date of Analysis: 23-Jan-14
ICAL Curve Date: Jan-13

Operator: HAH
QA/QC: DMC

Sample Identification	Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
	500	74-82-8	methane	5.024	4.853	22.4907	1.775	3.55	mg/m^3	5.41	ppmV	0.00	0.09	17.91	
	500	75-01-4	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	75-35-4	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
ID: Pre-Carbon	500	75-09-2	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Date: 1/22/2014	500	156-60-5	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Time:	500	75-34-3	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	156-59-2	cis 1,2-dichloroethene	19.883			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Temp = °F	500	67-66-3	chloroform	20.437			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Flow = 280 SCFM	500	71-55-6	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	71-43-2	benzene	23.071	23.444	0.7730	0.056	0.11	mg/m^3	0.03	ppmV	0.00	0.00	0.56	
	500	79-01-6	trichloroethene	24.775			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	108-88-3	toluene	27.755	27.924	0.6261	0.049	0.10	mg/m^3	0.02	ppmV	0.00	0.00	0.49	
	500	127-18-4	tetrachloroethene	29.631	29.789	26.6696	8.028	16.06	mg/m^3	4.26	ppmV	0.02	0.40	81.03	
	500	100-41-4	ethylbenzene	31.355			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	8-38-3/106-42	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	95-47-6	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500		Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
			total volatiles			51		19.8	mg/m^3	9.7	ppmV	0.02	0.50	100.00	

Sample Identification	Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
	500	74-82-8	methane	5.024	4.755	25.5029	2.012	4.02	mg/m^3	6.13	ppmV	0.00	0.10	20.95	
	500	75-01-4	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	75-35-4	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
ID: Mid-Carbon	500	75-09-2	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Date: 1/22/2014	500	156-60-5	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Time:	500	75-34-3	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	156-59-2	cis 1,2-dichloroethene	19.883			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Temp = °F	500	67-66-3	chloroform	20.437	20.384	1.3537	1.114	2.23	mg/m^3	0.46	ppmV	0.00	0.06	11.60	
Flow = 280 SCFM	500	71-55-6	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	71-43-2	benzene	23.071			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	79-01-6	trichloroethene	24.775	24.869	16.4013	5.363	10.73	mg/m^3	2.32	ppmV	0.01	0.27	55.83	
	500	108-88-3	toluene	27.755			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	127-18-4	tetrachloroethene	29.631	29.730	3.7109	1.117	2.23	mg/m^3	0.59	ppmV	0.00	0.06	11.63	
	500	100-41-4	ethylbenzene	31.355			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	8-38-3/106-42	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	95-47-6	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500		Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
			total volatiles			47		19.2	mg/m^3	9.5	ppmV	0.02	0.48	100.00	

GAS CHROMATOGRAPHY REPORT SHEET
GC SCREENING RESULTS
DIRECT INJECT

Client: GM Lockport
File No: 36795-010
Sample Type: BLDG-10 SVE/SSD

Date of Analysis: 23-Jan-14
ICAL Curve Date: Jan-13

Operator: HAH
QA/QC: DMC

Sample Identification	Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
	500	74-82-8	methane	5.024	4.879	20.3727	1.607	3.21	mg/m^3	4.90	ppmV	0.00	0.08	100.00	
	500	75-01-4	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	75-35-4	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
ID: Post-Carbon	500	75-09-2	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Date: 1/22/2014	500	156-60-5	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Time:	500	75-34-3	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	156-59-2	cis 1,2-dichloroethene	19.883			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Temp = °F	500	67-66-3	chloroform	20.437			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Flow = 280 SCFM	500	71-55-6	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	71-43-2	benzene	23.071			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	79-01-6	trichloroethene	24.775			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	108-88-3	toluene	27.755			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	127-18-4	tetrachloroethene	29.631			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	100-41-4	ethylbenzene	31.355			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	8-38-3/106-42	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	95-47-6	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500		Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
			total volatiles			20		3.2	mg/m^3	4.9	ppmV	0.00	0.08	100.00	

Sample Identification	Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
	500	74-82-8	methane	5.024	4.808	17.6994	1.396	2.79	mg/m^3	4.26	ppmV	0.00	0.07	52.71	
	500	75-01-4	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	75-35-4	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
ID: DUP	500	75-09-2	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Date: 1/22/2014	500	156-60-5	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Time:	500	75-34-3	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	156-59-2	cis 1,2-dichloroethene	19.883			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Temp = °F	500	67-66-3	chloroform	20.437			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
Flow = 280 SCFM	500	71-55-6	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	71-43-2	benzene	23.071			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	79-01-6	trichloroethene	24.775	24.879	0.8903	0.291	0.58	mg/m^3	0.13	ppmV	0.00	0.01	10.99	
	500	108-88-3	toluene	27.755			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	127-18-4	tetrachloroethene	29.631	29.739	1.7178	0.517	1.03	mg/m^3	0.27	ppmV	0.00	0.03	19.52	
	500	100-41-4	ethylbenzene	31.355	31.248	6.9790	0.445	0.89	mg/m^3	0.19	ppmV	0.00	0.02	16.78	
	500	8-38-3/106-42	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500	95-47-6	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
	500		Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	0.00	0.00	
			total volatiles			27		5.3	mg/m^3	4.9	ppmV	0.01	0.13	100.00	

ROUTINE MONITORING FORM

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: T. Bohlen Time On-Site: 1240 Time Off-Site: 1330

Date: 2/19/14 SVE Blower Run Time: 29629 + 10172 hours VDF: 60 hertz

SYSTEM STATUS

SVE System Operating:	(YES) NO	If no:	
Alarm lights off:	(YES) NO	If no:	
Autodialer Alarm On:	YES (NO)	If Yes:	

Postion of Swing Panel HOA Switches:

Control Power Switch	(ON)	OFF		SVE Blower Switch	HAND	OFF	(AUTO)
M/S Effluent Pump Switch	HAND (OFF)	AUTO		Heat Exchanger Switch	HAND	OFF	(AUTO)
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				

Moisture Separator Tank Level: (Empty) 1/4 Full 1/2 Full 3/4 Full Full Volume Tranfered: gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.2	in Hg
Vacuum Gauge Post-Inline Filter:	5.0	in Hg
Temperature on Discharge Silencer:	106	° F
Temperature after Heat Exchanger:	73	° F
Pressure After Heat Exchanger	17	in H_2O
Pressure Before Heat Exchanger	20	in H_2O
Pressure Magnehelic Gauge:	2.6	in H_2O
Vacuum Magnehelic Gauge:	> 2	in H_2O
Vacuum Gauge After Manifold:	1	in Hg

System Monitoring Notes:

Flow Rate Based on Pressure Gauge: cfm

Flow Rate Based on Vacuum Gauge: cfm

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	< 1	in Hg	EW-11:	1	in Hg
EW-2:	1.1	in Hg	EW-12:	< 1	in Hg
EW-3:	< 1	in Hg	EW-13:	< 1	in Hg
EW-4:	< 1	in Hg	EW-14:	1.1	in Hg
EW-5:	< 1	in Hg	EW-15:	< 1	in Hg
EW-6:	< 1	in Hg	EW-16:	1	in Hg
EW-7:	< 1	in Hg	EW-17:	< 1	in Hg
EW-8:	< 1	in Hg	SS-1:	1	in H2O
EW-9:	1	in Hg	SS-2:	2	in H2O
EW-10:	1.2	in Hg	SS-3:	1	in H2O

Vaccum Gauge Reading Notes:

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.8	ppm
Background Inside SVE Shed:	0.8	ppm
Pre Carbon Discharge:	4.4	ppm
Mid Carbon Discharge:	1.3	ppm
Post Carbon Discharge:	0.6	ppm

Detector Tube Readings

Pre Carbon	YES	NO	–	ppm
Mid Carbon	YES	NO	–	ppm
Post Carbon	YES	NO	–	ppm

NA

Additional Notes: Duplicate = Mid Carbon

GAS CHROMATOGRAPHY REPORT SHEET
GC SCREENING RESULTS
DIRECT INJECT

Client: GM Lockport
File No: 36795-010
Sample Type: BLDG-10 SVE/SSD

Date of Analysis: 21-Feb-14
ICAL Curve Date: Jan-13
Operator: HAH
QA/QC: DMC

Sample Identification	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	REMARKS
	methane	5.024	4.747	20.2539	1.598	3.20	mg/m^3	4.87	ppmV	0.00	
	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	
ID: Pre-Carbon	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	
Date: 2/21/2014	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	
Time:	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	
	cis 1,2-dichloroethene	19.883			0.000	ND	mg/m^3	ND	ppmV	0.00	
	chloroform	20.437			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	
	benzene	23.071			0.000	ND	mg/m^3	ND	ppmV	0.00	
	trichloroethene	24.775			0.000	ND	mg/m^3	ND	ppmV	0.00	
	toluene	27.755			0.000	ND	mg/m^3	ND	ppmV	0.00	
	tetrachloroethene	29.631	29.691	25.2138	7.589	15.18	mg/m^3	4.03	ppmV	0.00	
	ethylbenzene	31.355			0.000	ND	mg/m^3	ND	ppmV	0.00	
	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	
	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	
	Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	
	total volatiles			45		**18.4**	mg/m^3	**8.9**	ppmV	**0.00**	

Sample Identification	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	REMARKS
	methane	5.024	4.715	19.8877	1.569	3.14	mg/m^3	4.78	ppmV	0.00	
	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	
ID: Mid-Carbon	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	
Date: 2/21/2014	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	
Time:	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	
	cis 1,2-dichloroethene	19.883			0.000	ND	mg/m^3	ND	ppmV	0.00	
	chloroform	20.437			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	
	benzene	23.071			0.000	ND	mg/m^3	ND	ppmV	0.00	
	trichloroethene	24.775	24.725	0.8826	0.289	0.58	mg/m^3	0.12	ppmV	0.00	
	toluene	27.755			0.000	ND	mg/m^3	ND	ppmV	0.00	
	tetrachloroethene	29.631	29.600	3.0436	0.916	1.83	mg/m^3	0.49	ppmV	0.00	
	ethylbenzene	31.355			0.000	ND	mg/m^3	ND	ppmV	0.00	
	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	
	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	
	Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	
	total volatiles			24		**5.5**	mg/m^3	**5.4**	ppmV	**0.00**	

Sample Identification	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	REMARKS
	methane	5.024	4.675	22.2333	1.754	3.51	mg/m^3	5.35	ppmV	0.00	
	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	
ID: Post-Carbon	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	
Date: 2/21/2014	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	
Time:	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	
	cis 1,2-dichloroethene	19.883			0.000	ND	mg/m^3	ND	ppmV	0.00	
	chloroform	20.437			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	
	benzene	23.071			0.000	ND	mg/m^3	ND	ppmV	0.00	
	trichloroethene	24.775			0.000	ND	mg/m^3	ND	ppmV	0.00	
	toluene	27.755	27.688	0.8264	0.064	0.13	mg/m^3	0.02	ppmV	0.00	
	tetrachloroethene	29.631			0.000	ND	mg/m^3	ND	ppmV	0.00	
	ethylbenzene	31.355			0.000	ND	mg/m^3	ND	ppmV	0.00	
	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	
	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	
	Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	
	total volatiles			23		**3.6**	mg/m^3	**5.4**	ppmV	**0.00**	

Sample Identification	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	REMARKS
	methane	5.024	4.685	19.1420	1.510	3.02	mg/m^3	4.60	ppmV	0.00	
	vinyl chloride	8.072			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1-dichloroethene	15.150			0.000	ND	mg/m^3	ND	ppmV	0.00	
ID: DUP	methylene chloride	15.444			0.000	ND	mg/m^3	ND	ppmV	0.00	
Date: 2/21/2014	trans 1,2-dichloroethene	17.746			0.000	ND	mg/m^3	ND	ppmV	0.00	
Time:	1,1-dichloroethane	18.185			0.000	ND	mg/m^3	ND	ppmV	0.00	
	cis 1,2-dichloroethene	19.883	20.189	1.2121	0.339	0.68	mg/m^3	0.17	ppmV	0.00	
	chloroform	20.437			0.000	ND	mg/m^3	ND	ppmV	0.00	
	1,1,1-trichloroethane	22.281			0.000	ND	mg/m^3	ND	ppmV	0.00	
	benzene	23.071			0.000	ND	mg/m^3	ND	ppmV	0.00	
	trichloroethene	24.775	24.681	0.9016	0.295	0.59	mg/m^3	0.13	ppmV	0.00	
	toluene	27.755			0.000	ND	mg/m^3	ND	ppmV	0.00	
	tetrachloroethene	29.631	29.562	2.5033	0.753	1.51	mg/m^3	0.40	ppmV	0.00	
	ethylbenzene	31.355			0.000	ND	mg/m^3	ND	ppmV	0.00	
	m/p-xylene	31.622			0.000	ND	mg/m^3	ND	ppmV	0.00	
	o-xylene	32.497			0.000	ND	mg/m^3	ND	ppmV	0.00	
	Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.00	
	total volatiles			24		**5.8**	mg/m^3	**5.3**	ppmV	**0.00**	

ROUTINE MONITORING FORM

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: T. Bohlen Time On-Site: 1500 Time Off-Site: 1600

Date: ~~4/8/14~~ 4/8/14 SVE Blower Run Time: 30282.4 + 10172 hours VDF: 60 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:				
Alarm lights off:	(YES)	NO	If no:				
Autodialer Alarm On:	(YES)	NO	If Yes:				
Postion of Swing Panel HOA Switches:							
Control Power Switch	(ON)	OFF	SVE Blower Switch	HAND	OFF	(AUTO)	
M/S Effluent Pump Switch	HAND	(OFF) AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)	
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				
Moisture Separator Tank Level: (Empty)	1/4 Full	1/2 Full	3/4 Full	Full	Volume Tranfered:	gals	

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.2	in Hg
Vacuum Gauge Post-Inline Filter:	5.4	in Hg
Temperature on Discharge Silencer:	108	° F
Temperature after Heat Exchanger:	72	° F
Pressure After Heat Exchanger	17	in H_2O
Pressure Before Heat Exchanger	20	in H_2O
Pressure Magnehelic Gauge:	2.7	in H_2O
Vacuum Magnehelic Gauge:	>2	in H_2O
Vacuum Gauge After Manifold:	1	in Hg

System Monitoring Notes:

Flow Rate Based on Pressure Gauge: cfm

Flow Rate Based on Vacuum Gauge: cfm

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	<1	in Hg	EW-11:	1	in Hg
EW-2:	1.1	in Hg	EW-12:	<1	in Hg
EW-3:	1	in Hg	EW-13:	<1	in Hg
EW-4:	<1	in Hg	EW-14:	1.1	in Hg
EW-5:	<1	in Hg	EW-15:	1	in Hg
EW-6:	<1	in Hg	EW-16:	1	in Hg
EW-7:	<1	in Hg	EW-17:	<1	in Hg
EW-8:	<1	in Hg	SS-1:	<1	in H2O
EW-9:	1	in Hg	SS-2:	2	in H2O
EW-10:	1.2	in Hg	SS-3:	<1	in H2O

Vaccum Gauge Reading Notes:

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.0	ppm
Background Inside SVE Shed:	0.0	ppm
Pre Carbon Discharge:	2.9	ppm
Mid Carbon Discharge:	1.3	ppm
Post Carbon Discharge:	0.0	ppm

Detector Tube Readings

Pre Carbon	YES	NO	—	ppm
Mid Carbon	YES	NO	~	ppm
Post Carbon	YES	NO	—	ppm

NA

Additional Notes: Duplicate = Mid Carbon

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:			INVOICE TO:			LAB PROJECT ID
CLIENT: GZA GeoEnvironmental			CLIENT:			
ADDRESS: 535 Washington			ADDRESS:			
CITY: Buffalo	STATE: NY	ZIP: 14203	CITY:	STATE:	ZIP:	Quotation #:
PHONE: 716 685-2300			PHONE:			Email: christopher.bacon@gza.com
ATTN: C. Bacon			ATTN:			

PROJECT REFERENCE
21.0056546.00

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOCs * see attached list *	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	4/8/14	1530		X	Pre-Carbon	AR	1	X	* reuse Tedlars- return to GZA office *	
2		1535		X	Mid-Carbon	↓	↓	X		
3		1540		X	Post-Carbon			X		
4				X	Duplicate			X		
5										
6										
7										
8										
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please indicate:	☐

Thomas Bohler	4/8/14	Total Cost:	
Sampled By	Date/Time		
Thomas Bohler	4/8/14		
Relinquished By	Date/Time		
[signature]	4/8/14	P.I.F.	☐
Received By	Date/Time		
Received @ Lab By	Date/Time		

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

141374

Referencing

21.0056546.00 Task 33

Prepared

Thursday, April 17, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141374

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Pre-Carbon		
Lab Sample ID:	141374-01	**Date Sampled:**	4/8/2014
Matrix:	Air	**Date Received:**	4/9/2014

Methane

Analyte	Result	Units	Qualifier	Date Analyzed
Methane	**12.0**	mg/m3	BH	4/15/2014

Sample was analyzed outside of holding time. Blank result was 11.2 mg/m3.

Method Reference(s): EPA Method 18
Subcontractor ELAP ID: 10709

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1,1-Trichloroethane	< 2.00	mg/m3		4/11/2014	18:47
1,1-Dichloroethane	< 2.00	mg/m3		4/11/2014	18:47
1,1-Dichloroethene	< 2.00	mg/m3		4/11/2014	18:47
Benzene	< 2.00	mg/m3		4/11/2014	18:47
Chloroform	< 2.00	mg/m3		4/11/2014	18:47
cis-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014	18:47
Ethylbenzene	< 2.00	mg/m3		4/11/2014	18:47
m,p-Xylene	< 2.00	mg/m3		4/11/2014	18:47
Methylene chloride	< 5.00	mg/m3		4/11/2014	18:47
o-Xylene	< 2.00	mg/m3		4/11/2014	18:47
Tetrachloroethene	**4.40**	mg/m3		4/11/2014	18:47
Toluene	< 2.00	mg/m3		4/11/2014	18:47
trans-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014	18:47
Trichloroethene	< 2.00	mg/m3		4/11/2014	18:47
Vinyl chloride	< 2.00	mg/m3		4/11/2014	18:47

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x12511.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141374

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Mid-Carbon		
Lab Sample ID:	141374-02	**Date Sampled:**	4/8/2014
Matrix:	Air	**Date Received:**	4/9/2014

Methane

Analyte	Result	Units	Qualifier	Date Analyzed
Methane	**15.2**	mg/m3	BH	4/15/2014

Sample was analyzed outside of holding time. Blank result was 11.2 mg/m3.

Method Reference(s): EPA Method 18
Subcontractor ELAP ID: 10709

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1,1-Trichloroethane	< 2.00	mg/m3		4/11/2014	18:23
1,1-Dichloroethane	< 2.00	mg/m3		4/11/2014	18:23
1,1-Dichloroethene	< 2.00	mg/m3		4/11/2014	18:23
Benzene	< 2.00	mg/m3		4/11/2014	18:23
Chloroform	< 2.00	mg/m3		4/11/2014	18:23
cis-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014	18:23
Ethylbenzene	< 2.00	mg/m3		4/11/2014	18:23
m,p-Xylene	< 2.00	mg/m3		4/11/2014	18:23
Methylene chloride	< 5.00	mg/m3		4/11/2014	18:23
o-Xylene	< 2.00	mg/m3		4/11/2014	18:23
Tetrachloroethene	< 2.00	mg/m3		4/11/2014	18:23
Toluene	< 2.00	mg/m3		4/11/2014	18:23
trans-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014	18:23
Trichloroethene	< 2.00	mg/m3		4/11/2014	18:23
Vinyl chloride	< 2.00	mg/m3		4/11/2014	18:23

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x12510.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141374

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Post-Carbon		
Lab Sample ID:	141374-03	**Date Sampled:**	4/8/2014
Matrix:	Air	**Date Received:**	4/9/2014

Methane

Analyte	Result	Units	Qualifier	Date Analyzed
Methane	**14.2**	mg/m3	BH	4/15/2014

Sample was analyzed outside of holding time. Blank result was 11.2 mg/m3.

Method Reference(s): EPA Method 18
Subcontractor ELAP ID: 10709

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		4/11/2014 18:00
1,1-Dichloroethane	< 2.00	mg/m3		4/11/2014 18:00
1,1-Dichloroethene	< 2.00	mg/m3		4/11/2014 18:00
Benzene	< 2.00	mg/m3		4/11/2014 18:00
Chloroform	< 2.00	mg/m3		4/11/2014 18:00
cis-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014 18:00
Ethylbenzene	< 2.00	mg/m3		4/11/2014 18:00
m,p-Xylene	< 2.00	mg/m3		4/11/2014 18:00
Methylene chloride	< 5.00	mg/m3		4/11/2014 18:00
o-Xylene	< 2.00	mg/m3		4/11/2014 18:00
Tetrachloroethene	< 2.00	mg/m3		4/11/2014 18:00
Toluene	< 2.00	mg/m3		4/11/2014 18:00
trans-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014 18:00
Trichloroethene	< 2.00	mg/m3		4/11/2014 18:00
Vinyl chloride	< 2.00	mg/m3		4/11/2014 18:00

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x12509.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141374

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Duplicate		
Lab Sample ID:	141374-04	**Date Sampled:**	4/8/2014
Matrix:	Air	**Date Received:**	4/9/2014

Methane

Analyte	Result	Units	Qualifier	Date Analyzed
Methane	**13.4**	mg/m3	BH	4/15/2014

Sample was analyzed outside of holding time. Blank result was 11.2 mg/m3.

Method Reference(s): EPA Method 18
Subcontractor ELAP ID: 10709

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1,1-Trichloroethane	< 2.00	mg/m3		4/11/2014	17:36
1,1-Dichloroethane	< 2.00	mg/m3		4/11/2014	17:36
1,1-Dichloroethene	< 2.00	mg/m3		4/11/2014	17:36
Benzene	< 2.00	mg/m3		4/11/2014	17:36
Chloroform	< 2.00	mg/m3		4/11/2014	17:36
cis-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014	17:36
Ethylbenzene	< 2.00	mg/m3		4/11/2014	17:36
m,p-Xylene	< 2.00	mg/m3		4/11/2014	17:36
Methylene chloride	< 5.00	mg/m3		4/11/2014	17:36
o-Xylene	< 2.00	mg/m3		4/11/2014	17:36
Tetrachloroethene	**2.24**	mg/m3		4/11/2014	17:36
Toluene	< 2.00	mg/m3		4/11/2014	17:36
trans-1,2-Dichloroethene	< 2.00	mg/m3		4/11/2014	17:36
Trichloroethene	< 2.00	mg/m3		4/11/2014	17:36
Vinyl chloride	< 2.00	mg/m3		4/11/2014	17:36

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x12508.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

PARADIGM ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	
CLIENT: GZA GeoEnvironmental	CLIENT:	eem 4/9/14 LAB PROJECT ID: L3141374
ADDRESS: 535 Washington	ADDRESS:	
CITY: Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:	Quotation #:
PHONE: 716 685-2300	PHONE:	Email: christopher.boron@gza.com
ATTN: C. Boron	ATTN:	

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOCs *see attached list	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	4/8/14	1530		X	Pre-Carbon	AR	1	X	* reuse Tedlars - return to GZA office *	01
2		1535		X	Mid-Carbon			X		02
3		1540		X	Post-Carbon			X		03
4		-		X	Duplicate			X		04
5										
6									Methane and ~~TPH~~ EE SSL 4/14	
7									Due 4/17 OK per	
8									CB SSL 4/14	
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Sampled By: Thomas Bohler	Date/Time: 4/8/14	Total Cost:
Relinquished By: Thomas Bohler	Date/Time: 4/8/14	
Received By:	Date/Time: 4/8/14	P.I.F.
Received @ Lab By:	Date/Time: 4/9/14 1735	

Chain of Custody Supplement

Client: GZA **Completed by:** MWall

Lab Project ID: 141374 **Date:** 4/9/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt Yes	No	N/A
Container Type	X		
Comments	Tedlar Bag		
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments			
Sufficient Sample Quantity	X		
Comments			

PARADIGM ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

ADIRONDACK: ELAP ID: 10709

REPORT TO:		INVOICE TO:			
COMPANY:	Paradigm Environmental	COMPANY:	Same	LAB PROJECT #:	CLIENT PROJECT #:
ADDRESS:		ADDRESS:			
CITY: STATE: ZIP:		CITY: STATE: ZIP:		TURNAROUND TIME: (WORKING DAYS)	
PHONE: FAX:		PHONE: FAX:		STD / OTHER	
PROJECT NAME/SITE NAME:		ATTN:	Kate Hansen	ATTN:	Meridith Dillman
		COMMENTS:	Please email results to khansen@paradigmenv.com and jdaloia@paradigmenv.com	Date Due: ~~4/17/14~~ 4/17/14	

REQUESTED ANALYSIS

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER OF CONTAINERS	Methane	TO-15	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	4/8/14	1530			141374-01	Air	1	X	X		001
2		1535			-02		1	X	X		002
3		1540			-03		1	X	X		003
4	↓	N/A			-04	↓	1	X	X		004
5										Please return	
6										bags for air	
7											
8											
9					Sample containers						
10					are not supplied by ARS JDM. 4/15/14						

LAB USE ONLY BELOW THIS LINE

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

Receipt Parameter	NELAC Compliance	
Container Type:	Y ☐	N ☐
Comments:		
Preservation:	Y ☐	N ☐
Comments:		
Holding Time:	Y ☐	N ☐
Comments:		
Temperature:	Y ☐	N ☐
Comments:		

Client

Sampled By — Date/Time: 4/14/14 1600

Relinquished By — Date/Time

Received By — Date/Time: 4/15/14 7:31 Am

Received @ Lab By — Date/Time

Total Cost:

P.I.F.

ROUTINE MONITORING FORM
OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: T. Bohler | Time On-Site: 1530 | Time Off-Site: 1630

Date: 5/1/2014 | SVE Blower Run Time: 30834.6 + 10172 hours | VDF: 60.0 hertz

SYSTEM STATUS

SVE System Operating:	(YES) NO	If no:	
Alarm lights off:	(YES) NO	If no:	
Autodialer Alarm On:	YES (NO)	If Yes:	

Postion of Swing Panel HOA Switches:

Control Power Switch	(ON)	OFF		SVE Blower Switch	HAND	OFF	(AUTO)
M/S Effluent Pump Switch	HAND (OFF)	AUTO		Heat Exchanger Switch	HAND	OFF	(AUTO)
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				

Moisture Separator Tank Level: (Empty) 1/4 Full 1/2 Full 3/4 Full Full Volume Tranfered: gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.2	in Hg
Vacuum Gauge Post-Inline Filter:	5.4	in Hg
Temperature on Discharge Silencer:	112	°F
Temperature after Heat Exchanger:	75	°F
Pressure After Heat Exchanger	17	in H_2O
Pressure Before Heat Exchanger	20	in H_2O
Pressure Magnehelic Gauge:	2.6	in H_2O
Vacuum Magnehelic Gauge:	>2	in H_2O
Vacuum Gauge After Manifold:	1	in Hg

System Monitoring Notes:

Flow Rate Based on Pressure Gauge: cfm

Flow Rate Based on Vacuum Gauge: cfm

EXTRACTION WELL VACUUM GAUGE READINGS

EW-1:	<1	in Hg	EW-11:	1	in Hg
EW-2:	1	in Hg	EW-12:	<1	in Hg
EW-3:	1	in Hg	EW-13:	<1	in Hg
EW-4:	<1	in Hg	EW-14:	1.1	in Hg
EW-5:	<1	in Hg	EW-15:	1	in Hg
EW-6:	<1	in Hg	EW-16:	1	in Hg
EW-7:	<1	in Hg	EW-17:	<1	in Hg
EW-8:	<1	in Hg	SS-1:	<1	in H2O
EW-9:	1	in Hg	SS-2:	1	in H2O
EW-10:	1.2	in Hg	SS-3:	<1	in H2O

Vaccum Gauge Reading Notes:

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.0	ppm
Background Inside SVE Shed:	0.0	ppm
Pre Carbon Discharge:	3.9	ppm
Mid Carbon Discharge:	3.0	ppm
Post Carbon Discharge:	0.3	ppm

Detector Tube Readings

Pre Carbon	YES	NO	—	ppm
Mid Carbon	YES	NO	—	ppm
Post Carbon	YES	NO	—	ppm

Additional Notes: Dupliate = Post-Carbon

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	GZA GeoEnvironmental	CLIENT:		
ADDRESS:	535 Washington St	ADDRESS:		
CITY: Buffalo STATE: NY ZIP: 14203	→	CITY: STATE: ZIP:		Quotation #:
PHONE:	716-685-2300	PHONE:		Email: christopher.boron@gza.com
ATTN:	C. Boron	ATTN:		

PROJECT REFERENCE
GMCH Bldg 10 SVE Mon.
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC - see previous work order									REMARKS	PARADIGM LAB SAMPLE NUMBER
1	5/1/14	1545		X	Pre-Carbon	AR	1										* reuse Tedlars - return to Thomas Bohlen - GZA office *	
2		1550		X	Mid-Carbon	↓	↓											
3		1555		X	Post-Carbon	↓	↓											
4		-		X	Duplicate	↓	↓											
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please indicate:	☐

Sampled By	Thomas Bohlen	Date/Time 5/1/14 / 1555
Relinquished By	Thomas Bohlen	Date/Time 5/2/14
Received By	[signature]	Date/Time 5/2/14 902
Received @ Lab By		Date/Time

Total Cost:

P.I.F.

PARADIGM

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

141748

Referencing

GMCH Bldg 10 SVE Mon. 21.0056546.00 Task 33

Prepared

Friday, May 09, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141748

Client: **GZA Geo Environmental of New York**

Project Reference: GMCH Bldg 10 SVE Mon. 21.0056546.00 Task 33

Sample Identifier: Pre-Carbon
Lab Sample ID: 141748-01 **Date Sampled:** 5/1/2014
Matrix: Air **Date Received:** 5/3/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		5/7/2014 19:27
1,1-Dichloroethane	< 2.00	mg/m3		5/7/2014 19:27
1,1-Dichloroethene	< 2.00	mg/m3		5/7/2014 19:27
1,2-Dichloropropane	< 2.00	mg/m3		5/7/2014 19:27
2-Butanone	< 10.0	mg/m3		5/7/2014 19:27
Benzene	< 2.00	mg/m3		5/7/2014 19:27
Chlorobenzene	< 2.00	mg/m3		5/7/2014 19:27
Chloroform	< 2.00	mg/m3		5/7/2014 19:27
cis-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014 19:27
Ethylbenzene	< 2.00	mg/m3		5/7/2014 19:27
m,p-Xylene	< 2.00	mg/m3		5/7/2014 19:27
Methyl tert-butyl Ether	< 2.00	mg/m3		5/7/2014 19:27
Methylene chloride	< 5.00	mg/m3		5/7/2014 19:27
o-Xylene	< 2.00	mg/m3		5/7/2014 19:27
Tetrachloroethene	**5.72**	mg/m3		5/7/2014 19:27
Toluene	< 2.00	mg/m3		5/7/2014 19:27
trans-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014 19:27
Trichloroethene	< 2.00	mg/m3		5/7/2014 19:27
Vinyl chloride	< 2.00	mg/m3		5/7/2014 19:27

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x13051.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141748

Client: **GZA Geo Environmental of New York**

Project Reference: GMCH Bldg 10 SVE Mon. 21.0056546.00 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 141748-02 **Date Sampled:** 5/1/2014
Matrix: Air **Date Received:** 5/3/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1,1-Trichloroethane	< 2.00	mg/m3		5/7/2014	19:50
1,1-Dichloroethane	< 2.00	mg/m3		5/7/2014	19:50
1,1-Dichloroethene	< 2.00	mg/m3		5/7/2014	19:50
1,2-Dichloropropane	< 2.00	mg/m3		5/7/2014	19:50
2-Butanone	< 10.0	mg/m3		5/7/2014	19:50
Benzene	< 2.00	mg/m3		5/7/2014	19:50
Chlorobenzene	< 2.00	mg/m3		5/7/2014	19:50
Chloroform	< 2.00	mg/m3		5/7/2014	19:50
cis-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014	19:50
Ethylbenzene	< 2.00	mg/m3		5/7/2014	19:50
m,p-Xylene	< 2.00	mg/m3		5/7/2014	19:50
Methyl tert-butyl Ether	< 2.00	mg/m3		5/7/2014	19:50
Methylene chloride	< 5.00	mg/m3		5/7/2014	19:50
o-Xylene	< 2.00	mg/m3		5/7/2014	19:50
Tetrachloroethene	**3.53**	mg/m3		5/7/2014	19:50
Toluene	< 2.00	mg/m3		5/7/2014	19:50
trans-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014	19:50
Trichloroethene	< 2.00	mg/m3		5/7/2014	19:50
Vinyl chloride	< 2.00	mg/m3		5/7/2014	19:50

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x13052.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141748

Client: **GZA Geo Environmental of New York**

Project Reference: GMCH Bldg 10 SVE Mon. 21.0056546.00 Task 33

Sample Identifier: Post-Carbon
Lab Sample ID: 141748-03 **Date Sampled:** 5/1/2014
Matrix: Air **Date Received:** 5/3/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		5/7/2014 20:14
1,1-Dichloroethane	< 2.00	mg/m3		5/7/2014 20:14
1,1-Dichloroethene	< 2.00	mg/m3		5/7/2014 20:14
1,2-Dichloropropane	< 2.00	mg/m3		5/7/2014 20:14
2-Butanone	< 10.0	mg/m3		5/7/2014 20:14
Benzene	< 2.00	mg/m3		5/7/2014 20:14
Chlorobenzene	< 2.00	mg/m3		5/7/2014 20:14
Chloroform	< 2.00	mg/m3		5/7/2014 20:14
cis-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014 20:14
Ethylbenzene	< 2.00	mg/m3		5/7/2014 20:14
m,p-Xylene	< 2.00	mg/m3		5/7/2014 20:14
Methyl tert-butyl Ether	< 2.00	mg/m3		5/7/2014 20:14
Methylene chloride	< 5.00	mg/m3		5/7/2014 20:14
o-Xylene	< 2.00	mg/m3		5/7/2014 20:14
Tetrachloroethene	< 2.00	mg/m3		5/7/2014 20:14
Toluene	< 2.00	mg/m3		5/7/2014 20:14
trans-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014 20:14
Trichloroethene	< 2.00	mg/m3		5/7/2014 20:14
Vinyl chloride	< 2.00	mg/m3		5/7/2014 20:14

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x13053.D

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 141748

Client: **GZA Geo Environmental of New York**

Project Reference: GMCH Bldg 10 SVE Mon. 21.0056546.00 Task 33

Sample Identifier: Duplicate
Lab Sample ID: 141748-04 **Date Sampled:** 5/1/2014
Matrix: Air **Date Received:** 5/3/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		5/7/2014 20:37
1,1-Dichloroethane	< 2.00	mg/m3		5/7/2014 20:37
1,1-Dichloroethene	< 2.00	mg/m3		5/7/2014 20:37
1,2-Dichloropropane	< 2.00	mg/m3		5/7/2014 20:37
2-Butanone	< 10.0	mg/m3		5/7/2014 20:37
Benzene	< 2.00	mg/m3		5/7/2014 20:37
Chlorobenzene	< 2.00	mg/m3		5/7/2014 20:37
Chloroform	< 2.00	mg/m3		5/7/2014 20:37
cis-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014 20:37
Ethylbenzene	< 2.00	mg/m3		5/7/2014 20:37
m,p-Xylene	< 2.00	mg/m3		5/7/2014 20:37
Methyl tert-butyl Ether	< 2.00	mg/m3		5/7/2014 20:37
Methylene chloride	< 5.00	mg/m3		5/7/2014 20:37
o-Xylene	< 2.00	mg/m3		5/7/2014 20:37
Tetrachloroethene	< 2.00	mg/m3		5/7/2014 20:37
Toluene	< 2.00	mg/m3		5/7/2014 20:37
trans-1,2-Dichloroethene	< 2.00	mg/m3		5/7/2014 20:37
Trichloroethene	< 2.00	mg/m3		5/7/2014 20:37
Vinyl chloride	< 2.00	mg/m3		5/7/2014 20:37

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x13054.D

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

PARADIGM ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	GZA GeoEnvironmental	CLIENT:		141748
ADDRESS:	535 Washington St.	ADDRESS:		Quotation #:
CITY:	Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:		
PHONE:	716-685-2300	PHONE:		Email: christopher.boron@gza.com
ATTN:	C. Boron	ATTN:		

PROJECT REFERENCE
GMCH Bldg 10 SVE Mon.
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC - see previous work order	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	5/1/14	1545		X	Pre-Carbon	AR	1		*reuse Tedlars - return to Thomas Bohlen - GZA Office*	01
2		1550		X	Mid-Carbon					02
3		1555		X	Post-Carbon					03
4		-		X	Duplicate					04
5										
6										
7										
8										
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Thomas Bohlen	5/1/14 /1555	Sampled By / Date/Time
Thomas Bohlen	5/2/14	Relinquished By / Date/Time
	5/2/14 902	Received By / Date/Time
	5/3/14 0944	Received @ Lab By / Date/Time

Total Cost:

P.I.F.

Compound list for Paradigm reference only

GAS CHROMATOGRAPHY REPORT SHEET
GC SCREENING RESULTS
DIRECT INJECT

Client: GM Lockport
File No: 36795-010
Sample Type: BLDG-10 SVE/SSD

Date of Analysis: 29-Nov-11
ICAL Curve Date: Jan-11

Operator: ehs

QA/QC: MGN

Removal Efficiency (Pre-Carbon to Mid-Carbon) 43%
Removal Efficiency (Pre-Carbon to Post-Carbon) 91%

Sample Identification		Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
		~~500~~	~~74-82-8~~	~~methane~~	~~4.500~~	~~4.164~~	~~28.6~~	~~1.000~~	~~3.82~~	~~mg/m^3~~	~~5.92~~	~~ppmV~~	~~0.004~~	~~0.10~~	~~9.09~~	
		500	75-01-4	vinyl chloride	7.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-35-4	1,1-dichloroethene	14.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-09-2	methylene chloride	14.700			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
ID:	Pre-Carbon	500	156-60-5	trans 1,2-dichloroethene	17.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichloroethane	17.500			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Time:		500	1634-04-4	MTBE	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-93-3	2-butanone (MEK)	18.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	156-59-2	cis 1,2-dichloroethene	19.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Temp =	°F	500	67-66-3	chloroform	19.800			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Flow =	280 SCFM	500	71-55-6	1,1,1-trichloroethane	21.600			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	71-43-2	benzene	22.400			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-87-5	1,2-dichloropropane	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	79-01-6	trichloroethene	24.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-88-3	toluene	27.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	127-18-4	tetrachloroethene	29.200	28.595	86.0	19.176	38.35	mg/m^3	5.66	ppmV	0.040	0.97	90.91	
		500	108-90-7	chlorobenzene	30.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	100-41-4	ethylbenzene	30.900			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-38-3/106-42-3	m/p-xylene	31.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	95-47-6	o-xylene	32.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		~~500~~		~~Unknown TPH~~				0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
				total volatiles			114		42.2	mg/m^3	11.5	ppmV	0.044	1.06	100.00	

Sample Identification		Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
		~~500~~	~~74-82-8~~	~~methane~~	~~4.500~~	~~4.149~~	~~28.3~~	~~1.000~~	~~3.80~~	~~mg/m^3~~	~~5.70~~	~~ppmV~~	~~0.004~~	~~0.10~~	~~10.25~~	
		500	75-01-4	vinyl chloride	7.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-35-4	1,1-dichloroethene	14.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-09-2	methylene chloride	14.700			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
ID:	Mid-Carbon	500	156-60-5	trans 1,2-dichloroethene	17.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichloroethane	17.500			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Time:		500	1634-04-4	MTBE	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-93-3	2-butanone (MEK)	18.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	156-59-2	cis 1,2-dichloroethene	19.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Temp =	°F	500	67-66-3	chloroform	19.800			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Flow =	280 SCFM	500	71-55-6	1,1,1-trichloroethane	21.600			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	71-43-2	benzene	22.400			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-87-5	1,2-dichloropropane	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	79-01-6	trichloroethene	24.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-88-3	toluene	27.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	127-18-4	tetrachloroethene	29.200	28.549	74.0	16.630	33.26	mg/m^3	4.90	ppmV	0.035	0.84	89.75	
		500	108-90-7	chlorobenzene	30.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	100-41-4	ethylbenzene	30.900			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-38-3/106-42-3	m/p-xylene	31.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	95-47-6	o-xylene	32.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		~~500~~		~~Unknown TPH~~				0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
				total volatiles			103		37.1	mg/m^3	10.7	ppmV	0.029	0.93	100.00	

No Methane or Unknown TPH per KH SSL 5/3/14

PARADIGM

Chain of Custody Supplement

Client: G2A **Completed by:** SSL

Lab Project ID: 141748 **Date:** 5/3/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	*NELAC compliance with the sample condition requirements upon receipt* Yes	No	N/A
Container Type	X		
Comments	AV		
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments			
Sufficient Sample Quantity	X		
Comments			

ROUTINE MONITORING FORM
OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: T. Bohlen | Time On-Site: 845 | Time Off-Site: 945

Date: 6/5/14 | SVE Blower Run Time: 31667.8 + 10172 hours | VDF: 60 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:
Alarm lights off:	(YES)	NO	If no:
Autodialer Alarm On:	YES	(NO)	If Yes:

Postion of Swing Panel HOA Switches:

Control Power Switch	(ON)		OFF	SVE Blower Switch	HAND	OFF	(AUTO)
M/S Effluent Pump Switch	HAND	(OFF)	AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)
Heat Exchanger Operating	(YES)		NO	If no:			
SVE System appear to be operating properly?	(YES)		NO	If no:			

Moisture Separator Tank Level: (Empty) 1/4 Full 1/2 Full 3/4 Full Full | Volume Tranfered: gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.2	in Hg
Vacuum Gauge Post-Inline Filter:	5.4	in Hg
Temperature on Discharge Silencer:	115	°F
Temperature after Heat Exchanger:	78	°F
Pressure After Heat Exchanger	16.1	in H_2O
Pressure Before Heat Exchanger	19.8	in H_2O
Pressure Magnehelic Gauge:	2.5	in H_2O
Vacuum Magnehelic Gauge:	>2	in H_2O
Vacuum Gauge After Manifold:	1	in Hg

System Monitoring Notes:

Flow Rate Based on Pressure Gauge: cfm

Flow Rate Based on Vacuum Gauge: cfm

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	<1	in Hg	EW-11:	1	in Hg	**Vaccum Gauge Reading Notes:**	
EW-2:	1.1	in Hg	EW-12:	1	in Hg		
EW-3:	1	in Hg	EW-13:	<1	in Hg		
EW-4:	<1	in Hg	EW-14:	1.1	in Hg		
EW-5:	<1	in Hg	EW-15:	1	in Hg		
EW-6:	<1	in Hg	EW-16:	1	in Hg		
EW-7:	<1	in Hg	EW-17:	<1	in Hg		
EW-8:	<1	in Hg	SS-1:	1	in H2O		
EW-9:	1	in Hg	SS-2:	1.5	in H2O		
EW-10:	1.3	in Hg	SS-3:	1	in H2O		

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.0	ppm
Background Inside SVE Shed:	0.0	ppm
Pre Carbon Discharge:	3.5	ppm
Mid Carbon Discharge:	4.6	ppm
Post Carbon Discharge:	1.1	ppm

Detector Tube Readings

Pre Carbon	YES	NO	—	ppm
Mid Carbon	YES	NO	~	ppm
Post Carbon	YES	NO	—	ppm

Additional Notes: Duplicate = Mid-Carbon

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM
ENVIRONMENTAL SERVICES, INC

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT: GZA GeoEnvironmental		CLIENT:		
ADDRESS: 535 Washington St.		ADDRESS:		Quotation #:
CITY: Buffalo, NY 14203	STATE: ZIP:	CITY:	STATE: ZIP:	
PHONE: 716-685-2300		PHONE:		Email: christopher.boron@gza.com
ATTN: C. Boron		ATTN:		

PROJECT REFERENCE
GMCH Bldg 10 SVE System Monitoring
21.0056546.00 TSK 33

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	- see previous work orders	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	6/5/14	935		X	Pre-Carbon	AR	1	X		*reuse Tedlars return to Thomas Bohlen - GZA office*	
2		940		X	Mid-Carbon			X			
3		945		X	Post-Carbon			X			
4		-		X	Duplicate			X			
5											
6											
7											
8											
9											
10											

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please indicate:	☐

Sampled By: Thomas Bohlen — Date/Time: 5/1/14 / 9:45
Relinquished By: Thomas Bohlen — Date/Time: 5/1/14
Received By — Date/Time
Received @ Lab By — Date/Time

Total Cost:

P.I.F.

PARADIGM

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

142345

Referencing

GMCM Bldg 10 SVE System Monitoring 21.0056546.00

Prepared

Wednesday, June 11, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 142345

Client: **GZA Geo Environmental of New York**

Project Reference: GMCM Bldg 10 SVE System Monitoring 21.0056546.00

Sample Identifier: Pre-Carbon
Lab Sample ID: 142345-01 **Date Sampled:** 6/5/2014
Matrix: Air **Date Received:** 6/6/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed	
1,1,1-Trichloroethane	< 2.00	mg/m3		6/10/2014	15:13
1,1-Dichloroethane	< 2.00	mg/m3		6/10/2014	15:13
1,1-Dichloroethene	< 2.00	mg/m3		6/10/2014	15:13
1,2-Dichloropropane	< 2.00	mg/m3		6/10/2014	15:13
2-Butanone (MEK)	< 10.0	mg/m3		6/10/2014	15:13
Benzene	< 2.00	mg/m3		6/10/2014	15:13
Chlorobenzene	< 2.00	mg/m3		6/10/2014	15:13
Chloroform	< 2.00	mg/m3		6/10/2014	15:13
cis-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014	15:13
Ethylbenzene	< 2.00	mg/m3		6/10/2014	15:13
m,p-Xylene	< 2.00	mg/m3		6/10/2014	15:13
Methyl tert-butyl Ether	< 2.00	mg/m3		6/10/2014	15:13
Methylene chloride	< 5.00	mg/m3		6/10/2014	15:13
o-Xylene	< 2.00	mg/m3		6/10/2014	15:13
Tetrachloroethene	**8.47**	mg/m3		6/10/2014	15:13
Toluene	< 2.00	mg/m3		6/10/2014	15:13
trans-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014	15:13
Trichloroethene	< 2.00	mg/m3		6/10/2014	15:13
Vinyl chloride	< 2.00	mg/m3		6/10/2014	15:13

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x14092.D

Report Prepared Wednesday, June 11, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 142345

Client: **GZA Geo Environmental of New York**

Project Reference: GMCM Bldg 10 SVE System Monitoring 21.0056546.00

Sample Identifier: Mid-Carbon
Lab Sample ID: 142345-02 **Date Sampled:** 6/5/2014
Matrix: Air **Date Received:** 6/6/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		6/10/2014 15:36
1,1-Dichloroethane	< 2.00	mg/m3		6/10/2014 15:36
1,1-Dichloroethene	< 2.00	mg/m3		6/10/2014 15:36
1,2-Dichloropropane	< 2.00	mg/m3		6/10/2014 15:36
2-Butanone (MEK)	< 10.0	mg/m3		6/10/2014 15:36
Benzene	< 2.00	mg/m3		6/10/2014 15:36
Chlorobenzene	< 2.00	mg/m3		6/10/2014 15:36
Chloroform	< 2.00	mg/m3		6/10/2014 15:36
cis-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014 15:36
Ethylbenzene	< 2.00	mg/m3		6/10/2014 15:36
m,p-Xylene	< 2.00	mg/m3		6/10/2014 15:36
Methyl tert-butyl Ether	< 2.00	mg/m3		6/10/2014 15:36
Methylene chloride	< 5.00	mg/m3		6/10/2014 15:36
o-Xylene	< 2.00	mg/m3		6/10/2014 15:36
Tetrachloroethene	**10.9**	mg/m3		6/10/2014 15:36
Toluene	< 2.00	mg/m3		6/10/2014 15:36
trans-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014 15:36
Trichloroethene	< 2.00	mg/m3		6/10/2014 15:36
Vinyl chloride	< 2.00	mg/m3		6/10/2014 15:36

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x14093.D

Report Prepared Wednesday, June 11, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 142345

Client: **GZA Geo Environmental of New York**

Project Reference: GMCM Bldg 10 SVE System Monitoring 21.0056546.00

Sample Identifier: Post-Carbon
Lab Sample ID: 142345-03 **Date Sampled:** 6/5/2014
Matrix: Air **Date Received:** 6/6/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		6/10/2014 15:59
1,1-Dichloroethane	< 2.00	mg/m3		6/10/2014 15:59
1,1-Dichloroethene	< 2.00	mg/m3		6/10/2014 15:59
1,2-Dichloropropane	< 2.00	mg/m3		6/10/2014 15:59
2-Butanone (MEK)	< 10.0	mg/m3		6/10/2014 15:59
Benzene	< 2.00	mg/m3		6/10/2014 15:59
Chlorobenzene	< 2.00	mg/m3		6/10/2014 15:59
Chloroform	< 2.00	mg/m3		6/10/2014 15:59
cis-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014 15:59
Ethylbenzene	< 2.00	mg/m3		6/10/2014 15:59
m,p-Xylene	< 2.00	mg/m3		6/10/2014 15:59
Methyl tert-butyl Ether	< 2.00	mg/m3		6/10/2014 15:59
Methylene chloride	< 5.00	mg/m3		6/10/2014 15:59
o-Xylene	< 2.00	mg/m3		6/10/2014 15:59
Tetrachloroethene	< 2.00	mg/m3		6/10/2014 15:59
Toluene	< 2.00	mg/m3		6/10/2014 15:59
trans-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014 15:59
Trichloroethene	< 2.00	mg/m3		6/10/2014 15:59
Vinyl chloride	< 2.00	mg/m3		6/10/2014 15:59

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x14094.D

Report Prepared Wednesday, June 11, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 142345

Client: **GZA Geo Environmental of New York**

Project Reference: GMCM Bldg 10 SVE System Monitoring 21.0056546.00

Sample Identifier: Duplicate
Lab Sample ID: 142345-04 **Date Sampled:** 6/5/2014
Matrix: Air **Date Received:** 6/6/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		6/10/2014 16:23
1,1-Dichloroethane	< 2.00	mg/m3		6/10/2014 16:23
1,1-Dichloroethene	< 2.00	mg/m3		6/10/2014 16:23
1,2-Dichloropropane	< 2.00	mg/m3		6/10/2014 16:23
2-Butanone (MEK)	< 10.0	mg/m3		6/10/2014 16:23
Benzene	< 2.00	mg/m3		6/10/2014 16:23
Chlorobenzene	< 2.00	mg/m3		6/10/2014 16:23
Chloroform	< 2.00	mg/m3		6/10/2014 16:23
cis-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014 16:23
Ethylbenzene	< 2.00	mg/m3		6/10/2014 16:23
m,p-Xylene	< 2.00	mg/m3		6/10/2014 16:23
Methyl tert-butyl Ether	< 2.00	mg/m3		6/10/2014 16:23
Methylene chloride	< 5.00	mg/m3		6/10/2014 16:23
o-Xylene	< 2.00	mg/m3		6/10/2014 16:23
Tetrachloroethene	**10.6**	mg/m3		6/10/2014 16:23
Toluene	< 2.00	mg/m3		6/10/2014 16:23
trans-1,2-Dichloroethene	< 2.00	mg/m3		6/10/2014 16:23
Trichloroethene	< 2.00	mg/m3		6/10/2014 16:23
Vinyl chloride	< 2.00	mg/m3		6/10/2014 16:23

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x14095.D

Report Prepared Wednesday, June 11, 2014

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT:	GZA GeoEnvironmental	CLIENT:		142345
ADDRESS:	535 Washington St.	ADDRESS:		Quotation #:
CITY:	Buffalo, NY 14203	CITY: STATE: ZIP:		Email: christopher.boron@gza.com
PHONE:	716-685-2300	PHONE:		
ATTN:	C. Boron	ATTN:		

PROJECT REFERENCE
GMCH Bldg 10 SVE System Monitoring
21.0056546.00 Tsk 33

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC - see previous work orders	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	6/5/14	935		X	Pre-Carbon	AR	1	X	*reuse Tedlars	01
2		940		X	Mid-Carbon			X	return to Thomas	02
3		945		X	Post-Carbon			X	Bohlen - GZA	03
4	↓	-		X	Duplicate	↓	↓	X	office*	
5										
6										
7										
8										
9										
10										

see AR 6/6/14 0°C, per temp blank

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Thomas Bohlen	6/5/14 ~~5/14~~	9:45	Total Cost:
Sampled By	Date/Time		
Thomas Bohlen	6/5 ~~5/14~~		
Relinquished By	Date/Time		
	6/5/14		
Received By	Date/Time		P.I.F.
	6/6/14	1306	
Received @ Lab By	Date/Time		

Compound list for Paradigm reference only

GAS CHROMATOGRAPHY REPORT SHEET
GC SCREENING RESULTS
DIRECT INJECT

Date of Analysis: 29-Nov-11
ICAL Curve Date: Jan-11

Operator: ehs

QA/QC: MGN

Client: GM Lockport
File No: 36795-010
Sample Type: BLDG-10 SVE/SSD

Removal Efficiency (Pre-Carbon to Mid-Carbon) 43%
Removal Efficiency (Pre-Carbon to Post-Carbon) 91%

19 cpds

Sample Identification		Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
		~~500~~	~~74-82-8~~	~~methane~~	~~4.500~~	~~4.164~~	~~28.5~~	~~1,859~~	~~3.66~~	~~mg/m^3~~	~~5.70~~	~~ppmV~~	~~0.004~~	~~0.10~~	~~9.05~~	
		500	75-01-4	vinyl chloride	7.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-35-4	1,1-dichloroethene	14.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-09-2	methylene chloride	14.700			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
ID:	Pre-Carbon	500	156-60-5	trans 1,2-dichloroethene	17.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichloroethane	17.500			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Time:		500	1634-04-4	MTBE	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-93-3	2-butanone (MEK)	18.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	156-59-2	cis 1,2-dichloroethene	19.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Temp =	°F	500	67-66-3	chloroform	19.800			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Flow =	280 SCFM	500	71-55-6	1,1,1-trichloroethane	21.600			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	71-43-2	benzene	22.400			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-87-5	1,2-dichloropropane	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	79-01-6	trichloroethene	24.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-88-3	toluene	27.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	127-18-4	tetrachloroethene	29.200	28.595	80.0	19,176	38.35	mg/m^3	5.66	ppmV	0.040	0.97	90.95	
		500	108-90-7	chlorobenzene	30.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	100-41-4	ethylbenzene	30.900			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-38-3/106-42-3	m/p-xylene	31.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	95-47-6	o-xylene	32.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		~~500~~		~~Unknown TPH~~				0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
				total volatiles			TIC		42.2	mg/m^3	11.5	ppmV	0.044	1.06	100.00	

Sample Identification		Sample Volume (uL)	CASRN	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
		~~500~~	~~74-82-8~~	~~methane~~	~~4.500~~	~~4.149~~	~~28.5~~	~~1,859~~	~~3.66~~	~~mg/m^3~~	~~5.70~~	~~ppmV~~	~~0.004~~	~~0.10~~	~~10.25~~	
		500	75-01-4	vinyl chloride	7.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-35-4	1,1-dichloroethene	14.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-09-2	methylene chloride	14.700			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
ID:	Mid-Carbon	500	156-60-5	trans 1,2-dichloroethene	17.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichloroethane	17.500			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Time:		500	1634-04-4	MTBE	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-93-3	2-butanone (MEK)	18.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	156-59-2	cis 1,2-dichloroethene	19.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Temp =	°F	500	67-66-3	chloroform	19.800			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Flow =	280 SCFM	500	71-55-6	1,1,1-trichloroethane	21.600			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	71-43-2	benzene	22.400			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-87-5	1,2-dichloropropane	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	79-01-6	trichloroethene	24.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-88-3	toluene	27.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	127-18-4	tetrachloroethene	29.200	28.549	74.0	18,630	33.26	mg/m^3	4.90	ppmV	0.035	0.84	89.75	
		500	108-90-7	chlorobenzene	30.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	100-41-4	ethylbenzene	30.900			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-38-3/106-42-3	m/p-xylene	31.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	95-47-6	o-xylene	32.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		~~500~~		~~Unknown TPH~~				0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
				total volatiles			103		37.1	mg/m^3	10.7	ppmV	0.079	0.93	100.00	

No Methane or Unknown TPH per KH SSL 5/3/14

~~2 of 2~~ 3 of 3 BF 6/16/14

Chain of Custody Supplement

Client: GZA **Completed by:** SSL

Lab Project ID: 142345 **Date:** 6/6/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt Yes	No	N/A
Container Type	X		
Comments	AV		
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments			
Sufficient Sample Quantity	X		
Comments			

ROUTINE MONITORING FORM

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: T. Bohlen | Time On-Site: 1343 | Time Off-Site: 1445

Date: 7/25/14 | SVE Blower Run Time: 32873.2 + 10172 hours | VDF: 60.0 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:				
Alarm lights off:	(YES)	NO	If no:				
Autodialer Alarm On:	YES	(NO)	If Yes:				
Postion of Swing Panel HOA Switches:							
Control Power Switch	(ON)	OFF	SVE Blower Switch	HAND	OFF	(AUTO)	
M/S Effluent Pump Switch	HAND (OFF)	AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)	
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				
Moisture Separator Tank Level: (Empty)	1/4 Full	1/2 Full	3/4 Full	Full	Volume Tranfered:	gals	

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.2	in Hg
Vacuum Gauge Post-Inline Filter:	5.5	in Hg
Temperature on Discharge Silencer:	121	° F
Temperature after Heat Exchanger:	82	° F
Pressure After Heat Exchanger	16	in H_2O
Pressure Before Heat Exchanger	18	in H_2O
Pressure Magnehelic Gauge:	2.5	in H_2O
Vacuum Magnehelic Gauge:	>2	in H_2O
Vacuum Gauge After Manifold:	1.1	in Hg

System Monitoring Notes:

Flow Rate Based on Pressure Gauge: cfm

Flow Rate Based on Vacuum Gauge: cfm

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	<1	in Hg	EW-11:	1.1	in Hg
EW-2:	1.2	in Hg	EW-12:	<1	in Hg
EW-3:	1.1	in Hg	EW-13:	<1	in Hg
EW-4:	<1	in Hg	EW-14:	1.3	in Hg
EW-5:	<1	in Hg	EW-15:	1.1	in Hg
EW-6:	<1	in Hg	EW-16:	1.1	in Hg
EW-7:	<1	in Hg	EW-17:	<1	in Hg
EW-8:	<1	in Hg	SS-1:	2	in H2O
EW-9:	1.1	in Hg	SS-2:	3	in H2O
EW-10:	1.4	in Hg	SS-3:	2.5	in H2O

Vaccum Gauge Reading Notes:

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.0	ppm
Background Inside SVE Shed:	0.0	ppm
Pre Carbon Discharge:	6.3	ppm
Mid Carbon Discharge:	9.7	ppm
Post Carbon Discharge:	0.0	ppm

Detector Tube Readings

Pre Carbon	YES	NO	ppm
Mid Carbon	YES	NO	ppm
Post Carbon	YES	NO	ppm

Additional Notes: Duplicate = Mid Carbon

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM
ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		
CLIENT: GZA GeoEnvironmental		CLIENT:		LAB PROJECT ID
ADDRESS: 535 Washington St.		ADDRESS:		
CITY: Buffalo STATE: NY ZIP: 14203		CITY: STATE: ZIP:		Quotation #:
PHONE: 716-685-2300		PHONE:		Email: thomas.bohlen@gza.com james.richert@gza.com
ATTN: T. Bohlen		ATTN:		

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC - see PAL work order	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	7/25/14	1345		X	Pre-Carbon	AR	1	X	*reuse Tedlars - return to Thomas Bohlen - GZA office*	
2		1350		X	Mid-Carbon			X		
3		1355		X	Post-Carbon			X		
4		~~1355~~		X	Duplicate			X		
5										
6										
7										
8										
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please indicate:	☐

Thomas Bohlen 7/25/14
Sampled By Date/Time

Thomas Bohlen / 7/25/14 / Zuan Lin 7/25/14 13:55
Relinquished By Date/Time

Received By Date/Time

Received @ Lab By Date/Time

Total Cost:

P.I.F.

PARADIGM

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

143199

Referencing

21.0056546.00 Task 33

Prepared

Thursday, July 31, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143199

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Pre-Carbon
Lab Sample ID: 143199-01 **Date Sampled:** 7/25/2014
Matrix: Air **Date Received:** 7/25/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		7/30/2014 18:12
1,1-Dichloroethane	< 2.00	mg/m3		7/30/2014 18:12
1,1-Dichloroethene	< 2.00	mg/m3		7/30/2014 18:12
1,2-Dichloropropane	< 2.00	mg/m3		7/30/2014 18:12
2-Butanone (MEK)	< 10.0	mg/m3		7/30/2014 18:12
Benzene	< 2.00	mg/m3		7/30/2014 18:12
Chlorobenzene	< 2.00	mg/m3		7/30/2014 18:12
Chloroform	< 2.00	mg/m3		7/30/2014 18:12
cis-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 18:12
Ethylbenzene	< 2.00	mg/m3		7/30/2014 18:12
m,p-Xylene	< 2.00	mg/m3		7/30/2014 18:12
Methyl tert-butyl Ether	< 2.00	mg/m3		7/30/2014 18:12
Methylene chloride	< 5.00	mg/m3		7/30/2014 18:12
o-Xylene	< 2.00	mg/m3		7/30/2014 18:12
Tetrachloroethene	**9.23**	mg/m3		7/30/2014 18:12
Toluene	< 2.00	mg/m3		7/30/2014 18:12
trans-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 18:12
Trichloroethene	< 2.00	mg/m3		7/30/2014 18:12
Vinyl chloride	< 2.00	mg/m3		7/30/2014 18:12

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x15597.D

Report Prepared Thursday, July 31, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143199

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 143199-02 **Date Sampled:** 7/25/2014
Matrix: Air **Date Received:** 7/25/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		7/30/2014 17:47
1,1-Dichloroethane	< 2.00	mg/m3		7/30/2014 17:47
1,1-Dichloroethene	< 2.00	mg/m3		7/30/2014 17:47
1,2-Dichloropropane	< 2.00	mg/m3		7/30/2014 17:47
2-Butanone (MEK)	< 10.0	mg/m3		7/30/2014 17:47
Benzene	< 2.00	mg/m3		7/30/2014 17:47
Chlorobenzene	< 2.00	mg/m3		7/30/2014 17:47
Chloroform	< 2.00	mg/m3		7/30/2014 17:47
cis-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 17:47
Ethylbenzene	< 2.00	mg/m3		7/30/2014 17:47
m,p-Xylene	< 2.00	mg/m3		7/30/2014 17:47
Methyl tert-butyl Ether	< 2.00	mg/m3		7/30/2014 17:47
Methylene chloride	< 5.00	mg/m3		7/30/2014 17:47
o-Xylene	< 2.00	mg/m3		7/30/2014 17:47
Tetrachloroethene	**15.1**	mg/m3		7/30/2014 17:47
Toluene	< 2.00	mg/m3		7/30/2014 17:47
trans-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 17:47
Trichloroethene	< 2.00	mg/m3		7/30/2014 17:47
Vinyl chloride	< 2.00	mg/m3		7/30/2014 17:47

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x15596.D

Report Prepared Thursday, July 31, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143199

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Post-Carbon
Lab Sample ID: 143199-03 **Date Sampled:** 7/25/2014
Matrix: Air **Date Received:** 7/25/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		7/30/2014 17:23
1,1-Dichloroethane	< 2.00	mg/m3		7/30/2014 17:23
1,1-Dichloroethene	< 2.00	mg/m3		7/30/2014 17:23
1,2-Dichloropropane	< 2.00	mg/m3		7/30/2014 17:23
2-Butanone (MEK)	< 10.0	mg/m3		7/30/2014 17:23
Benzene	< 2.00	mg/m3		7/30/2014 17:23
Chlorobenzene	< 2.00	mg/m3		7/30/2014 17:23
Chloroform	< 2.00	mg/m3		7/30/2014 17:23
cis-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 17:23
Ethylbenzene	< 2.00	mg/m3		7/30/2014 17:23
m,p-Xylene	< 2.00	mg/m3		7/30/2014 17:23
Methyl tert-butyl Ether	< 2.00	mg/m3		7/30/2014 17:23
Methylene chloride	< 5.00	mg/m3		7/30/2014 17:23
o-Xylene	< 2.00	mg/m3		7/30/2014 17:23
Tetrachloroethene	< 2.00	mg/m3		7/30/2014 17:23
Toluene	< 2.00	mg/m3		7/30/2014 17:23
trans-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 17:23
Trichloroethene	< 2.00	mg/m3		7/30/2014 17:23
Vinyl chloride	< 2.00	mg/m3		7/30/2014 17:23

Surrogate outliers indicate probable matrix interference

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x15595.D

Report Prepared Thursday, July 31, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143199

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Duplicate
Lab Sample ID: 143199-04 **Date Sampled:** 7/25/2014
Matrix: Air **Date Received:** 7/25/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		7/30/2014 16:59
1,1-Dichloroethane	< 2.00	mg/m3		7/30/2014 16:59
1,1-Dichloroethene	< 2.00	mg/m3		7/30/2014 16:59
1,2-Dichloropropane	< 2.00	mg/m3		7/30/2014 16:59
2-Butanone (MEK)	< 10.0	mg/m3		7/30/2014 16:59
Benzene	< 2.00	mg/m3		7/30/2014 16:59
Chlorobenzene	< 2.00	mg/m3		7/30/2014 16:59
Chloroform	< 2.00	mg/m3		7/30/2014 16:59
cis-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 16:59
Ethylbenzene	< 2.00	mg/m3		7/30/2014 16:59
m,p-Xylene	< 2.00	mg/m3		7/30/2014 16:59
Methyl tert-butyl Ether	< 2.00	mg/m3		7/30/2014 16:59
Methylene chloride	< 5.00	mg/m3		7/30/2014 16:59
o-Xylene	< 2.00	mg/m3		7/30/2014 16:59
Tetrachloroethene	**16.7**	mg/m3		7/30/2014 16:59
Toluene	< 2.00	mg/m3		7/30/2014 16:59
trans-1,2-Dichloroethene	< 2.00	mg/m3		7/30/2014 16:59
Trichloroethene	< 2.00	mg/m3		7/30/2014 16:59
Vinyl chloride	< 2.00	mg/m3		7/30/2014 16:59

Surrogate outliers indicate probable matrix interference

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x15594.D

Report Prepared Thursday, July 31, 2014

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:

CLIENT: GZA GeoEnvironmental
ADDRESS: 535 Washington St.
CITY: Buffalo STATE: NY ZIP: 14203
PHONE: 716-685-2300
ATTN: T. Bohlen

INVOICE TO:

CLIENT:
ADDRESS:
CITY: STATE: ZIP:
PHONE:
ATTN:

LAB PROJECT ID: 143199

Quotation #:

Email: thomas.bohlen@gza.com
james.richert@gza.com

PROJECT REFERENCE

21.0056546.00
Task 33

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC - see previous work order								REMARKS	PARADIGM LAB SAMPLE NUMBER
1	7/25/14	1345		X	Pre-Carbon	AR	1	X								*reuse Tedlars - return to Thomas Bohlen - GZA office	01
2		1350		X	Mid-Carbon			X									02
3		1352		X	Post-Carbon			X									03
4		~~1352~~		X	Duplicate			X									04
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Thomas Bohlen 7/25/14
Sampled By Date/Time

Thomas Bohlen 7/25/14 / [illegible] 7/25/14 13:55
Relinquished By Date/Time

[illegible] 7/25/14 1540
Received By Date/Time

[illegible] 7/25/14 1624
Received @ Lab By Date/Time

Total Cost:

P.I.F.

2 of 3

Compound list for Paradigm reference only

GAS CHROMATOGRAPHY REPORT SHEET
GC SCREENING RESULTS
DIRECT INJECT

Date of Analysis: 29-Nov-11
ICAL Curve Date: Jan-11

Operator: ehs

QA/QC: MGN

Client: GM Lockport
File No: 36795-010
Sample Type: BLDG-10 SVE/SSD

Removal Efficiency (Pre-Carbon to Mid-Carbon) 43%
Removal Efficiency (Pre-Carbon to Post-Carbon) 91%

19 cpds

Sample Identification		Sample Volume (uL)	CASRN	Target Compound	Cal. Rel. Time (min)	Rel. Time (min)	Det. Resp. (Area Cts)	On-Col. Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
		500	74-82-8	methane	1.000	4.144	28.5	1.282	2.56	mg/m^3	1.79	ppmV	0.004	0.10	10.25	
		500	75-01-4	vinyl chloride	7.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-35-4	1,1-dichloroethene	14.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-09-2	methylene chloride	14.700			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
ID:	Pre-Carbon	500	156-60-5	trans 1,2-dichloroethene	17.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichloroethane	17.500			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Time:		500	1634-04-4	MTBE	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-93-3	2-butanone (MEK)	18.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	156-59-2	cis 1,2-dichloroethene	19.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Temp =	°F	500	67-66-3	chloroform	19.800			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Flow =	280 SCFM	500	71-55-6	1,1,1-trichloroethane	21.600			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	71-43-2	benzene	22.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-87-5	1,2-dichloropropane	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	79-01-6	dichloroethene	24.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-88-3	toluene	27.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	127-18-4	tetrachloroethene	28.200	28.595	88.0	19.175	38.35	mg/m^3	5.56	ppmV	0.048	0.97	90.45	
		500	108-90-7	chlorobenzene	30.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	100-41-4	ethylbenzene	30.900			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-38-3/106-42-3	m/p-xylene	31.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	95-47-6	o-xylene	32.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500		Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
				total volatiles			116		42.2	mg/m^3	11.8	ppmV	0.044	1.06	100.00	

Sample Identification		Sample Volume (uL)	CASRN	Target Compound	Cal. Rel. Time (min)	Rel. Time (min)	Det. Resp. (Area Cts)	On-Col. Mass (ng)	Conc.		Conc.		Mass Rmvd (lb/hr)	Mass Rmvd (lb/day)	%Total Mass Rmvd	REMARKS
		500	74-82-8	methane	1.000	4.148	28.3	1.282	2.56	mg/m^3	1.79	ppmV	0.004	0.10	10.25	
		500	75-01-4	vinyl chloride	7.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-35-4	1,1-dichloroethene	14.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	75-09-2	methylene chloride	14.700			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
ID:	Mid-Carbon	500	156-60-5	trans 1,2-dichloroethene	17.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichloroethane	17.500			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Time:		500	1634-04-4	MTBE	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-93-3	2-butanone (MEK)	18.500			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	156-59-2	cis 1,2-dichloroethene	19.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Temp =	°F	500	67-66-3	chloroform	19.800			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
Flow =	280 SCFM	500	71-55-6	1,1,1-trichloroethane	21.600			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	71-43-2	benzene	22.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	78-87-5	1,2-dichloropropane	0.000			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	79-01-6	trichloroethene	24.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-88-3	toluene	27.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	127-18-4	tetrachloroethene	28.200	28.549	74.8	19.630	39.26	mg/m^3	4.90	ppmV	0.035	0.84	89.75	
		500	108-90-7	chlorobenzene	30.300			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	100-41-4	ethylbenzene	30.900			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-38-3/106-42-3	m/p-xylene	31.200			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	95-47-6	o-xylene	32.100			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500		Unknown TPH				0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
				total volatiles			103		37.1	mg/m^3	10.7	ppmV	0.039	0.93	100.00	

No Methane or Unknown TPH per RH SSL 5/3/14

C:\Users\DMS\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\DHLNCVWM\GM Lockport_SVE Vapor_Analytical_2011.xlsx

Chain of Custody Supplement

Client: G2A **Completed by:** SSL

Lab Project ID: M3199 **Date:** 7/25/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt Yes	No	N/A
Container Type	X		
Comments	AV		
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments			
Sufficient Sample Quantity	X		
Comments			

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: T. Bohlen | Time On-Site: 1540 | Time Off-Site: 1640

Date: 8/18/14 | SVE Blower Run Time: 33,450.2 + 10,172 hours | VDF: 60.0 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:				
Alarm lights off:	(YES)	NO	If no:				
Autodialer Alarm On:	YES	(NO)	If Yes:				
Postion of Swing Panel HOA Switches:							
Control Power Switch	(ON)	OFF	SVE Blower Switch	HAND	OFF	(AUTO)	
M/S Effluent Pump Switch	HAND	(OFF) AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)	
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				

Moisture Separator Tank Level: (Empty) 1/4 Full 1/2 Full 3/4 Full Full | Volume Tranfered: gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4	in Hg
Vacuum Gauge Post-Inline Filter:	5.5	in Hg
Temperature on Discharge Silencer:	120	°F
Temperature after Heat Exchanger:	80	°F
Pressure After Heat Exchanger	23	in H_2O
Pressure Before Heat Exchanger	20	in H_2O
Pressure Magnehelic Gauge:	2.4	in H_2O
Vacuum Magnehelic Gauge:	> 2	in H_2O
Vacuum Gauge After Manifold:	2	in Hg

System Monitoring Notes:

Flow Rate Based on Pressure Gauge: cfm

Flow Rate Based on Vacuum Gauge: cfm

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	< 1	in Hg	EW-11:	1	in Hg
EW-2:	1.3	in Hg	EW-12:	1	in Hg
EW-3:	1	in Hg	EW-13:	1	in Hg
EW-4:	< 1	in Hg	EW-14:	1.3	in Hg
EW-5:	< 1	in Hg	EW-15:	1	in Hg
EW-6:	< 1	in Hg	EW-16:	1	in Hg
EW-7:	< 1	in Hg	EW-17:	< 1	in Hg
EW-8:	< 1	in Hg	SS-1:	1	In H2O
EW-9:	1.3	in Hg	SS-2:	2	In H2O
EW-10:	1.5	in Hg	SS-3:	1.3	In H2O

Vaccum Gauge Reading Notes:

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.0	ppm
Background Inside SVE Shed:	0.0	ppm
Pre Carbon Discharge:	6.4	ppm
Mid Carbon Discharge:	1.7	ppm
Post Carbon Discharge:	0.2	ppm

Detector Tube Readings

Pre Carbon	YES	NO	NA	ppm
Mid Carbon	YES	NO	0.3	ppm
Post Carbon	YES	NO	NA	ppm

Additional Notes: Duplicate = Post-Carbon

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM
ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		
CLIENT: GZA GeoEnvironmental		CLIENT:		LAB PROJECT ID
ADDRESS: 535 Washington St.		ADDRESS:		
CITY: Buffalo, STATE: NY ZIP: 14203 →		CITY: STATE: ZIP:		Quotation #:
PHONE: 716 685-2300		PHONE:		Email: thomas.bohlen@gza.com
ATTN: T. Bohlen		ATTN:		james.richert@gza.com

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid
NQ - Non-Aqueous Liquid
WA - Water
WG - Groundwater
DW - Drinking Water
WW - Wastewater
SO - Soil
SL - Sludge
SD - Solid
PT - Paint
WP - Wipe
CK - Caulk
OL - Oil
AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	- see previous	COC for order								REMARKS	PARADIGM LAB SAMPLE NUMBER
1	8/18/14	1600		X	Pre-Carbon	AR	1	X										*re-use Tedlars-	
2	↓	1602		X	Mid-Carbon	↓	↓	X										return to Thomas	
3		1603		X	Post-Carbon			X										Bohlen GZA Office*	
4		-		X	Duplicate			X											
5																			
6																			
7																			
8																			
9																			
10																			

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please indicate:	☐

Thomas Bohlen	8/18/14
Sampled By	Date/Time
Thomas Bohlen	8/18/14 / 1725
Relinquished By	Date/Time
[signature]	8/18/14
Received By	Date/Time
Received @ Lab By	Date/Time

Total Cost:

P.I.F.

PARADIGM

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

143591

Referencing

21.0056546.00 Task 33

Prepared

Monday, August 25, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143591

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Pre-Carbon
Lab Sample ID: 143591-01 **Date Sampled:** 8/18/2014
Matrix: Air **Date Received:** 8/19/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		8/22/2014 18:25
1,1-Dichloroethane	< 2.00	mg/m3		8/22/2014 18:25
1,1-Dichloroethene	< 2.00	mg/m3		8/22/2014 18:25
1,2-Dichloropropane	< 2.00	mg/m3		8/22/2014 18:25
2-Butanone (MEK)	< 10.0	mg/m3		8/22/2014 18:25
Benzene	< 2.00	mg/m3		8/22/2014 18:25
Chlorobenzene	< 2.00	mg/m3		8/22/2014 18:25
Chloroform	< 2.00	mg/m3		8/22/2014 18:25
cis-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 18:25
Ethylbenzene	< 2.00	mg/m3		8/22/2014 18:25
m,p-Xylene	< 2.00	mg/m3		8/22/2014 18:25
Methyl tert-butyl Ether	< 2.00	mg/m3		8/22/2014 18:25
Methylene chloride	< 5.00	mg/m3		8/22/2014 18:25
o-Xylene	< 2.00	mg/m3		8/22/2014 18:25
Tetrachloroethene	**10.7**	mg/m3		8/22/2014 18:25
Toluene	< 2.00	mg/m3		8/22/2014 18:25
trans-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 18:25
Trichloroethene	< 2.00	mg/m3		8/22/2014 18:25
Vinyl chloride	< 2.00	mg/m3		8/22/2014 18:25

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x16346.D

Report Prepared Monday, August 25, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143591

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 143591-02 **Date Sampled:** 8/18/2014
Matrix: Air **Date Received:** 8/19/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		8/22/2014 18:01
1,1-Dichloroethane	< 2.00	mg/m3		8/22/2014 18:01
1,1-Dichloroethene	< 2.00	mg/m3		8/22/2014 18:01
1,2-Dichloropropane	< 2.00	mg/m3		8/22/2014 18:01
2-Butanone (MEK)	< 10.0	mg/m3		8/22/2014 18:01
Benzene	< 2.00	mg/m3		8/22/2014 18:01
Chlorobenzene	< 2.00	mg/m3		8/22/2014 18:01
Chloroform	< 2.00	mg/m3		8/22/2014 18:01
cis-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 18:01
Ethylbenzene	< 2.00	mg/m3		8/22/2014 18:01
m,p-Xylene	< 2.00	mg/m3		8/22/2014 18:01
Methyl tert-butyl Ether	< 2.00	mg/m3		8/22/2014 18:01
Methylene chloride	< 5.00	mg/m3		8/22/2014 18:01
o-Xylene	< 2.00	mg/m3		8/22/2014 18:01
Tetrachloroethene	< 2.00	mg/m3		8/22/2014 18:01
Toluene	< 2.00	mg/m3		8/22/2014 18:01
trans-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 18:01
Trichloroethene	< 2.00	mg/m3		8/22/2014 18:01
Vinyl chloride	< 2.00	mg/m3		8/22/2014 18:01

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x16345.D

Report Prepared Monday, August 25, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143591

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Post-Carbon
Lab Sample ID: 143591-03 **Date Sampled:** 8/18/2014
Matrix: Air **Date Received:** 8/19/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		8/22/2014 17:37
1,1-Dichloroethane	< 2.00	mg/m3		8/22/2014 17:37
1,1-Dichloroethene	< 2.00	mg/m3		8/22/2014 17:37
1,2-Dichloropropane	< 2.00	mg/m3		8/22/2014 17:37
2-Butanone (MEK)	< 10.0	mg/m3		8/22/2014 17:37
Benzene	< 2.00	mg/m3		8/22/2014 17:37
Chlorobenzene	< 2.00	mg/m3		8/22/2014 17:37
Chloroform	< 2.00	mg/m3		8/22/2014 17:37
cis-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 17:37
Ethylbenzene	< 2.00	mg/m3		8/22/2014 17:37
m,p-Xylene	< 2.00	mg/m3		8/22/2014 17:37
Methyl tert-butyl Ether	< 2.00	mg/m3		8/22/2014 17:37
Methylene chloride	< 5.00	mg/m3		8/22/2014 17:37
o-Xylene	< 2.00	mg/m3		8/22/2014 17:37
Tetrachloroethene	< 2.00	mg/m3		8/22/2014 17:37
Toluene	< 2.00	mg/m3		8/22/2014 17:37
trans-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 17:37
Trichloroethene	< 2.00	mg/m3		8/22/2014 17:37
Vinyl chloride	< 2.00	mg/m3		8/22/2014 17:37

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x16344.D

Report Prepared Monday, August 25, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 143591

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Duplicate
Lab Sample ID: 143591-04 **Date Sampled:** 8/18/2014
Matrix: Air **Date Received:** 8/19/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		8/22/2014 17:13
1,1-Dichloroethane	< 2.00	mg/m3		8/22/2014 17:13
1,1-Dichloroethene	< 2.00	mg/m3		8/22/2014 17:13
1,2-Dichloropropane	< 2.00	mg/m3		8/22/2014 17:13
2-Butanone (MEK)	< 10.0	mg/m3		8/22/2014 17:13
Benzene	< 2.00	mg/m3		8/22/2014 17:13
Chlorobenzene	< 2.00	mg/m3		8/22/2014 17:13
Chloroform	< 2.00	mg/m3		8/22/2014 17:13
cis-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 17:13
Ethylbenzene	< 2.00	mg/m3		8/22/2014 17:13
m,p-Xylene	< 2.00	mg/m3		8/22/2014 17:13
Methyl tert-butyl Ether	< 2.00	mg/m3		8/22/2014 17:13
Methylene chloride	< 5.00	mg/m3		8/22/2014 17:13
o-Xylene	< 2.00	mg/m3		8/22/2014 17:13
Tetrachloroethene	< 2.00	mg/m3		8/22/2014 17:13
Toluene	< 2.00	mg/m3		8/22/2014 17:13
trans-1,2-Dichloroethene	< 2.00	mg/m3		8/22/2014 17:13
Trichloroethene	< 2.00	mg/m3		8/22/2014 17:13
Vinyl chloride	< 2.00	mg/m3		8/22/2014 17:13

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x16343.D

Report Prepared Monday, August 25, 2014

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"Non-ELAP Certifiable" = ELAP does not offer this parameter for approval as part of their laboratory certification program.*

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	LAB PROJECT ID
CLIENT: GZA GeoEnvironmental	CLIENT:	143591
ADDRESS: 535 Washington St.	ADDRESS:	Quotation #:
CITY: Buffalo, STATE: NY ZIP: 14203 →	CITY: STATE: ZIP:	Email: thomas.bohlen@gza.com
PHONE: 716 685-2300	PHONE:	james.richert@gza.com
ATTN: T. Bohlen	ATTN:	

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOL -see previous work order	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	8/18/14	1600		X	Pre-Carbon	AR	1	X	*re-use Tedlars-	01
2	↓	1602		X	Mid-Carbon	↓	↓	X	return to Thomas	02
3	↓	1603		X	Post-Carbon	↓	↓	X	Bohlen - GZA Office*	03
4	↓	–		X	Duplicate	↓	↓	X		04
5										
6										
7										
8										
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate: ______	☐	Other please indicate: ______	☐	Other EDD please indicate: ______	☐

Sampled By: Thomas Bohlen — Date/Time: 8/18/14

Relinquished By: Thomas Bohlen — Date/Time: 8/18/14 / 1725

Received By: [signature] — Date/Time: 8/18/14

Received @ Lab By: [signature] — Date/Time: 8/19/14 1059

Total Cost:

P.I.F.

Chain of Custody Supplement

Client: GZA **Completed by:** Kyle Swaicki

Lab Project ID: 143591 **Date:** 8/19/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time			X
Comments			
Temperature			X
Comments			
Sufficient Sample Quantity	X		
Comments			

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: T. Bohlen | Time On-Site: 12:00 | Time Off-Site:

Date: 9/17/14 | SVE Blower Run Time: 34166.4 + 1017.2 hours | VDF: 60.0 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:
Alarm lights off:	(YES)	NO	If no:
Autodialer Alarm On:	YES	(NO)	If Yes:

Postion of Swing Panel HOA Switches:

Control Power Switch	(ON)		OFF	SVE Blower Switch	HAND	OFF	(AUTO)
M/S Effluent Pump Switch	HAND	(OFF)	AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)
Heat Exchanger Operating	(YES)		NO	If no:			
SVE System appear to be operating properly?	(YES)		NO	If no:			

Moisture Separator Tank Level: (Empty) 1/4 Full 1/2 Full 3/4 Full Full Volume Tranfered: gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.4	in Hg
Vacuum Gauge Post-Inline Filter:	5.7	in Hg
Temperature on Discharge Silencer:	119	°F
Temperature after Heat Exchanger:	79	°F
Pressure After Heat Exchanger	20	in H_2O
Pressure Before Heat Exchanger	26	in H_2O
Pressure Magnehelic Gauge:	2.4	in H_2O
Vacuum Magnehelic Gauge:	>2	in H_2O
Vacuum Gauge After Manifold:	2	in Hg

System Monitoring Notes:

Flow Rate Based on Pressure Gauge: cfm

Flow Rate Based on Vacuum Gauge: cfm

EXTRACTION WELL VACUUM GAUGE READINGS

EW-1:	<1	in Hg	EW-11:	1.1	in Hg
EW-2:	+.5 1.4	in Hg	EW-12:	1	in Hg
EW-3:	1	in Hg	EW-13:	<1	in Hg
EW-4:	<1	in Hg	EW-14:	1.3	in Hg
EW-5:	<1	in Hg	EW-15:	1.1	in Hg
EW-6:	<1	in Hg	EW-16:	1.1	in Hg
EW-7:	<1	in Hg	EW-17:	<1	in Hg
EW-8:	<1	in Hg	SS-1:	2	in H2O
EW-9:	1	in Hg	SS-2:	3	in H2O
EW-10:	1.4	in Hg	SS-3:	2	in H2O

Vaccum Gauge Reading Notes:

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.5	ppm
Background Inside SVE Shed:	0.3	ppm
Pre Carbon Discharge:	5.6	ppm
Mid Carbon Discharge:	1.7	ppm
Post Carbon Discharge:	0.4	ppm

Detector Tube Readings

Pre Carbon	YES	NO	—	ppm
Mid Carbon	YES	NO	—	ppm
Post Carbon	YES	NO	—	ppm

Additional Notes: Duplicate = Mid Carbon

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:

CLIENT: GZA GeoEnvironmental
ADDRESS: 535 Washington St. 10th Flr.
CITY: Buffalo STATE: NY ZIP: 14203
PHONE: 716 685-2300
ATTN: T. Bohlen

INVOICE TO:

CLIENT:
ADDRESS:
CITY: STATE: ZIP:
PHONE:
ATTN:

LAB PROJECT ID

Quotation #:

Email: thomas.bohlen@gza.com
james.richert@gza.com

PROJECT REFERENCE

J1.0056546.00
Task 33

Matrix Codes:

AQ - Aqueous Liquid
NQ - Non-Aqueous Liquid
WA - Water
WG - Groundwater
DW - Drinking Water
WW - Wastewater
SO - Soil
SL - Sludge
SD - Solid
PT - Paint
WP - Wipe
CK - Caulk
OL - Oil
AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC - see previous work order	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	9/17/14	1215		X	Pre-Carbon	AR	1	X	* re-use Tedlars - return to T. Bohlen GZA office *	
2		1217		X	Mid-Carbon			X		
3		1220		X	Post-Carbon			X		
4		-		X	Duplicate			X		
5										
6										
7										
8										
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Sampled By: Thomas Bohlen — Date/Time: 9/17/14
Relinquished By: Thomas Bohlen — Date/Time: 9/17/14
Received By: — Date/Time: 9/17/14 1532
Received @ Lab By: — Date/Time:

Total Cost:

P.I.F.

PARADIGM

PARADIGM ENVIRONMENTAL SERVICES, INC.

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

144085

Referencing

21.0056546.00 Task 33

Prepared

Wednesday, September 24, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

This report is part of a multipage document and should only be evaluated in its entirety. The Chain of Custody provides additional sample information, including compliance with the sample condition requirements upon receipt.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144085

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Pre-Carbon
Lab Sample ID: 144085-01 **Date Sampled:** 9/17/2014
Matrix: Air **Date Received:** 9/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		9/23/2014 20:49
1,1-Dichloroethane	< 2.00	mg/m3		9/23/2014 20:49
1,1-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:49
1,2-Dichloropropane	< 2.00	mg/m3		9/23/2014 20:49
2-Butanone (MEK)	< 10.0	mg/m3		9/23/2014 20:49
Benzene	< 2.00	mg/m3		9/23/2014 20:49
Chlorobenzene	< 2.00	mg/m3		9/23/2014 20:49
Chloroform	< 2.00	mg/m3		9/23/2014 20:49
cis-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:49
Ethylbenzene	< 2.00	mg/m3		9/23/2014 20:49
m,p-Xylene	< 2.00	mg/m3		9/23/2014 20:49
Methyl tert-butyl Ether	< 2.00	mg/m3		9/23/2014 20:49
Methylene chloride	< 5.00	mg/m3		9/23/2014 20:49
o-Xylene	< 2.00	mg/m3		9/23/2014 20:49
Tetrachloroethene	**8.85**	mg/m3		9/23/2014 20:49
Toluene	< 2.00	mg/m3		9/23/2014 20:49
trans-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:49
Trichloroethene	< 2.00	mg/m3		9/23/2014 20:49
Vinyl chloride	< 2.00	mg/m3		9/23/2014 20:49

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x17065.D

Report Prepared Wednesday, September 24, 2014

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144085

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 144085-02 **Date Sampled:** 9/17/2014
Matrix: Air **Date Received:** 9/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		9/23/2014 20:26
1,1-Dichloroethane	< 2.00	mg/m3		9/23/2014 20:26
1,1-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:26
1,2-Dichloropropane	< 2.00	mg/m3		9/23/2014 20:26
2-Butanone (MEK)	< 10.0	mg/m3		9/23/2014 20:26
Benzene	< 2.00	mg/m3		9/23/2014 20:26
Chlorobenzene	< 2.00	mg/m3		9/23/2014 20:26
Chloroform	< 2.00	mg/m3		9/23/2014 20:26
cis-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:26
Ethylbenzene	< 2.00	mg/m3		9/23/2014 20:26
m,p-Xylene	< 2.00	mg/m3		9/23/2014 20:26
Methyl tert-butyl Ether	< 2.00	mg/m3		9/23/2014 20:26
Methylene chloride	< 5.00	mg/m3		9/23/2014 20:26
o-Xylene	< 2.00	mg/m3		9/23/2014 20:26
Tetrachloroethene	< 2.00	mg/m3		9/23/2014 20:26
Toluene	< 2.00	mg/m3		9/23/2014 20:26
trans-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:26
Trichloroethene	< 2.00	mg/m3		9/23/2014 20:26
Vinyl chloride	< 2.00	mg/m3		9/23/2014 20:26

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x17064.D

Report Prepared Wednesday, September 24, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144085

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Post-Carbon
Lab Sample ID: 144085-03 **Date Sampled:** 9/17/2014
Matrix: Air **Date Received:** 9/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		9/23/2014 20:03
1,1-Dichloroethane	< 2.00	mg/m3		9/23/2014 20:03
1,1-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:03
1,2-Dichloropropane	< 2.00	mg/m3		9/23/2014 20:03
2-Butanone (MEK)	< 10.0	mg/m3		9/23/2014 20:03
Benzene	< 2.00	mg/m3		9/23/2014 20:03
Chlorobenzene	< 2.00	mg/m3		9/23/2014 20:03
Chloroform	< 2.00	mg/m3		9/23/2014 20:03
cis-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:03
Ethylbenzene	< 2.00	mg/m3		9/23/2014 20:03
m,p-Xylene	< 2.00	mg/m3		9/23/2014 20:03
Methyl tert-butyl Ether	< 2.00	mg/m3		9/23/2014 20:03
Methylene chloride	< 5.00	mg/m3		9/23/2014 20:03
o-Xylene	< 2.00	mg/m3		9/23/2014 20:03
Tetrachloroethene	< 2.00	mg/m3		9/23/2014 20:03
Toluene	< 2.00	mg/m3		9/23/2014 20:03
trans-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 20:03
Trichloroethene	< 2.00	mg/m3		9/23/2014 20:03
Vinyl chloride	< 2.00	mg/m3		9/23/2014 20:03

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x17063.D

Report Prepared Wednesday, September 24, 2014

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144085

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Duplicate
Lab Sample ID: 144085-04 **Date Sampled:** 9/17/2014
Matrix: Air **Date Received:** 9/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		9/23/2014 19:40
1,1-Dichloroethane	< 2.00	mg/m3		9/23/2014 19:40
1,1-Dichloroethene	< 2.00	mg/m3		9/23/2014 19:40
1,2-Dichloropropane	< 2.00	mg/m3		9/23/2014 19:40
2-Butanone (MEK)	< 10.0	mg/m3		9/23/2014 19:40
Benzene	< 2.00	mg/m3		9/23/2014 19:40
Chlorobenzene	< 2.00	mg/m3		9/23/2014 19:40
Chloroform	< 2.00	mg/m3		9/23/2014 19:40
cis-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 19:40
Ethylbenzene	< 2.00	mg/m3		9/23/2014 19:40
m,p-Xylene	< 2.00	mg/m3		9/23/2014 19:40
Methyl tert-butyl Ether	< 2.00	mg/m3		9/23/2014 19:40
Methylene chloride	< 5.00	mg/m3		9/23/2014 19:40
o-Xylene	< 2.00	mg/m3		9/23/2014 19:40
Tetrachloroethene	< 2.00	mg/m3		9/23/2014 19:40
Toluene	< 2.00	mg/m3		9/23/2014 19:40
trans-1,2-Dichloroethene	< 2.00	mg/m3		9/23/2014 19:40
Trichloroethene	**2.20**	mg/m3		9/23/2014 19:40
Vinyl chloride	< 2.00	mg/m3		9/23/2014 19:40

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x17062.D

Report Prepared Wednesday, September 24, 2014

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"Non-ELAP Certifiable" = ELAP does not offer this parameter for approval as part of their laboratory certification program.*

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC

REPORT TO:	INVOICE TO:	
CLIENT: GZA GeoEnvironmental	CLIENT:	LAB PROJECT ID: 144085
ADDRESS: 535 Washington St. 11th Flr.	ADDRESS:	
CITY: Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:	Quotation #:
PHONE: 716 685-2300	PHONE:	Email: thomas.bohlen@gza.com james.richert@gza.com
ATTN: T. Bohlen	ATTN:	

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC - see previous work order	VGZA per history 9/15/14	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	9/17/14	1215		X	Pre-Carbon	AF	1	X		* re-use Tedlar - return to T. Bohlen, GZA office *	01
2	↓	1217		X	Mid-Carbon	↓	↓	X			02
3		1220		X	Post-Carbon			X			03
4	↓	-		X	Duplicate	↓	↓	X			04
5											
6											
7											
8											
9											
10										20°C	

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Sampled By: Thomas Bohlen	9/17/14	Date/Time
Relinquished By: Thomas Bohlen	9/17/14	Date/Time
Received By:	9/17/14 15:32	Date/Time
Received @ Lab By:	9/18/14 1306	Date/Time

Total Cost:

P.I.F.

Chain of Custody Supplement

Client: GZA Geo Environmental **Completed by:** Kyle Swavely

Lab Project ID: 144085 **Date:** 9/18/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time			X
Comments			
Temperature			X
Comments			
Sufficient Sample Quantity	X		
Comments			

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: R. Strack Time On-Site: 1500 Time Off-Site: 1600

Date: 10/20/14 SVE Blower Run Time: 34961.2 + 10172 hours VDF: 60 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:				
Alarm lights off:	(YES)	NO	If no:				
Autodialer Alarm On:	YES	(NO)	If Yes:				
Postion of Swing Panel HOA Switches:							
Control Power Switch	(ON)	OFF	SVE Blower Switch	HAND	OFF	(AUTO)	
M/S Effluent Pump Switch	HAND	(OFF) AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)	
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				
Moisture Separator Tank Level:	(Empty)	1/4 Full	1/2 Full	3/4 Full	Full	Volume Tranfered:	gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.4	in Hg	**System Monitoring Notes:**	
Vacuum Gauge Post-Inline Filter:	5.8	in Hg		
Temperature on Discharge Silencer:	112	° F		
Temperature after Heat Exchanger:	73	° F		
Pressure After Heat Exchanger	26	in H_2O		
Pressure Before Heat Exchanger	30	in H_2O	Flow Rate Based on Pressure Gauge:	cfm
Pressure Magnehelic Gauge:	2.4	in H_2O	Flow Rate Based on Vacuum Gauge:	cfm
Vacuum Magnehelic Gauge:	> 2	in H_2O		
Vacuum Gauge After Manifold:	1.1	in Hg		

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	< 1	in Hg	EW-11:	1	in Hg	**Vaccum Gauge Reading Notes:**
EW-2:	1.2	in Hg	EW-12:	1	in Hg	
EW-3:	1	in Hg	EW-13:	< 1	in Hg	
EW-4:	< 1	in Hg	EW-14:	1.2	in Hg	
EW-5:	< 1	in Hg	EW-15:	1	in Hg	
EW-6:	< 1	in Hg	EW-16:	1	in Hg	
EW-7:	< 1	in Hg	EW-17:	< 1	in Hg	
EW-8:	< 1	in Hg	SS-1:	1.9	in H2O	
EW-9:	1.2	in Hg	SS-2:	2.5	in H2O	
EW-10:	1.5	in Hg	SS-3:	1.8	in H2O	

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.0	ppm	Detector Tube Readings		
Background Inside SVE Shed:	0.0	ppm	Pre Carbon	YES (NO)	ppm
Pre Carbon Discharge:	~~6.2~~ 5.4	ppm	Mid Carbon	YES (NO)	ppm
Mid Carbon Discharge:	2.1	ppm	Post Carbon	YES (NO)	ppm
Post Carbon Discharge:	1.0	ppm			

Additional Notes: Duplicate = Post-Carbon

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CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:		INVOICE TO:	
CLIENT:	GZA GeoEnvironmental	CLIENT:	
ADDRESS:	535 Washington St.	ADDRESS:	
CITY:	Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:	
PHONE:	716-685-2300	PHONE:	
ATTN:	T. Bohlen	ATTN:	

LAB PROJECT ID

Quotation #:

Email: thomas.bohlen@gza.com
james.sicherl@gza.com

PROJECT REFERENCE

21.0056546.00
Task 33

Matrix Codes:

AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	see pres. W, D,	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	10/20/14	1500		X	Pre-Carbon	AR	1	X		*re-use Tedlars - return to T. Bohlen, GZA office *	
2		1505		X	Mid-Carbon	"	"	X			
3		1510		X	Post-Carbon	"	"	X			
4		-		X	Duplicate	"	"	X			
5											
6											
7											
8											
9											
10											

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

T. Bohlen	10/20/14 / 1510	Total Cost:
Sampled By	Date/Time	
Thomas Bohlen	10/20/14 /	
Relinquished By	Date/Time	
	10/20/14	P.I.F.
Received By	Date/Time	
Received @ Lab By	Date/Time	

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

144595

Referencing

21.0056546.00 Task 33

Prepared

Monday, October 27, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144595

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Pre-Carbon
Lab Sample ID: 144595-01 **Date Sampled:** 10/20/2014
Matrix: Air **Date Received:** 10/21/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		10/24/2014 21:31
1,1-Dichloroethane	< 2.00	mg/m3		10/24/2014 21:31
1,1-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:31
1,2-Dichloropropane	< 2.00	mg/m3		10/24/2014 21:31
2-Butanone (MEK)	< 10.0	mg/m3		10/24/2014 21:31
Benzene	< 2.00	mg/m3		10/24/2014 21:31
Chlorobenzene	< 2.00	mg/m3		10/24/2014 21:31
Chloroform	< 2.00	mg/m3		10/24/2014 21:31
cis-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:31
Ethylbenzene	< 2.00	mg/m3		10/24/2014 21:31
m,p-Xylene	< 2.00	mg/m3		10/24/2014 21:31
Methyl tert-butyl Ether	< 2.00	mg/m3		10/24/2014 21:31
Methylene chloride	< 5.00	mg/m3		10/24/2014 21:31
o-Xylene	< 2.00	mg/m3		10/24/2014 21:31
Tetrachloroethene	**11.0**	mg/m3		10/24/2014 21:31
Toluene	< 2.00	mg/m3		10/24/2014 21:31
trans-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:31
Trichloroethene	< 2.00	mg/m3		10/24/2014 21:31
Vinyl chloride	< 2.00	mg/m3		10/24/2014 21:31

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x17899.D

This test represents a parameter/matrix/sample container combination for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144595

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 144595-02 **Date Sampled:** 10/20/2014
Matrix: Air **Date Received:** 10/21/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		10/24/2014 21:07
1,1-Dichloroethane	< 2.00	mg/m3		10/24/2014 21:07
1,1-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:07
1,2-Dichloropropane	< 2.00	mg/m3		10/24/2014 21:07
2-Butanone (MEK)	< 10.0	mg/m3		10/24/2014 21:07
Benzene	< 2.00	mg/m3		10/24/2014 21:07
Chlorobenzene	< 2.00	mg/m3		10/24/2014 21:07
Chloroform	< 2.00	mg/m3		10/24/2014 21:07
cis-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:07
Ethylbenzene	< 2.00	mg/m3		10/24/2014 21:07
m,p-Xylene	< 2.00	mg/m3		10/24/2014 21:07
Methyl tert-butyl Ether	< 2.00	mg/m3		10/24/2014 21:07
Methylene chloride	< 5.00	mg/m3		10/24/2014 21:07
o-Xylene	< 2.00	mg/m3		10/24/2014 21:07
Tetrachloroethene	< 2.00	mg/m3		10/24/2014 21:07
Toluene	< 2.00	mg/m3		10/24/2014 21:07
trans-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:07
Trichloroethene	< 2.00	mg/m3		10/24/2014 21:07
Vinyl chloride	< 2.00	mg/m3		10/24/2014 21:07

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x17898.D

This test represents a parameter/matrix/sample container combination for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144595

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Post-Carbon		
Lab Sample ID:	144595-03	**Date Sampled:**	10/20/2014
Matrix:	Air	**Date Received:**	10/21/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		10/24/2014 20:44
1,1-Dichloroethane	< 2.00	mg/m3		10/24/2014 20:44
1,1-Dichloroethene	< 2.00	mg/m3		10/24/2014 20:44
1,2-Dichloropropane	< 2.00	mg/m3		10/24/2014 20:44
2-Butanone (MEK)	< 10.0	mg/m3		10/24/2014 20:44
Benzene	< 2.00	mg/m3		10/24/2014 20:44
Chlorobenzene	< 2.00	mg/m3		10/24/2014 20:44
Chloroform	< 2.00	mg/m3		10/24/2014 20:44
cis-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 20:44
Ethylbenzene	< 2.00	mg/m3		10/24/2014 20:44
m,p-Xylene	< 2.00	mg/m3		10/24/2014 20:44
Methyl tert-butyl Ether	< 2.00	mg/m3		10/24/2014 20:44
Methylene chloride	< 5.00	mg/m3		10/24/2014 20:44
o-Xylene	< 2.00	mg/m3		10/24/2014 20:44
Tetrachloroethene	< 2.00	mg/m3		10/24/2014 20:44
Toluene	< 2.00	mg/m3		10/24/2014 20:44
trans-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 20:44
Trichloroethene	< 2.00	mg/m3		10/24/2014 20:44
Vinyl chloride	< 2.00	mg/m3		10/24/2014 20:44

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified

Data File: x17897.D

This test represents a parameter/matrix/sample container combination for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 144595

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Duplicate
Lab Sample ID: 144595-04 **Date Sampled:** 10/20/2014
Matrix: Air **Date Received:** 10/21/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		10/24/2014 21:55
1,1-Dichloroethane	< 2.00	mg/m3		10/24/2014 21:55
1,1-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:55
1,2-Dichloropropane	< 2.00	mg/m3		10/24/2014 21:55
2-Butanone (MEK)	< 10.0	mg/m3		10/24/2014 21:55
Benzene	< 2.00	mg/m3		10/24/2014 21:55
Chlorobenzene	< 2.00	mg/m3		10/24/2014 21:55
Chloroform	< 2.00	mg/m3		10/24/2014 21:55
cis-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:55
Ethylbenzene	< 2.00	mg/m3		10/24/2014 21:55
m,p-Xylene	< 2.00	mg/m3		10/24/2014 21:55
Methyl tert-butyl Ether	< 2.00	mg/m3		10/24/2014 21:55
Methylene chloride	< 5.00	mg/m3		10/24/2014 21:55
o-Xylene	< 2.00	mg/m3		10/24/2014 21:55
Tetrachloroethene	< 2.00	mg/m3		10/24/2014 21:55
Toluene	< 2.00	mg/m3		10/24/2014 21:55
trans-1,2-Dichloroethene	< 2.00	mg/m3		10/24/2014 21:55
Trichloroethene	< 2.00	mg/m3		10/24/2014 21:55
Vinyl chloride	< 2.00	mg/m3		10/24/2014 21:55

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified
Data File: x17900.D

This test represents a parameter/matrix/sample container combination for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	LAB PROJECT ID
CLIENT: GZA GeoEnvironmental	CLIENT:	144595
ADDRESS: 535 Washington St	ADDRESS:	
CITY: Buffalo, STATE: NY ZIP: 14203	CITY: → STATE: ZIP:	Quotation #:
PHONE: 716-685-2300	PHONE:	Email: thomas.bohlen@gza.com
ATTN: T. Bohlen	ATTN:	james.richert@gza.com

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid, NQ - Non-Aqueous Liquid, WA - Water, WG - Groundwater, DW - Drinking Water, WW - Wastewater, SO - Soil, SL - Sludge, SD - Solid, PT - Paint, WP - Wipe, CK - Caulk, OL - Oil, AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	see Rev. W.O. - VGZA per history SS 10/21/14								REMARKS	PARADIGM LAB SAMPLE NUMBER
1	10/20/14	1500		X	Pre-Carbon	AR	1	X									*re-use Tedlars-	01
2		1505		X	Mid-Carbon	↓	↓	X									return to	02
3		1510		X	Post-Carbon			X									T. Bohlen-	03
4		-		X	Duplicate			X									GZA office *	04
5																		
6																		
7																	22°C 10/21@ 1010	
8																		
9																		
10																		

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☑	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please indicate:	☐

T. Bohlen	10/20/14 / 1510	
Sampled By	Date/Time	Total Cost:
Thomas Bohlen	10/20/14 /	
Relinquished By	Date/Time	
John Hoff	10/20/14	
Received By	Date/Time	P.I.F.
[signature]	10/21/14 1003	
Received @ Lab By	Date/Time	

Chain of Custody Supplement

Client: G24 **Completed by:** Kyle Swanick

Lab Project ID: 144595 **Date:** 10/21/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature		X	
Comments	22°C		
Sufficient Sample Quantity	X		
Comments			

OPERATION, MAINTENANCE AND MONITORING PLAN
SVE/SSD SYSTEM
GM COMPONENTS HOLDINGS, LLC
LOCKPORT, NEW YORK

Name: R Stracke Time On-Site: 1300 Time Off-Site: 1400

Date: 11/25/14 SVE Blower Run Time: 35824.6 + 10172 hours VDF: 60 hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:				
Alarm lights off:	(YES)	NO	If no:				
Autodialer Alarm On:	YES	(NO)	If Yes:				
Postion of Swing Panel HOA Switches:							
Control Power Switch	(ON)	OFF	SVE Blower Switch	HAND	OFF	(AUTO)	
M/S Effluent Pump Switch	HAND	(OFF)	AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)
Heat Exchanger Operating	(YES)	NO	If no:				
SVE System appear to be operating properly?	(YES)	NO	If no:				
Moisture Separator Tank Level:	(Empty)	1/4 Full	1/2 Full	3/4 Full	Full	Volume Tranfered:	gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.4	in Hg	**System Monitoring Notes:**	
Vacuum Gauge Post-Inline Filter:	4.6	in Hg		
Temperature on Discharge Silencer:	110	° F		
Temperature after Heat Exchanger:	72	° F		
Pressure After Heat Exchanger	30	in H_2O		
Pressure Before Heat Exchanger	20	in H_2O	Flow Rate Based on Pressure Gauge:	cfm
Pressure Magnehelic Gauge:	2.4	in H_2O	Flow Rate Based on Vacuum Gauge:	cfm
Vacuum Magnehelic Gauge:	>2	in H_2O		
Vacuum Gauge After Manifold:	1.2	in Hg		

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	<1	in Hg	EW-11:	1	in Hg	**Vaccum Gauge Reading Notes:**
EW-2:	1.2	in Hg	EW-12:	<1	in Hg	
EW-3:	1	in Hg	EW-13:	<1	in Hg	
EW-4:	<1	in Hg	EW-14:	1.2	in Hg	
EW-5:	<1	in Hg	EW-15:	1	in Hg	
EW-6:	<1	in Hg	EW-16:	1	in Hg	
EW-7:	<1	in Hg	EW-17:	<1	in Hg	
EW-8:	<1	in Hg	SS-1:	1.5	in H2O	
EW-9:	1.1	in Hg	SS-2:	1.5	in H2O	
EW-10:	1.5	in Hg	SS-3:	1.5	in H2O	

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.5	ppm	Detector Tube Readings PCE			
Background Inside SVE Shed:	0.5	ppm	Pre Carbon	(YES)	NO	3.75 ppm
Pre Carbon Discharge:	6.0	ppm	Mid Carbon	(YES)	NO	0.3 ppm
Mid Carbon Discharge:	0.8	ppm	Post Carbon	(YES)	NO	0.0 ppm
Post Carbon Discharge:	0.0	ppm				

Additional Notes:

Duplicate: Mid-point Carbon

Bldg 10 SVE Shed requires a new sign in log (Full)

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM
ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:			INVOICE TO:			LAB PROJECT ID
CLIENT: GZA GeoEnvironmental			CLIENT:			
ADDRESS: 535 Washington St			ADDRESS:			
CITY: Buffalo	STATE: NY	ZIP: 14203	CITY:	STATE:	ZIP:	Quotation #:
PHONE: 716-685-2300			PHONE:			Email: thomas.bohlen@gza.com james.richard@gza.com
ATTN: T. Bohlen			ATTN:			

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC see prev. W.O.	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	11/25/14	1330		X	Pre-Carbon	AR	1	X	*re-use Tedlars - return to T. Bohlen GZA office *	
2		1335		X	Mid-Carbon			X		
3		1340		X	Post-Carbon			X		
4		—		X	Duplicate			X		
5										
6										
7										
8										
9										
10										

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please Indicate:	☐

Ron Strack	11/25/14	1340
Sampled By	Date/Time	
[signature]	11/25/14	1600
Relinquished By	Date/Time	
[signature]	11/26/14	1650
Received By	Date/Time	
Received @ Lab By	Date/Time	

Total Cost:

P.I.F.

PARADIGM

ENVIRONMENTAL SERVICES, INC.

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

145179

Referencing

21.0056546.00 Task 33

Prepared

Thursday, December 04, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145179

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Pre-Carbon		
Lab Sample ID:	145179-01	**Date Sampled:**	11/25/2014
Matrix:	Air	**Date Received:**	11/26/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/3/2014 18:50
1,1-Dichloroethane	< 2.00	mg/m3		12/3/2014 18:50
1,1-Dichloroethene	< 2.00	mg/m3		12/3/2014 18:50
1,2-Dichloropropane	< 2.00	mg/m3		12/3/2014 18:50
2-Butanone (MEK)	< 10.0	mg/m3		12/3/2014 18:50
Benzene	< 2.00	mg/m3		12/3/2014 18:50
Chlorobenzene	< 2.00	mg/m3		12/3/2014 18:50
Chloroform	< 2.00	mg/m3		12/3/2014 18:50
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 18:50
Ethylbenzene	< 2.00	mg/m3		12/3/2014 18:50
m,p-Xylene	< 2.00	mg/m3		12/3/2014 18:50
Methyl tert-butyl Ether	< 2.00	mg/m3		12/3/2014 18:50
Methylene chloride	< 5.00	mg/m3		12/3/2014 18:50
o-Xylene	< 2.00	mg/m3		12/3/2014 18:50
Tetrachloroethene	**28.4**	mg/m3		12/3/2014 18:50
Toluene	< 2.00	mg/m3		12/3/2014 18:50
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 18:50
Trichloroethene	**17.5**	mg/m3		12/3/2014 18:50
Vinyl chloride	< 2.00	mg/m3		12/3/2014 18:50

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**115**	70 - 130		12/3/2014 18:50
4-Bromofluorobenzene	**101**	70 - 130		12/3/2014 18:50
Pentafluorobenzene	**100**	70 - 130		12/3/2014 18:50
Toluene-D8	**103**	70 - 130		12/3/2014 18:50

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified

Data File: x19097.D

This test represents parameters for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145179

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 145179-02 **Date Sampled:** 11/25/2014
Matrix: Air **Date Received:** 11/26/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/3/2014 19:14
1,1-Dichloroethane	< 2.00	mg/m3		12/3/2014 19:14
1,1-Dichloroethene	< 2.00	mg/m3		12/3/2014 19:14
1,2-Dichloropropane	< 2.00	mg/m3		12/3/2014 19:14
2-Butanone (MEK)	< 10.0	mg/m3		12/3/2014 19:14
Benzene	< 2.00	mg/m3		12/3/2014 19:14
Chlorobenzene	< 2.00	mg/m3		12/3/2014 19:14
Chloroform	< 2.00	mg/m3		12/3/2014 19:14
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 19:14
Ethylbenzene	< 2.00	mg/m3		12/3/2014 19:14
m,p-Xylene	< 2.00	mg/m3		12/3/2014 19:14
Methyl tert-butyl Ether	< 2.00	mg/m3		12/3/2014 19:14
Methylene chloride	< 5.00	mg/m3		12/3/2014 19:14
o-Xylene	< 2.00	mg/m3		12/3/2014 19:14
Tetrachloroethene	**9.08**	mg/m3		12/3/2014 19:14
Toluene	< 2.00	mg/m3		12/3/2014 19:14
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 19:14
Trichloroethene	**6.61**	mg/m3		12/3/2014 19:14
Vinyl chloride	< 2.00	mg/m3		12/3/2014 19:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**115**	70 - 130		12/3/2014 19:14
4-Bromofluorobenzene	**99.5**	70 - 130		12/3/2014 19:14
Pentafluorobenzene	**101**	70 - 130		12/3/2014 19:14
Toluene-D8	**102**	70 - 130		12/3/2014 19:14

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified

Data File: x19098.D

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PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145179

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Post-Carbon		
Lab Sample ID:	145179-03	**Date Sampled:**	11/25/2014
Matrix:	Air	**Date Received:**	11/26/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/3/2014 19:38
1,1-Dichloroethane	< 2.00	mg/m3		12/3/2014 19:38
1,1-Dichloroethene	< 2.00	mg/m3		12/3/2014 19:38
1,2-Dichloropropane	< 2.00	mg/m3		12/3/2014 19:38
2-Butanone (MEK)	< 10.0	mg/m3		12/3/2014 19:38
Benzene	< 2.00	mg/m3		12/3/2014 19:38
Chlorobenzene	< 2.00	mg/m3		12/3/2014 19:38
Chloroform	< 2.00	mg/m3		12/3/2014 19:38
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 19:38
Ethylbenzene	< 2.00	mg/m3		12/3/2014 19:38
m,p-Xylene	< 2.00	mg/m3		12/3/2014 19:38
Methyl tert-butyl Ether	< 2.00	mg/m3		12/3/2014 19:38
Methylene chloride	< 5.00	mg/m3		12/3/2014 19:38
o-Xylene	< 2.00	mg/m3		12/3/2014 19:38
Tetrachloroethene	**4.01**	mg/m3		12/3/2014 19:38
Toluene	< 2.00	mg/m3		12/3/2014 19:38
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 19:38
Trichloroethene	**2.87**	mg/m3		12/3/2014 19:38
Vinyl chloride	< 2.00	mg/m3		12/3/2014 19:38

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**112**	70 - 130		12/3/2014 19:38
4-Bromofluorobenzene	**99.2**	70 - 130		12/3/2014 19:38
Pentafluorobenzene	**99.3**	70 - 130		12/3/2014 19:38
Toluene-D8	**102**	70 - 130		12/3/2014 19:38

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified

Data File: x19099.D

This test represents parameters for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145179

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Duplicate		
Lab Sample ID:	145179-04	**Date Sampled:**	11/25/2014
Matrix:	Air	**Date Received:**	11/26/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/3/2014 20:02
1,1-Dichloroethane	< 2.00	mg/m3		12/3/2014 20:02
1,1-Dichloroethene	< 2.00	mg/m3		12/3/2014 20:02
1,2-Dichloropropane	< 2.00	mg/m3		12/3/2014 20:02
2-Butanone (MEK)	< 10.0	mg/m3		12/3/2014 20:02
Benzene	< 2.00	mg/m3		12/3/2014 20:02
Chlorobenzene	< 2.00	mg/m3		12/3/2014 20:02
Chloroform	< 2.00	mg/m3		12/3/2014 20:02
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 20:02
Ethylbenzene	< 2.00	mg/m3		12/3/2014 20:02
m,p-Xylene	< 2.00	mg/m3		12/3/2014 20:02
Methyl tert-butyl Ether	< 2.00	mg/m3		12/3/2014 20:02
Methylene chloride	< 5.00	mg/m3		12/3/2014 20:02
o-Xylene	< 2.00	mg/m3		12/3/2014 20:02
Tetrachloroethene	**3.65**	mg/m3		12/3/2014 20:02
Toluene	< 2.00	mg/m3		12/3/2014 20:02
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/3/2014 20:02
Trichloroethene	**2.77**	mg/m3		12/3/2014 20:02
Vinyl chloride	< 2.00	mg/m3		12/3/2014 20:02

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**115**	70 - 130		12/3/2014 20:02
4-Bromofluorobenzene	**98.2**	70 - 130		12/3/2014 20:02
Pentafluorobenzene	**98.0**	70 - 130		12/3/2014 20:02
Toluene-D8	**101**	70 - 130		12/3/2014 20:02

Method Reference(s): EPA 8260C Modified
EPA 5030 Modified

Data File: x19100.D

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Analytical Report Appendix

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

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"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	
CLIENT: GZA GeoEnvironmental	CLIENT:	LAB PROJECT ID: 145179
ADDRESS: 535 Washington St	ADDRESS:	
CITY: Buffalo. STATE: NY ZIP: 14203	CITY: STATE: ZIP:	Quotation #:
PHONE: 716-685-2300	PHONE:	Email: thomas.bohlen@gza.com james.richert@gza.com
ATTN: T. Bohlen	ATTN:	

PROJECT REFERENCE
21.0056546.00
TASK 33

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	See Prev. W.O.								REMARKS	PARADIGM LAB SAMPLE NUMBER	
1	11/25/14	1330		X	Pre-Carbon	AR	1	X									*re-use Tedlars -		01
2		1335		X	Mid-Carbon	↓	↓	X									return to T. Bohlen		02
3		1340		X	Post-Carbon			X									GZA office *		03
4		—		X	Duplicate			X											04
5																			
6																			
7																			
8																			
9																			
10																			

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Ron Strack — Sampled By	11/25/14 1340 — Date/Time	Total Cost:
Relinquished By	11/25/14 1600 — Date/Time	
Received By	11/26/14 1605 — Date/Time	P.I.F.
Received @ Lab By	11/26/14 16:02 — Date/Time	

PARADIGM ENVIRONMENTAL SERVICES, INC.

Chain of Custody Supplement

Client: GZA GeoEnvironmental **Completed by:** Glenn Pezzulo

Lab Project ID: 145179 **Date:** 11/26/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	☐	☐	☒
Comments			
Transferred to method-compliant container	☐	☐	☒
Headspace (<1 mL)	☐	☐	☒
Comments			
Preservation	☐	☐	☒
Comments			
Chlorine Absent (<0.10 ppm per test strip)	☐	☐	☒
Comments			
Holding Time	☐	☐	☒
Comments			
Temperature	☐	☐	☒
Comments			
Sufficient Sample Quantity	☒	☐	☐
Comments			

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

ROUTINE MONITORING FORM

SVE/SSD SYSTEM INSTALLATION DOCUMENT
DELPHI
LOCKPORT, NEW YORK

Name: Ron Strack	Time On-Site: 1200	Time Off-Site: 1330	
Date: 12/16/14	SVE Blower Run Time: 36,327.1 +10172 hours	VDF: 60	hertz

SYSTEM STATUS

SVE System Operating:	(YES)	NO	If no:					
Alarm lights off:	(YES)	NO	If no:					
Autodialer Alarm On:	YES	(NO)	If Yes:					
Postion of Swing Panel HOA Switches:								
Control Power Switch	(ON)	OFF	SVE Blower Switch	HAND	OFF	(AUTO)		
M/S Effluent Pump Switch	HAND	(OFF)	AUTO	Heat Exchanger Switch	HAND	OFF	(AUTO)	
Heat Exchanger Operating	(YES)	NO	If no:					
SVE System appear to be operating properly?	(YES)	NO	If no:					
Moisture Separator Tank Level:	(Empty)	1/4 Full	1/2 Full	3/4 Full	Full	Volume Tranfered:		gals

SYSTEM MONITORING READINGS

Vacuum Gauge Pre-Inline Filter:	4.5	in Hg
Vacuum Gauge Post-Inline Filter:	5.0	in Hg
Temperature on Discharge Silencer:	110	° F
Temperature after Heat Exchanger:	72	° F
Pressure After Heat Exchanger	30	in H_2O
Pressure Before Heat Exchanger	20	in H_2O
Pressure Magnehelic Gauge:	2.6	in H_2O
Vacuum Magnehelic Gauge:	72	in H_2O
Vacuum Gauge After Manifold:	1.2	in Hg

System Monitoring Notes:

EXTRACTION WELL VACUUM GAUGE READINGS

EW -1:	<1	in Hg	EW-11:	1	in Hg
EW-2:	1	in Hg	EW-12:	<1	in Hg
EW-3:	1	in Hg	EW-13:	<1	in Hg
EW-4:	<1	in Hg	EW-14:	1.2	in Hg
EW-5:	<1	in Hg	EW-15:	1	in Hg
EW-6:	<1	in Hg	EW-16:	1	in Hg
EW-7:	<1	in Hg	EW-17:	<1	in Hg
EW-8:	<1	in Hg	SS-1:	1	in H2O
EW-9:	1.2	in Hg	SS-2:	2.5	in H2O
EW-10:	1.5	in Hg	SS-3:	1	in H2O

Vaccum Gauge Reading Notes:

AIR FLOW FIELD SCREENING

Background Outside SVE Shed:	0.5	ppm
Background Inside SVE Shed:	0.5	ppm
Pre Carbon Discharge:	4.7	ppm
Mid Carbon Discharge:	0.5	ppm
Post Carbon Discharge:	0.0	ppm

Detector Tube Readings

Pre Carbon	YES	(NO)	ppm
Mid Carbon	YES	(NO)	ppm
Post Carbon	YES	(NO)	ppm

Additional Notes:

Duplicate: Pre-Carbon Discharge

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM
ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:		INVOICE TO:		LAB PROJECT ID
CLIENT: GZA GeoEnvironmental		CLIENT:		
ADDRESS: 535 Washington St		ADDRESS:		
CITY: Buffalo STATE: NY ZIP: 14203		CITY: STATE: ZIP:		Quotation #:
PHONE: 716-685-2300		PHONE:		Email: thomas.bohlen@gza.com
ATTN: T. Bohlen		ATTN:		james.richard@gza.com

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	See Prev. W.O.	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	12/16/14	1230		X	Pre-Carbon	AR	1			* Re-Use Tedlars return to T Bohlen GZA Office	
2				X	Mid-Carbon						
3				X	Post-Carbon						
4				X	Duplicate						
5											
6											
7											
8											
9											
10											

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	X	Batch QC		Basic EDD	
Rush 3 day		Category A		NYSDEC EDD	
Rush 2 day		Category B			
Rush 1 day					
Other please indicate:		Other please indicate:		Other EDD please indicate:	

Sampled By: Roy Strack	Date/Time: 12/16/14 1230	Total Cost:
Relinquished By:	Date/Time: 12/17/14 0915	
Received By:	Date/Time: 12/17/14 0915	P.I.F.
Received @ Lab By:	Date/Time:	

PARADIGM

ENVIRONMENTAL SERVICES, INC.

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

145486

Referencing

21.0056546.00 Task 33

Prepared

Monday, December 29, 2014

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145486

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Pre-Carbon		
Lab Sample ID:	145486-01	**Date Sampled:**	12/16/2014
Matrix:	Air	**Date Received:**	12/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/24/2014 06:12
1,1-Dichloroethane	< 2.00	mg/m3		12/24/2014 06:12
1,1-Dichloroethene	< 2.00	mg/m3		12/24/2014 06:12
1,2-Dichloropropane	< 2.00	mg/m3		12/24/2014 06:12
2-Butanone (MEK)	< 10.0	mg/m3		12/24/2014 06:12
Benzene	< 2.00	mg/m3		12/24/2014 06:12
Chlorobenzene	< 2.00	mg/m3		12/24/2014 06:12
Chloroform	< 2.00	mg/m3		12/24/2014 06:12
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 06:12
Ethylbenzene	< 2.00	mg/m3		12/24/2014 06:12
m,p-Xylene	< 2.00	mg/m3		12/24/2014 06:12
Methyl tert-butyl Ether	< 2.00	mg/m3		12/24/2014 06:12
Methylene chloride	< 5.00	mg/m3		12/24/2014 06:12
o-Xylene	< 2.00	mg/m3		12/24/2014 06:12
Tetrachloroethene	**5.31**	mg/m3		12/24/2014 06:12
Toluene	< 2.00	mg/m3		12/24/2014 06:12
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 06:12
Trichloroethene	< 2.00	mg/m3		12/24/2014 06:12
Vinyl chloride	< 2.00	mg/m3		12/24/2014 06:12

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**93.8**	70 - 130		12/24/2014 06:12
4-Bromofluorobenzene	**94.9**	70 - 130		12/24/2014 06:12
Pentafluorobenzene	**95.9**	70 - 130		12/24/2014 06:12
Toluene-D8	**96.5**	70 - 130		12/24/2014 06:12

Method Reference(s): EPA 8260C Modified
EPA 5030

Data File: x19659.D

This test represents parameters for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145486

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 145486-02 **Date Sampled:** 12/16/2014
Matrix: Air **Date Received:** 12/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/24/2014 05:48
1,1-Dichloroethane	< 2.00	mg/m3		12/24/2014 05:48
1,1-Dichloroethene	< 2.00	mg/m3		12/24/2014 05:48
1,2-Dichloropropane	< 2.00	mg/m3		12/24/2014 05:48
2-Butanone (MEK)	< 10.0	mg/m3		12/24/2014 05:48
Benzene	< 2.00	mg/m3		12/24/2014 05:48
Chlorobenzene	< 2.00	mg/m3		12/24/2014 05:48
Chloroform	< 2.00	mg/m3		12/24/2014 05:48
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 05:48
Ethylbenzene	< 2.00	mg/m3		12/24/2014 05:48
m,p-Xylene	< 2.00	mg/m3		12/24/2014 05:48
Methyl tert-butyl Ether	< 2.00	mg/m3		12/24/2014 05:48
Methylene chloride	< 5.00	mg/m3		12/24/2014 05:48
o-Xylene	< 2.00	mg/m3		12/24/2014 05:48
Tetrachloroethene	< 2.00	mg/m3		12/24/2014 05:48
Toluene	< 2.00	mg/m3		12/24/2014 05:48
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 05:48
Trichloroethene	< 2.00	mg/m3		12/24/2014 05:48
Vinyl chloride	< 2.00	mg/m3		12/24/2014 05:48

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**92.8**	70 - 130		12/24/2014 05:48
4-Bromofluorobenzene	**95.4**	70 - 130		12/24/2014 05:48
Pentafluorobenzene	**96.0**	70 - 130		12/24/2014 05:48
Toluene-D8	**96.3**	70 - 130		12/24/2014 05:48

Method Reference(s): EPA 8260C Modified
EPA 5030
Data File: x19658.D

This test represents parameters for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145486

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Post-Carbon		
Lab Sample ID:	145486-03	**Date Sampled:**	12/16/2014
Matrix:	Air	**Date Received:**	12/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/24/2014 05:24
1,1-Dichloroethane	< 2.00	mg/m3		12/24/2014 05:24
1,1-Dichloroethene	< 2.00	mg/m3		12/24/2014 05:24
1,2-Dichloropropane	< 2.00	mg/m3		12/24/2014 05:24
2-Butanone (MEK)	< 10.0	mg/m3		12/24/2014 05:24
Benzene	< 2.00	mg/m3		12/24/2014 05:24
Chlorobenzene	< 2.00	mg/m3		12/24/2014 05:24
Chloroform	< 2.00	mg/m3		12/24/2014 05:24
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 05:24
Ethylbenzene	< 2.00	mg/m3		12/24/2014 05:24
m,p-Xylene	< 2.00	mg/m3		12/24/2014 05:24
Methyl tert-butyl Ether	< 2.00	mg/m3		12/24/2014 05:24
Methylene chloride	< 5.00	mg/m3		12/24/2014 05:24
o-Xylene	< 2.00	mg/m3		12/24/2014 05:24
Tetrachloroethene	< 2.00	mg/m3		12/24/2014 05:24
Toluene	< 2.00	mg/m3		12/24/2014 05:24
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 05:24
Trichloroethene	< 2.00	mg/m3		12/24/2014 05:24
Vinyl chloride	< 2.00	mg/m3		12/24/2014 05:24

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**96.5**	70 - 130		12/24/2014 05:24
4-Bromofluorobenzene	**97.3**	70 - 130		12/24/2014 05:24
Pentafluorobenzene	**96.4**	70 - 130		12/24/2014 05:24
Toluene-D8	**98.2**	70 - 130		12/24/2014 05:24

Method Reference(s): EPA 8260C Modified
EPA 5030

Data File: x19657.D

This test represents parameters for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 145486

Client: **GZA Geo Environmental of New York**

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	Duplicate		
Lab Sample ID:	145486-04	**Date Sampled:**	12/16/2014
Matrix:	Air	**Date Received:**	12/18/2014

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		12/24/2014 04:59
1,1-Dichloroethane	< 2.00	mg/m3		12/24/2014 04:59
1,1-Dichloroethene	< 2.00	mg/m3		12/24/2014 04:59
1,2-Dichloropropane	< 2.00	mg/m3		12/24/2014 04:59
2-Butanone (MEK)	< 10.0	mg/m3		12/24/2014 04:59
Benzene	< 2.00	mg/m3		12/24/2014 04:59
Chlorobenzene	< 2.00	mg/m3		12/24/2014 04:59
Chloroform	< 2.00	mg/m3		12/24/2014 04:59
cis-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 04:59
Ethylbenzene	< 2.00	mg/m3		12/24/2014 04:59
m,p-Xylene	< 2.00	mg/m3		12/24/2014 04:59
Methyl tert-butyl Ether	< 2.00	mg/m3		12/24/2014 04:59
Methylene chloride	< 5.00	mg/m3		12/24/2014 04:59
o-Xylene	< 2.00	mg/m3		12/24/2014 04:59
Tetrachloroethene	**4.56**	mg/m3		12/24/2014 04:59
Toluene	< 2.00	mg/m3		12/24/2014 04:59
trans-1,2-Dichloroethene	< 2.00	mg/m3		12/24/2014 04:59
Trichloroethene	< 2.00	mg/m3		12/24/2014 04:59
Vinyl chloride	< 2.00	mg/m3		12/24/2014 04:59

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**93.4**	70 - 130		12/24/2014 04:59
4-Bromofluorobenzene	**96.8**	70 - 130		12/24/2014 04:59
Pentafluorobenzene	**96.4**	70 - 130		12/24/2014 04:59
Toluene-D8	**97.7**	70 - 130		12/24/2014 04:59

Method Reference(s): EPA 8260C Modified
EPA 5030

Data File: x19656.D

This test represents parameters for which Paradigm does not carry ELAP certification. The results of this test should only be used where ELAP certification is not required, such as personal exposure assessment.

Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

"<" = Analyzed for but not detected at or above the quantitation limit.
"E" = Result has been estimated, calibration limit exceeded.
"Z" = See case narrative.
"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.
"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.
"B" = Method blank contained trace levels of analyte. Refer to included method blank report.
"J" = Result estimated between the quantitation limit and half the quantitation limit.
"L" = Laboratory Control Sample recovery outside accepted QC limits.
"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.
"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.
"" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
"(1)" = Indicates data from primary column used for QC calculation.

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

Warranty. Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

Scope and Compensation. LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

Prices. Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately.

Limitations of Liability. In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

Hazard Disclosure. Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

Sample Handling. Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

Legal Responsibility. LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

Assignment. LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

Force Majeure. LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Law. This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	
CLIENT: GZA GeoEnvironmental	CLIENT:	LAB PROJECT ID 145486
ADDRESS: 535 Washington St	ADDRESS:	
CITY: Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:	Quotation #:
PHONE: 716-685-2300	PHONE:	Email: thomas.bohlen@gza.com
ATTN: T. Bohlen	ATTN:	james.richert@gza.com

PROJECT REFERENCE
21.0056546.00
Task 33

Matrix Codes:
AQ - Aqueous Liquid, NQ - Non-Aqueous Liquid, WA - Water, WG - Groundwater, DW - Drinking Water, WW - Wastewater, SO - Soil, SL - Sludge, SD - Solid, PT - Paint, WP - Wipe, CK - Caulk, OL - Oil, AR - Air

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	see prev. W.O.	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	12/16/14	1230		X	Pre-Carbon	AR	1			* Re-Use Tedlars	01
2		↓		X	Mid-Carbon	↓	↓			return to T. Bohlen	02
3				X	Post-Carbon					GZA Office	03
4				X	Duplicate						04
5											
6											
7											
8											
9											
10											

Turnaround Time		Report Supplements			
Availability contingent upon lab approval; additional fees may apply.					
Standard 5 day	☒	Batch QC	☐	Basic EDD	☐
Rush 3 day	☐	Category A	☐	NYSDEC EDD	☐
Rush 2 day	☐	Category B	☐		
Rush 1 day	☐				
Other please indicate:	☐	Other please indicate:	☐	Other EDD please indicate:	☐

Sampled By: Ron Strack	Date/Time: 12/16/14 1230	Total Cost:
Relinquished By: [signature]	Date/Time: 12/17/14 0915	
Received By: [signature]	Date/Time: 12/17/14 0915	P.I.F.
Received @ Lab By: [signature]	Date/Time: 12/18/14 17:23	

Chain of Custody Supplement

Client: GZA Geo Environmental **Completed by:** Glenn Perenb

Lab Project ID: 145486 **Date:** 12/18/14

Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt: Yes	No	N/A
Container Type	X		
Comments			
Transferred to method-compliant container			X
Headspace (<1 mL)			X
Comments			
Preservation			X
Comments			
Chlorine Absent (<0.10 ppm per test strip)			X
Comments			
Holding Time	X		
Comments			
Temperature			X
Comments			
Sufficient Sample Quantity	X		
Comments			

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APPENDIX C

SSDS CONVERSION PILOT STUDY

PILOT STUDY

GMCH LOCKPORT FACILITY - BUILDING 10

SVE/SSDS CONVERSION

1.0 Purpose and Scope of Work

The purpose of performing a pilot study on the existing Sub-Slab Depressurization System (SSDS) components is to properly size a blower that will effectively influence, by vacuum, the area of concern. The area of concern for this pilot study was previously defined as the limits of soil with PCE concentrations greater than 300 ppm, as shown on Figure 2 of the 2014 SVE/SSDS Operation & Monitoring Report. This pilot study can be accomplished utilizing the existing equipment currently in place for the Soil Vapor Extraction (SVE) system.

To isolate vacuum influence from soil areas, vertical recovery well piping will be closed off from the influence of the existing blower in the SVE shed. All sub-slab leg piping will be left open, which will effectively apply vacuum influence only to the sub-slab area. With the system in this configuration, it is strictly an SSDS, but due to the size of the blower and additional mechanical equipment involved with the SVE system, it may be beneficial to reduce the blower size.

Properly sizing a new blower for the SSDS system will require taking vacuum readings from the perimeter of the area of concern while only the sub-slab legs are active. The existing blower is equipped with a variable frequency drive that allows for blower flow rate to be easily adjusted. The system flow rate will be adjusted while taking sub-slab vacuum readings to determine the minimum flow rate required to apply vacuum influence throughout the area of concern.

2.0 Investigation Steps

1. The SVE system will be deactivated by closing the recovery well valves. The sub-slab legs will remain open with the blower running at full speed (60 Hz). All system parameters will be recorded, as done during the monthly monitoring, in order to calculate the system flow rate.

2. Approximately ten (10) half- inch diameter holes will be drilled through the existing concrete floor to be used as temporary vacuum monitoring points. The monitoring points will penetrate the concrete floor slab but will not extend into the underlying sub-slab aggregate material. The approximate circumference of the area of concern is

280 feet, so spacing of the holes will be approximately 30 feet. Exact spacing will be dictated by current building use and permission from the facilities department. Immediately upon completing each hole, a PID reading will be taken to assess the presence of sub-slab vapors and a vacuum reading will be measured to assess the presence of vacuum influence. The hole will then be plugged with modeling clay so it does not affect the vacuum influence at adjacent monitoring points.

3. The variable frequency drive of the blower will then be adjusted to approximately 55 Hz. A second round of equipment and monitoring point measurements will be taken and recorded. If vacuum influence is no longer detected at any of the monitoring locations, a finer adjustment will be made to determine the required flow rate at which vacuum is achieved throughout the area of interest.

4. Additional frequency adjustments will be made, at 5 Hz intervals if applicable, followed by rounds of measurements until vacuum influence is no longer detected around the area of concern.

Data collected as part of the pilot study will be evaluated to calculate the required flow rate needed to achieve the desired vacuum influence around the area of concern. This required flow rate will help determine if the blowers that are currently used for the existing SSD systems in Buildings 7A, 7, and 8 are suitable for use at Building 10.