

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

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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 Assessment¹ (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 Report² (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 Document³ in July 2009. GMCH submitted an Operation, Maintenance & Monitoring (OM&M) Plan⁴ 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.

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-ongrade, 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 lamp⁵. 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 0.57⁶. 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.

a. Klant

I certify⁷ 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

Signature

Date

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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 OPE	ERATING VACUUM		PRECARBON M	10NITOR	ING POINT		MID-CARBON N	MONITOR	NG POINT		POST-CARBON N	MONITOR	ING 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 D	ata																		
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	98 168	2.8	280 300	4.5 5	450 95	257 54			1.5 0.6	0.9			0.9	0.5			192 41	155 60	54.6 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		2.57 1.0	1.9	1.1		1.57 0.005	1	0.6		1.07 0.003	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 4/27/2009	958 1,203	8.0 10.2	315 330	3 4.5	82 40	47 23			1.2 0.9	0.7			0.9	0.5			35 17	44 52	5.5 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 8/3/2009	2,953 3,528	15.0 24.0	340 310	3.25	58 34	33 19			19	1.7	15		0.5	0.3	0.5		25 15	65 93	4.3 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 Reportin	g Data														Pounds	of PCE Removed May	y 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 8/26/2010	11,926 12,835	24.8 37.9	315 300	3.5 4	21 18	12 10	20 15	19.8 / 16.5 29.3 / 22.4	10	0.0 5.7	9	2 / 0.09 20.9 / 11.9	0	0.0	0	No Sample 0.2 / 0	9 8	38 59	1.5
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 4/26/2011	14959 15914	38.0 39.8	310 315	4	9.1 6.8	5	NM NM	2.9 / 2.1 3.8 / 3.4	0	0	MN NM	6.1 / 0 0.5 / 0	0.3	0.2	NM NM	0.8 / 0.2 0.5 / 0	4	29 26	0.8
2011 - 2013 Re	•		515		0.0		11111	3.07 3.1		Ů,		0.57 0		0.0	11111	0.5 / 0			0.0
									5.4				0.7						
			215	4	11	-	NM	40/42	5.4	2.079	NM	Comple backs	0.7	0.4			y 2010 through April 2011:	322	0.0
5/25/2011	16615	29.2	315 315	4 4	11 11.5	6 7	NM NM	4.9 / 4.2 10.2 / 6	5.4 5.4 0	3.078	NM NM	Sample broke 5.4 / 1.5	0.7 0.7 0	0.4	Pounds NM NM	0.09 / 0.8 4.6 / 0	y 2010 through April 2011: 6 7	322 26 44	0.9
5/25/2011 6/30/2011 7/28/2011	16615 17476 18146	29.2 35.9 27.9	315 315	4	11.5 12.7	7	NM NM	10.2 / 6 9 / 8.1	5.4 0 1.2	0 0.684	NM NM	5.4 / 1.5 0.2 / 0	0.7 0 0	0.0	NM NM NM	0.09 / 0.8 4.6 / 0 0 /0	6 7 7	26 44 37	1.2 1.3
5/25/2011 6/30/2011 7/28/2011 8/31/2011	16615 17476 18146 18956	29.2 35.9 27.9 33.8	315 315 315	4 4	11.5 12.7 12.1	7 7 7	NM NM NM	10.2 / 6 9 / 8.1 8.5 / 8.4	5.4 0 1.2 4.9	0 0.684 2.793	NM NM 0	5.4 / 1.5 0.2 / 0 0.1 / 0	0.7 0 0 4.8	0.0 0.0 2.7	NM NM NM 0	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0	6 7 7 7	26 44 37 46	1.2 1.3 1.4
5/25/2011 6/30/2011 7/28/2011	16615 17476 18146	29.2 35.9 27.9	315 315	4	11.5 12.7	7	NM NM	10.2 / 6 9 / 8.1	5.4 0 1.2	0 0.684	NM NM	5.4 / 1.5 0.2 / 0	0.7 0 0	0.0	NM NM NM	0.09 / 0.8 4.6 / 0 0 /0	6 7 7	26 44 37	1.2 1.3
5/25/2011 6/30/2011 7/28/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011	16615 17476 18146 18956 19606 20441 21096	29.2 35.9 27.9 33.8 27.1 34.8 27.3	315 315 315 325 315 315	4 4 4 4 4.25 4.25 4	11.5 12.7 12.1 8.8 3.5 3	7 7 7 5 2 2	NM NM NM NM NM	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6	5.4 0 1.2 4.9 0 0 0.6	0 0.684 2.793 0 0 0.342	NM NM 0 NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9	0.7 0 0 4.8 0 0	0.0 0.0 2.7 0.0 0.0 0.0	NM NM NM 0 NM NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0	6 7 7 7 7 5 2	26 44 37 46 31 24	1.2 1.3 1.4 1.2 0.7 0.4
5/25/2011 6/30/2011 7/28/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 1/5/2012	16615 17476 18146 18956 19606 20441 21096 22001	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7	315 315 315 325 315 315 315 325	4 4 4 4.25 4.25 4 4.25	11.5 12.7 12.1 8.8 3.5 3	7 7 7 7 5	NM NM NM NM NM NM	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1	5.4 0 1.2 4.9 0	0 0.684 2.793 0 0 0.342 1.71	NM NM 0 NM NM NM 5	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5	0.7 0 0 4.8 0 0 0	0.0 0.0 2.7 0.0 0.0 0.0 0.0	NM NM NM 0 NM NM NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0	6 7 7 7 7 5 2	26 44 37 46 31 24 10	1.2 1.3 1.4 1.2 0.7 0.4 0.3
5/25/2011 6/30/2011 7/28/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 1/5/2012 1/31/2012 3/1/2012	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2	315 315 315 325 315 315 315 325 325 325 315	4 4 4 4.25 4.25 4 4.25 4.25 4.25 4.25	11.5 12.7 12.1 8.8 3.5 3 4 3.6	7 7 7 5 2 2 2 2 2 2	NM NM NM NM NM NM S NM	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58	5.4 0 1.2 4.9 0 0 0.6 3 1	0 0.684 2.793 0 0 0.342 1.71 0.57	NM	5.4 / 1.5 0.2 / 0 0.1 / 0 4.2 / 0.3 6.5 / 1.8 10.7 / 4.9 8.7 / 3.5 4.8 / 0.17 4.9 / 0.08	0.7 0 0 4.8 0 0 0 0 0 0.8	0.0 0.0 2.7 0.0 0.0 0.0 0.0 0.0 0.5	NM NM NM 0 NM NM NM NM NM NM NM NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 4.6 / 0 5 / 0.08	6 7 7 7 7 5 2 2 2 2 2 2 2 2 2 2	26 44 37 46 31 24 10 13 10	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4
5/25/2011 6/30/2011 7/28/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 1/5/2012 1/31/2012 4/5/2012	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8	315 315 315 325 315 315 325 325 325 325 325 325 325 325	4 4 4 4.25 4.25 4 4.25 4.25 4 4.25 4 4	11.5 12.7 12.1 8.8 3.5 3 4 3.6 5.1	7 7 7 5 5 2 2 2 2 2 2 2 3	NM S NM NM NM NM NM	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29	5.4 0 1.2 4.9 0 0 0.6 3 1 0	0 0.684 2.793 0 0 0.342 1.71 0.57 0	NM	5.4 / 1.5 0.2 / 0 0.1 / 0 4.2 / 0.3 6.5 / 1.8 10.7 / 4.9 8.7 / 3.5 4.8 / 0.17 4.9 / 0.08 5 / 0	0.7 0 0 4.8 0 0 0 0 0 0.8 0	0.0 0.0 2.7 0.0 0.0 0.0 0.0 0.0 0.5 0.0	NM NM NM 0 NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 4.6 / 0 5 / 0.08	6 7 7 7 5 2 2 2 2 2 2 3	26 44 37 46 31 24 10 13 10 13	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5
5/25/2011 6/30/2011 7/28/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 1/5/2012 1/31/2012 3/1/2012	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2	315 315 315 325 315 315 315 325 325 325 315	4 4 4 4.25 4.25 4 4.25 4.25 4.25 4.25	11.5 12.7 12.1 8.8 3.5 3 4 3.6	7 7 7 5 2 2 2 2 2 2	NM NM NM NM NM NM S NM	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58	5.4 0 1.2 4.9 0 0 0.6 3 1	0 0.684 2.793 0 0 0.342 1.71 0.57	NM	5.4 / 1.5 0.2 / 0 0.1 / 0 4.2 / 0.3 6.5 / 1.8 10.7 / 4.9 8.7 / 3.5 4.8 / 0.17 4.9 / 0.08	0.7 0 0 4.8 0 0 0 0 0 0.8	0.0 0.0 2.7 0.0 0.0 0.0 0.0 0.0 0.5	NM NM NM 0 NM NM NM NM NM NM NM NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 4.6 / 0 5 / 0.08	6 7 7 7 7 5 2 2 2 2 2 2 2 2 2 2	26 44 37 46 31 24 10 13 10	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4
5/25/2011 6/30/2011 7/28/2011 9/27/2011 11/1/2011 1/5/2012 1/31/2012 4/5/2012 5/2/2012 5/2/2012 7/17/2012	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 24831 25528 26655	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 26.9	315 315 315 325 315 315 325 325 325 325 325 325 325 32	4 4 4 4.25 4.25 4 4 4.25 4.25 4 4 4 4.5 4.25 4 4 4 4.5	11.5 12.7 12.1 8.8 3.5 3 4 3.6 5.1 4 3.5	7 7 7 7 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35	5.4 0 1.2 4.9 0 0.6 3 1 0 0 0.9 0.9	0 0.684 2.793 0 0 0.342 1.71 0.57 0 0 0.513 0.114	NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9	0.7 0 0 4.8 0 0 0 0 0 0.8 0 0 0 0.8 0 0 0.8 0	0.0 0.0 2.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 0 / 0 0 / 0 0 / 0 5.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5 / 2.0 3.2 / 0 0.3 / 0.22	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 2 6 6	26 44 37 46 31 24 10 13 10 13 17 14 12 35	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5
5/25/2011 6/30/2011 7/28/2011 8/31/2011 11/1/2011 11/1/2012 11/31/2012 3/1/2012 4/5/2012 5/21/2012 5/31/2012	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 24831 25528	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9	315 315 315 325 315 325 315 325 325 325 325 327 320 327 322	4 4 4 4.25 4.25 4 4 4.25 4 4.25 4 4.25 4 4.25 4 4.25 4 4.25	11.5 12.7 12.1 8.8 3.5 3 4 3.6 5.1 4 3.5	7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35	5.4 0 1.2 4.9 0 0.6 3 1 0 0 0.9 0.2	0 0.684 2.793 0 0 0.342 1.71 0.57 0 0 0.513	NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0	0.7 0 0 4.8 0 0 0 0 0 0.8 0 0 0.8 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.5 0.0 0.0	NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5.2 / 0 3.2 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2	26 44 37 46 31 24 10 13 10 13 17 14 12	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5
5/25/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/1/2011 11/28/2011 1/5/2012 3/1/2012 3/1/2012 3/1/2012 5/3/2012 5/3/2012 5/3/2012 5/3/2012 9/18/2012 9/18/2012	16615 17476 18146 18956 19606 20441 21096 22020 22021 22626 23351 24185 24831 25528 26655 27543 28164 29223	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9	315 315 315 325 315 315 325 325 325 325 325 320 320 320 319	4 4 4 4.25 4.25 4 4 4.25 4 4 4 4.5 4.25 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 12.1 12.1 13.5 3 3 4 4 3.6 5.1 4 3.5 10 6 9.5 7.2	7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 3 3 2 2 2 6 6 4 4 5 5 5 4	NM S NM	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 18.5 / 18.3	5.4 0 1.2 4.9 0 0.6 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.684 2.793 0 0 0.3342 1.71 0.57 0 0 0.513 0.114 2.223 2.223 0.057	NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 7.3/6.9 0/0 5.3/0	0.7 0 0 4.8 0 0 0 0 0 0.8 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.7 0.0 0.0 0.0 0.0 0.5 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5.2 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0.8 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 4 5 6 4 4 5 5 4 4	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.8 0.9 0.9
5/25/2011 6/30/2011 8/31/2011 8/31/2011 9/27/2011 11//2011 11//2011 11//2012 1/31/2012 4/5/2012 4/5/2012 5/31/2012 7/17/2012 9/18/2012 11/1/2012 11/1/2012	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 24831 25528 26655 27543 28164 29223 29894	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9	315 315 315 325 315 325 315 325 325 325 325 327 320 327 322 322 320 320 330 330 331 322	4 4 4 4 4.25 4.25 4 4 4.25 4 4 4.5 4.5 4.25 4 4 4 4.5 4.25 4 4 4.5 4.25 4 4 4 4.5 4.25 4 4.25 4.25	11.5 12.7 12.1 8.8 3.5 3 4 3.6 5.1 4 3.5 10 6.2 9.5 7.2	7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 3 3 2 2 6 6 4 4 5 5 5 4 4 5 5	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 18.5 / 18.3 15.9 / 15.7	5.4 0 1.2 4.9 0 0 0.6 3 1 0 0 0 0.9 0.2 3.9 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.684 2.793 0 0 0.342 1.71 0.57 0 0 0 0.513 0.114 2.223 0 0 0.057 0 0 0.057 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0.057 0 0 0 0 0.057 0 0 0 0 0.057 0 0 0 0 0.057 0 0 0 0 0.057 0 0 0 0 0 0.057 0 0 0 0 0 0.057 0 0 0 0 0 0.057 0 0 0 0 0 0.057 0 0 0 0 0 0.057 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 7.3/6.9 0/0 5.3/0 5.3/0	0.7 0 0 4.8 0 0 0 0 0.8 0 0 0.6 0.1 0.1 0 0	0.0 0.0 0.0 2.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.1	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 3.2 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0.8 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.4 0.8 0.9 0.9 0.9
5/25/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 1/5/2012 3/1/2012 3/1/2012 3/1/2012 5/3/2012 5/3/2012 5/3/2012 5/3/2012 8/3/3/2012 9/18/2012 9/18/2012	16615 17476 18146 18956 19606 20441 21096 22020 22021 22626 23351 24185 24831 25528 26655 27543 28164 29223	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9	315 315 315 325 315 315 325 325 325 325 325 320 320 320 319	4 4 4 4.25 4.25 4 4 4.25 4 4 4 4.5 4.25 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 12.1 12.1 13.5 3 3 4 4 3.6 5.1 4 3.5 10 6 9.5 7.2	7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 3 3 2 2 2 6 6 4 4 5 5 5 4	NM S NM	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 18.5 / 18.3	5.4 0 1.2 4.9 0 0.6 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.684 2.793 0 0 0.3342 1.71 0.57 0 0 0.513 0.114 2.223 2.223 0.057	NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 7.3/6.9 0/0 5.3/0	0.7 0 0 4.8 0 0 0 0 0 0.8 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 2.7 0.0 0.0 0.0 0.0 0.5 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5.2 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0.8 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 6 6 4 4 5 5 4 5 5	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.8 0.9 0.9
5/25/2011 6/30/2011 8/31/2011 9/27/2011 11//2011 11//2011 11//2011 11//2012 1/31/2012 4/5/2012 4/5/2012 5/31/2012 7/17/2012 5/32/2012 11/12/2012 11/12/2012 11/20/2012 11/20/2012 11/20/2012 2/6/2013 3/6/2013	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 24831 25528 26655 27543 28164 29223 29894 30830 31509 32199	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.3	315 315 315 315 325 315 325 315 325 325 325 327 320 320 320 320 319 322 322 322 320 329 329 320 329 329 320 329 320 339	4 4 4 4 4.25 4.25 4 4 4.25 4 4 4.5 4.5 4.25 4 4 4.5 4.25 4 4 4.5 4.25 4 4 4.5 4.5 4.25 4 4.25 4.25	11.5 12.7 12.1 12.1 8.8 3.5 3 4 3.6 5.1 4 3.5 10 6.2 9.5 7.2 8.3 7	7 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 4 5 5 4 4 5 5 4 4 3 3 4 4	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 15.9 / 15.7 15.1 / 10.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5	5.4 0 1.2 4.9 0 0 0.6 3 1 0 0.9 0.2 3.9 0 0.1 0.0 0.0 0.0 0.0 0.0 0.0	0 0.684 2.793 0 0 0.342 1.71 0.57 0 0 0.513 0.114 2.223 0 0 0.057 0 0 0.171 0.399 0.285	NM N	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.08 5/0 6.1/0 0.9/0 3/1.9 0/0 5.3/0 5.3/0 5.3/0 5.3/0 3.8/0 0.7/0	0.7 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 5 / 0.08 4.5 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0.8 / 0 5.3 / 0 5.6 / 0 5.6 / 0 6.6 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 5 6 4 4 5 5 4 4 3 3 4 4	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24 34 20 19	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.4 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.7 0.7
5/25/2011 6/30/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/1/2011 11/28/2011 1/5/2012 3/1/2012 3/1/2012 5/2/2012 5/3/2012 5/3/2012 1/1/2012 11/1/2012 11/1/2012 11/1/2012 11/1/2012 11/20/2013 3/26/2013 4/24/2013 4/24/2013	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 24831 25528 26655 27543 28164 29223 29894 30830 31509	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 28.0 39.0 28.3	315 315 315 315 325 315 325 315 325 325 325 327 320 327 322 320 320 319 322 320 320 329 320 329 320 329 320 320 329 320 320 320 320 320 320 320 320 320 320	4 4 4 4 4.25 4.25 4 4 4.25 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 4 3.6 5.1 4 3.5 4 3.5 7 7.2 8.3 7 5.7 6.2 9.5 7 5.7	7 7 7 7 5 5 2 2 2 2 2 2 2 4 5 5 4 5 4 3	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 18.5 / 18.3 15.9 / 15.7 15.1 / 10.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4.7 / 4.7	5.4 0 1.2 4.9 0 0.6 3 1 0 0.9 0.9 0.9 0.9 0.9 0.9 0.9	0 0.684 2.793 0 0 0.57 0 0 0.57 0 0 0.513 0.114 2.223 2.223 0 0.057 0 0.171 0.399 0 0.171 0.399 1.254	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 7.3/6.9 0.0 5.3/0 5.3/0 5.3/0 5.5/0 3.8/0	0.7 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5.2 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 3 3 2 2 2 2 6 6 4 4 5 5 4 4 3 3	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24 34 20 19 24	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.9 0.9 0.9 0.9 0.9 0.9 0.7
5/25/2011 6/30/2011 8/31/2011 9/27/2011 11//2011 11//2011 11//2011 11//2012 1/31/2012 4/5/2012 4/5/2012 5/31/2012 7/17/2012 5/32/2012 11//2012 11//2012 11//2012 11//2012 11//2012 11//2012 11//2012 2/6/2013 3/6/2013 5/30/2013 5/30/2013 5/30/2013	16615 17476 18146 18956 19606 220441 21096 22021 22626 23351 24185 24831 25528 26655 27543 28164 29223 29894 30830 31509 32199 33066 33677 34454	29.2 35.9 27.9 33.8 27.1 33.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.3 39.0 28.3 36.1 25.5 32.4	315 315 315 315 325 315 325 315 325 315 325 327 320 327 322 322 320 320 320 320 320 320 320 320	4 4 4 4 4.25 4.25 4 4 4.25 4 4 4.5 4.25 4 4 4.5 4 4.5 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 3 4 4 3.5 10 6.2 9.5 7.2 8.3 7 6.2 9.5 7.5 7.6 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5	7 7 7 7 7 7 7 7 7 7 7 7 5 5 2 2 2 2 2 2	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 15.9 / 15.7 15.1 / 10.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4.7 / 4.7 12.3 / 8.24 11.1 / 7.1	5.4 0 1.2 4.9 0 0 0.6 3 1 1 0 0 0.9 0.2 3.9 0 0.1 0 0.3 0.5 0.2 3.9 0.9 0.0 0.0 0.0 0.0 0.0 0.0 0	0 0.684 2.793 0 0 0.57 0 0 0.57 0 0 0.513 0.114 2.223 2.223 0 0.057 0 0 0.171 0.399 0.285 1.254 2.166 0.228	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 0/0 5.3/0 5.3/0 5.3/0 5.5/0 3.8/0 1/0.3 4/1.3 0.4/0	0.7 0 0 4.8 0 0 0 0 0.8 0 0 0.6 0.1 0.1 0 0 0 0 0 0.8 0 0 0.8 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0	6 7 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 4 4 5 5 4 4 5 5 4 4 3 3 5 5 5 5 5 5 5 5	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24 34 20 19 24 21	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.4 0.8 0.9 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.7 0.8 1.0
5/25/2011 6/30/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 1/5/2012 3/1/2012 3/1/2012 3/1/2012 5/31/2012 5/31/2012 5/31/2012 5/31/2012 8/23/2012 9/18/2012 11/1/2012 11/29/2013 3/26/2013 4/24/2013 6/26/2013 7/29/2013	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 24831 25528 26655 27543 28164 29223 30830 31509 32199 33667 34454 35114	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 28.3 28.8 39.0 28.3 28.8 30.1 28.8 39.0 28.3 28.8 39.0 28.3 28.8 39.0 28.3 28.8 39.0 39.0	315 315 315 315 325 315 325 315 325 315 320 320 320 320 320 320 320 320 320 320	4 4 4 4 4.25 4.25 4 4 4.25 4 4 4.5 4.25 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 3 4 3.6 5.1 4 3.5 10 6.2 9.5 7.2 8.3 7 5.7 6.2 9.5 9.2 8.3	7 7 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 18.5 / 18.3 15.9 / 15.7 15.1 / 10.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4.7 / 4.7 12.3 / 8.24 11.1 / 7.1	5.4 0 1.2 4.9 0 0 0.6 3 1 0 0 0.9 0.2 3.9 0 0 0.0 0.0 0.0 0.0 0.0 0.0	0 0.684 2.793 0 0 0.342 1.71 0.57 0 0 0.513 0.114 2.223 2.223 0 0.057 0 0 0.171 0.399 0.285 1.254 2.166 0.228 0.228 0.228	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 7.3/6.9 0.0 5.3/0 5.3/0 5.3/0 5.5/0 3.8/0 0.7/0 3.8/0 0.7/0 0	0.7 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5.2 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0 / 0 0.8 / 0 5.3 / 0 0.6 / 0 0.6 / 0 0.6 / 0 0.7 / 0 4.4 / 0 3.8 / 0 3.8 / 0 3.8 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 2 4 5 5 4 4 5 5 4 4 3 3 5 5 5 5 4 4	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24 34 20 19 24 21 31 25	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.8 1.0 0.9
5/25/2011 6/30/2011 8/31/2011 9/27/2011 11//2011 11//2011 11//2011 11//2012 1/31/2012 4/5/2012 4/5/2012 5/32/2012 5/32/2012 7/17/2012 11//2012 11//2012 11//2012 11//2012 11//2012 11//2012 11//2012 11//2013 3/26/2013 3/26/2013 5/30/2013 5/30/2013 5/30/2013	16615 17476 18146 18956 19606 220441 21096 22021 22626 23351 24185 24831 25528 26655 27543 28164 29223 29894 30830 31509 32199 33066 33677 34454	29.2 35.9 27.9 33.8 27.1 33.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.3 39.0 28.3 36.1 25.5 32.4	315 315 315 315 325 315 325 315 325 315 325 327 320 327 322 322 320 320 320 320 320 320 320 320	4 4 4 4 4.25 4.25 4 4 4.25 4 4 4.5 4.25 4 4 4.5 4 4.5 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 3 4 4 3.5 10 6.2 9.5 7.2 8.3 7 6.2 9.5 7.5 7.6 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5	7 7 7 7 7 7 7 7 7 7 7 7 5 5 2 2 2 2 2 2	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 15.9 / 15.7 15.1 / 10.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4.7 / 4.7 12.3 / 8.24 11.1 / 7.1	5.4 0 1.2 4.9 0 0 0.6 3 1 1 0 0 0.9 0.2 3.9 0 0.1 0 0.3 0.5 0.2 3.9 0.9 0.0 0.0 0.0 0.0 0.0 0.0 0	0 0.684 2.793 0 0 0.57 0 0 0.57 0 0 0.513 0.114 2.223 2.223 0 0.057 0 0 0.171 0.399 0.285 1.254 2.166 0.228	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 0/0 5.3/0 5.3/0 5.3/0 5.5/0 3.8/0 1/0.3 4/1.3 0.4/0	0.7 0 0 4.8 0 0 0 0 0.8 0 0 0.6 0.1 0.1 0 0 0 0 0 0.8 0 0 0.8 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0	6 7 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 4 4 5 5 4 4 5 5 4 4 3 3 5 5 5 5 5 5 5 5	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24 34 20 19 24 21	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.4 0.8 0.9 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.7 0.8 1.0
5/25/2011 6/30/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 11/5/2012 3/1/2012 3/1/2012 3/1/2012 4/5/2012 5/3/2012 5/3/2012 9/18/2012 9/18/2012 11/1/2012 11/29/2012 2/26/2013 4/24/2013 4/24/2013 4/24/2013 6/26/2013 7/29/2013 10/22/2013 9/16/2013 10/22/2013	16615 17476 18146 18956 19606 20441 21096 22021 22626 23351 24185 25528 26555 27543 28164 29223 29894 30830 31509 32199 33677 34454 35625 36488 37547	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.3 28.8 39.0 28.3 28.8 39.0 30.2 31.7	315 315 315 315 325 315 315 325 315 325 315 320 327 322 322 320 320 320 320 320 320 320 320	4 4 4 4 4.25 4.25 4 4.25 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 4 3.6 5.1 4 3.5 9.5 7.2 8.3 7 6.2 9.5 7.2 6.2 8.3 7.7 6.2 8.3 8.3 7.7 6.2 8.3 8.3 9.5 9.5 9.5 9.5 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6	7 7 7 7 5 5 2 2 2 2 2 2 2 3 3 2 2 6 4 5 4 5 5 4 3 5 5 4 3 5 5 4 3 3 5 5 5 4 4 5 5 5 4 6 6 6 6 6 6 6 6 6 6 6	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 18.5 / 18.3 15.9 / 15.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4 / 7 / 4.7 12.3 / 8.24 11.1 / 7.1 10.7 / 6.3 7.5 / 6.8 9.6 / 4.3	5.4 0 1.2 4.9 0 0 0.6 3 1 0 0 0.9 0.2 3.9 0 0.1 0 0.2 3.9 0 0.0 0.5 3.7 0.7 0.5 2.2 2.3 8.8 0.4 0.5 0.5 0.6 0.6 0.6 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7	0 0.684 2.793 0 0 0.342 1.71 0.57 0 0.513 0.114 2.223 2.223 0.0057 0 0.171 0.399 0.285 1.254 2.166 0.228 0.228 0.228 1.539 0.57	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5.70 6.1/0 0.9/0 3/1.9 7.3/6.9 0.70 5.3/0 5.5/0 3.8/0 0.7/0 1/0.3 4/1.3 0.4/0 0.6/0 7.2/0.4 8.6/3	0.7 0 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5.2 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0 / 0 0.8 / 0 5.3 / 0 0.6 / 0 0.6 / 0 0.6 / 0 0.6 / 0 4.4 / 0 3.8 / 0 0.5 / 0 0.5 / 0 0.5 / 0 0.5 / 0 0.5 / 0 0.7 / 0 0.8 / 0	6 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 2 2 2 3 3 2 2 2 2	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24 20 19 24 21 31 25 17 29 32	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.4 0.8 0.9 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.7 0.8 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0
5/25/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 11/28/2011 11/32/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 11/29/2012 2/26/2013 3/26/2013 4/24/2013 5/30/2013 5/30/2013 10/20/2013 10/20/2013 12/3/2013	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 25528 24831 25528 26555 27543 28164 29223 29894 30830 31509 32199 33066 33677 34454 35625 36488 37547 38974	29.2 35.9 27.9 33.8 27.1 33.8 27.1 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.3 39.1 28.8 36.1 25.5 32.4 27.5 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.7 26.0 37.0 26.0 37.0 26.0 37.0 26.0 37.0 26.0 37.0 26.0 37.0 26.0 37.0 26.0 37.0 27.0 28.0 37.0 28.0 37.0 28.0 37.0 28.0 37.0 28.0 37.0 28.0 37.0 28.0 37.0 28.0 37.0 37.0 28.0 37.0	315 315 315 315 325 315 325 315 325 325 325 327 320 327 322 320 320 320 320 320 320 320 320 320	4 4 4 4 4.25 4.25 4 4 4.25 4 4 4.5 4.25 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 3 4 4.3.6 5.1 4 3.5 10 6.2 9.5 7.2 8.3 7 5.7 6.2 9.5 7.7 6.2 8.8 9.2 8.8 9.5 9.5 7.7 6.8 9.2 8.8 9.2 9.2 8.8 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 5 5 2 2 2 2	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 15.9 / 15.7 15.1 / 10.7 10.5 / 5.2 8 / 4.1 6.4 / 5 4.7 / 4.7 12.3 / 8.24 11.1 / 7.1 10.7 / 6.3 7.5 / 6.8 9.6 / 4.6	5.4 0 1.2 4.9 0 0 0.6 3 1 1 0 0 0.2 3.9 0 0.1 0 0.3 0.7 0.5 2.2 3.8 0.4 0.4 0.5 0.6 0.6 0.6 0.6 0.6 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7	0 0.684 2.793 0 0 0.684 2.793 0 0 0.342 1.71 0.57 0 0 0.513 0.114 2.223 2.223 0 0.057 0 0 0.171 0.399 0.285 1.254 2.166 0.228 0.228 0.228 0.228 1.539	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 0/0 5.3/0 5.3/0 5.3/0 5.5/0 3.8/0 1/0.3 4/1.3 4/1.3 0.6/0 7.2/0.4	0.7 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 5 / 0.08 4.5 / 0 5 / 0.08 4.5 / 0 5 / 0.00 0.5 / 0 0.3 / 0.22 0 / 0 0	6 7 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 3 3 2 2 2 2 6 6 4 4 5 5 4 4 5 5 4 4 3 3 5 5 5 4 4 3 3 5 5 5 4 4 3 3 5 5 5 5	26 44 37 46 31 24 10 13 10 13 17 14 12 35 35 33 23 41 24 20 19 24 21 31 17 29 32	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.4 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.7 0.7 0.8 1.0 0.9 0.9 0.9 0.9
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5/25/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/1/2011 11/28/2011 11/3/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 5/3/2012 5/3/2012 9/18/2012 11/29/2012 2/26/2013 5/3/2013 4/24/2013 5/3/2013 5/3/2013 10/22/2013 11/29/2013	16615 17476 18146 18956 19606 20441 21096 22001 22626 23351 24185 25528 24831 25528 26555 27543 28164 29223 29894 30830 31509 32199 33066 33677 34454 35625 36488 37547 38974	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.3 28.8 39.0 28.3 28.8 39.0 30.2 31.7	315 315 315 315 325 315 315 325 315 325 315 320 327 322 322 320 320 320 320 320 320 320 320	4 4 4 4 4.25 4.25 4 4.25 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 4 3.6 5.1 4 3.5 9.5 7.2 8.3 7 6.2 9.5 7.2 6.2 8.3 7.7 6.2 8.3 8.3 7.7 6.2 8.3 8.3 9.5 9.5 9.5 9.5 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6	7 7 7 7 5 5 2 2 2 2 2 2 2 3 3 2 2 6 4 5 4 5 5 4 3 5 5 4 3 5 5 4 3 3 5 5 5 4 4 5 5 5 4 6 6 6 6 6 6 6 6 6 6 6	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 18.5 / 18.3 15.9 / 15.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4 / 7 / 4.7 12.3 / 8.24 11.1 / 7.1 10.7 / 6.3 7.5 / 6.8 9.6 / 4.3	5.4 0 1.2 4.9 0 0 0.6 3 1 0 0 0.9 0.2 3.9 0 0.1 0 0.2 3.9 0 0.0 0.5 3.7 0.7 0.5 2.2 2.3 8.8 0.4 0.5 0.5 0.6 0.6 0.6 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7	0 0.684 2.793 0 0 0.342 1.71 0.57 0 0.513 0.114 2.223 2.223 0.0057 0 0.171 0.399 0.285 1.254 2.166 0.228 0.228 0.228 1.539 0.57	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5.70 6.1/0 0.9/0 3/1.9 7.3/6.9 0.70 5.3/0 5.5/0 3.8/0 0.7/0 1/0.3 4/1.3 0.4/0 0.6/0 7.2/0.4 8.6/3	0.7 0 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.9 / 0 5 / 0.08 4.5 / 0 5 / 0.08 4.5 / 0 5 / 0.00 0.5 / 0 0.3 / 0.22 0 / 0 0	6 7 7 7 7 7 5 5 2 2 2 2 2 2 2 2 2 3 3 2 2 2 2 6 6 4 4 5 5 4 4 5 5 4 4 3 3 5 5 5 4 4 3 3 5 5 5 4 4 3 3 5 5 5 5	26 44 37 46 31 24 10 13 10 13 17 14 12 35 35 33 23 41 24 20 19 24 21 31 17 29 32	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.4 0.8 0.9 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.7 0.8 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0
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5/25/2011 6/30/2011 6/30/2011 8/31/2011 9/27/2011 11//28/2011 11//28/2011 11//28/2011 11//28/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 11//2012 11//2012 11//2012 11//2012 11//29/2013 3/26/2013 4/24/2013 3/26/2013 4/24/2013 10/22/2013 10/22/2013 10/22/2013 10/22/2013 10/22/2013 11//2/2014 11//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014 1//2/2014	16615 17476 18146 18956 19606 20411 21096 20411 21096 22021 23351 24185 24831 25528 24831 25528 26655 27543 28164 29223 29894 30830 31509 32199 33166 33677 344454 35114 35625 36488 37547 38074 g Data 38628.3 39301 40454.4 41006.6 41839.8 43045.2	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.8 36.1 25.5 32.4 25.5 32.4 25.5 32.4 36.0 36.0 37.0 38.8 38.0 39.0 39.0 39.0 30.0	315 315 315 315 315 325 315 315 325 315 325 315 320 327 322 322 320 320 320 320 320 320 320 320	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 3 4 3.6 5.1 4 3.5 10 6.2 9.5 7.2 8.3 7 6.2 9.5 7.2 8.3 7 6.2 9.5 7.2 8.3 9.5 6.2 9.5 7.7 6.2 8.3 9.3 9.3 9.3 9.3 9.3 9.3 9.3 9.3 9.3 9	7 7 7 7 7 5 5 2 2 2 2 2 2 2 3 3 2 2 2 4 4 4 4 4 4 4 4	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 15.9 / 15.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4.7 / 4.7 12.3 / 8.24 11.1 / 7.1 10.7 / 6.3 7.5 / 6.8 9.6 / 4.3	5.4 0 1.2 4.9 0 0 0.6 3 1 0 0 0.9 0.2 3.9 0 0.1 0 0.3 0.9 0.2 3.9 0 0.5 2.2 3.8 0.4 0.5 2.7 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0.684 2.793 0 0 0.342 1.71 0.577 0 0 0.513 0.114 2.223 2.223 0 0.057 0 0 0.171 0.399 0.285 1.539 0.577 0.399 0.285 1.539 0.577 0.741 0.741 1.71 2.662 5.529 0.969	NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5.7/0 6.1/0 0.9/0 0.9/0 3/1.9 7.3/6.9 0.7/0 5.3/0 5.3/0 5.5/0 3.8/0 0.7/0 1/0.3 4/1.3 0.4/0 0.6/0 7.2/0.4 8.6/3 5.3/0.3	0.7 0 0 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0 0 / 0 0 / 0 Apr-00 0.5 / 0 5.9 / 0 4.6 / 0 5 / 0.08 4.5 / 0 5.2 / 0 3.2 / 0 0.3 / 0.22 0 / 0 0	6 7 7 7 5 2 2 2 2 2 2 2 3 3 2 2 6 4 5 5 4 5 4 5 5 4 3 3 4 4 3 5 5 5 4 1 1 through December 2013	26 44 37 46 37 46 31 10 13 10 13 17 14 12 35 33 41 24 20 19 29 32 11 21 31 25 17 29 32 12 716 11 13 20 9 14 27 17	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.6 0.9 0.9 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.7 0.7 0.8 1.0 0.8 0.8 0.8 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9
5/25/2011 6/30/2011 6/30/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/1/28/2011 11/1/2012 31/2012 31/2012 31/2012 3/1/2012 3/1/2012 5/32/2012 5/32/2012 5/32/2012 5/32/2012 5/32/2012 1/1/2012 11/1/2012 11/1/2012 11/1/2012 11/1/2012 11/1/2012 11/20/2013 3/26/2013 4/24/2013 3/26/2013 4/24/2013 3/26/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013 12/5/2013	16615 17476 18146 18956 19606 20411 21096 22001 22626 23351 24185 24831 25528 26655 27543 28164 29223 29894 30830 31509 32199 33106 33677 34454 35114 35625 36488 37547 38074 g Data 38628.3 39301 40454.4 41006.6 41839.8	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 28.0 39.0 28.3 28.3 28.8 26.9 29.0 44.1 28.0 39.0 28.3 28.3 28.3 28.4 27.5 28.0 29.0	315 315 315 315 315 325 315 325 315 325 315 320 327 322 322 322 320 319 320 319 322 328 328 328 328 328 328 328 328 328	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 3 4 3.6 5.1 4 3.5 10 6.2 9.5 7.2 8.3 7 5.7 6.2 5.3 9.5 7 6.2 8.8 9.5 7 6.2 4 4.4 4.9 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 15.9 / 15.7 15.1 / 10.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 6.4 / 5 4.7 / 4.7 12.3 / 8.2 4 11.1 / 7.1 10.7 / 6.3 9.6 / 4.3 8.6 / 5.35	5.4 0 1.2 4.9 0 0 0 0.6 3 1 0 0 0 0.6 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0.684 2.793 0 0 0.57 0 0 0.513 0.114 2.223 2.223 0 0.057 0 0.171 0.399 0.285 1.254 0.228 0.228 0.228 0.228 0.238 0.57 0.57 0.57 0.57 0.57 0.57 0.57 0.57	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 0/0 5.3/0 5.3/0 5.3/0 5.3/0 1/0.3 8.7/0 1/0.3 4/1.3 0.4/0 5.7/0 7.2/0.4 8.6/3 8.6/3 5.3/0.3	0.7 0 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0	6 7 7 7 7 5 2 2 2 2 2 2 3 3 2 2 4 4 5 4 5 4 3 3 4 4 3 5 5 4 4 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 3 3 5 5 4 4 4 3 3 5 5 4 4 4 3 3 5 5 4 4 4 4	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 12 24 34 20 19 24 21 31 25 17 29 32 12 716 11 13 20 9 14 27	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.4 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9
5/25/2011 6/30/2011 6/30/2011 8/31/2011 9/27/2011 11/1/2011 11/28/2011 11/28/2011 11/28/2011 11/28/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 3/1/2012 1/3/2012 1/3/2012 1/3/2012 1/3/2012 1/3/2012 1/3/2012 1/3/2012 1/3/2013 1/2/2013 1/2/2013 1/2/2013 1/2/2/2013 1/2/2/2013 1/2/2/2013 1/2/2/2013 1/2/2/2013 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014 1/2/2/2014	16615 17476 18146 18956 19606 20441 21096 22041 221096 22021 23351 24183 24831 25528 24831 25528 26655 27543 28164 29223 29894 30830 31509 32199 33196 33677 344454 35114 35625 36488 37547 38074 g Data 38628 39301 40454.4 41006.6 41839.8 43045.2 44338.4 45133.2	29.2 35.9 27.9 33.8 27.1 34.8 27.3 37.7 26.0 30.2 34.8 26.9 29.0 47.0 37.0 25.9 44.1 28.0 39.0 28.3 28.8 36.1 27.3 37.0 28.0 39.0 28.0 39.0 28.0 39.0 28.0 39.0 28.0 39.0 28.0 39.0 28.0 39.0 30.0 28.0 30.0	315 315 315 315 315 325 315 325 315 325 325 315 320 327 322 322 322 320 320 320 320 320 320 320	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	11.5 12.7 12.1 8.8 3.5 3 3 4 3.6 5.1 4 3.5 10 6.2 9.5 7.2 8.3 7 6.2 9.5 7.6 2 8.3 7 6.2 9.5 7 6.2 9.5 8.3 7 6.2 9.5 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6 9.6	7 7 7 7 7 7 7 7 5 5 2 2 2 2 2 2 2 2 3 3 2 2 2 2 3 3 3 3	NM N	10.2 / 6 9 / 8.1 8.5 / 8.4 13.1 / 8.6 5.4 / 5.1 11.5 / 5.6 9.1 / 4.1 8.5 / 3.7 8.8 / 3.58 10.3 / 4.29 9.6 / 3.36 8.6 / 5.35 8.5 / 8.5 18.5 / 18.3 15.9 / 15.7 10.7 / 9.2 10.5 / 5.2 8 / 4.1 10.7 / 6.3 10.7	5.4 0 1.2 4.9 0 0 0.6 3 1 0 0 0.9 0.2 3.9 0 0.1 0 0.3 0.9 0.2 3.9 0 0.5 2.2 3.8 0.4 0.5 2.7 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0.684 2.793 0 0 0.684 2.793 0 0 0 0.342 1.71 0.577 0 0 0 0.513 0.114 2.223 0 0 0.057 0 0 0.171 0.399 0.285 1.254 0.228 0.228 0.228 0.228 0.228 0.298 0.57 0.57 0.599 0.627 0.741 0.741 1.71 2.652 5.559 0.969 0.969	NM NM NM NM NM NM NM NM	5.4/1.5 0.2/0 0.1/0 4.2/0.3 6.5/1.8 10.7/4.9 8.7/3.5 4.8/0.17 4.9/0.08 5/0 6.1/0 0.9/0 3/1.9 7.3/6.9 0/0 5.3/0 5.3/0 5.3/0 5.3/0 5.5/0 1/0.3 4/1.3 0.4/0 5.7/0 1/0.3 6.6/0 7.2/0.4 8.6/3 5.3/0.3 9.5/0.59	0.7 0 0 0 4.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	NM N	0.09 / 0.8 4.6 / 0 0 / 0	6 7 7 7 7 5 2 2 2 2 2 2 2 3 3 2 2 3 4 5 5 4 3 3 4 3 5 5 4 3 3 5 5 4 3 3 11 through December 2013	26 44 37 46 31 24 10 13 10 13 17 14 12 35 33 23 41 24 20 19 24 21 31 25 17 29 32 12 716 11 13 20 9 14 27 17 20	1.2 1.3 1.4 1.2 0.7 0.4 0.3 0.4 0.4 0.5 0.5 0.5 0.4 0.9 0.9 0.9 0.9 0.9 0.9 0.7 0.7 0.7 0.7 0.7 0.7 0.8 1.0 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0

Pounds of PCE Removed January 2014 through December 2014

2561 Total pounds of PCE removed since start up

1 - Estimated PCE concentrations were determined using the Adjusted Field Screening Results.

Notes: 2 - GC Screening performed by Haley & Aldrich, in Rocherster, New York.

3 - in Hg = inches of mercury

4 - ND = non detect

5 - ppm v = 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

© 2014 GZA GeoEnvironmental of New York



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:

GZA GeoEnvironmental of

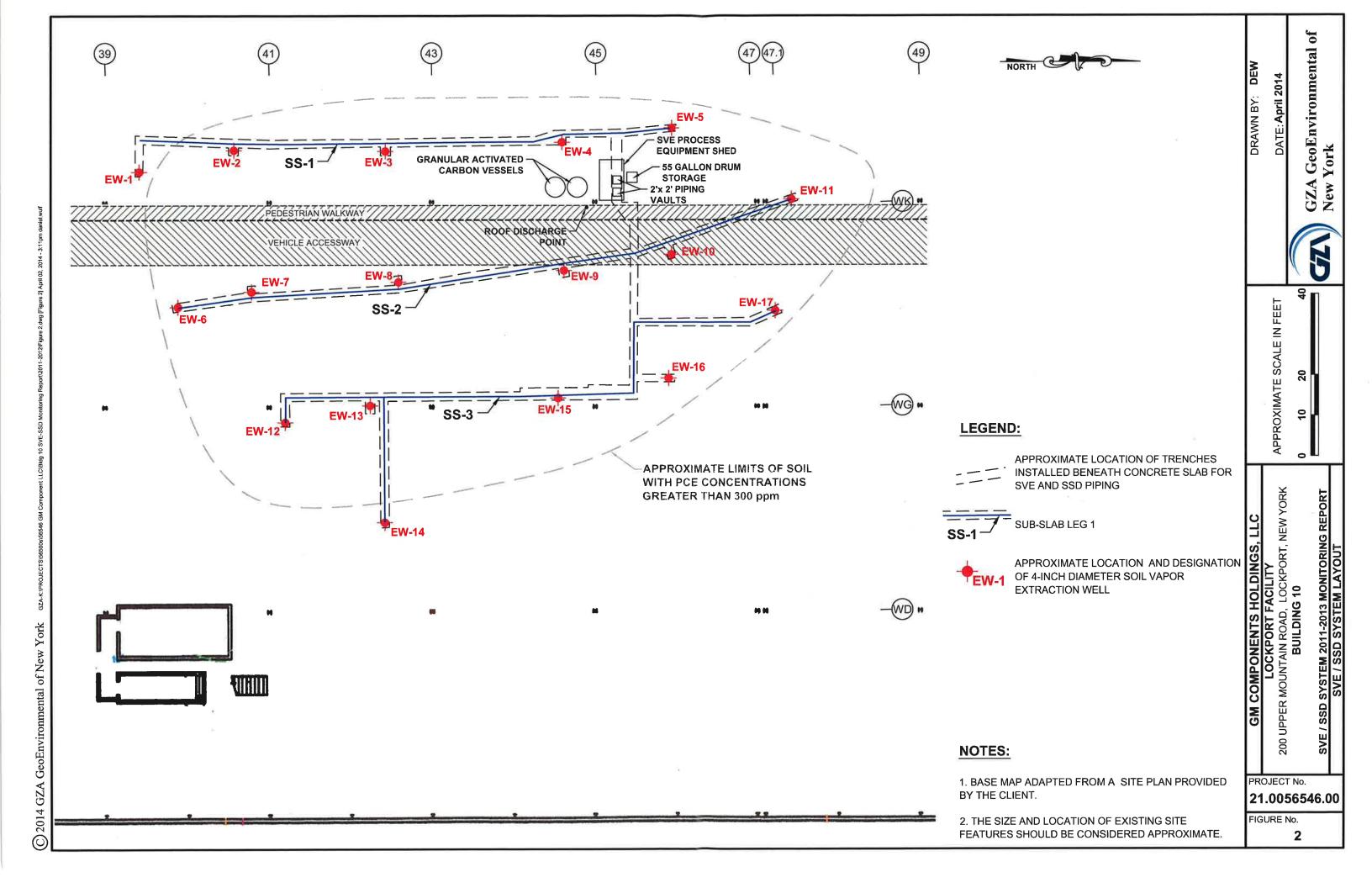
New York

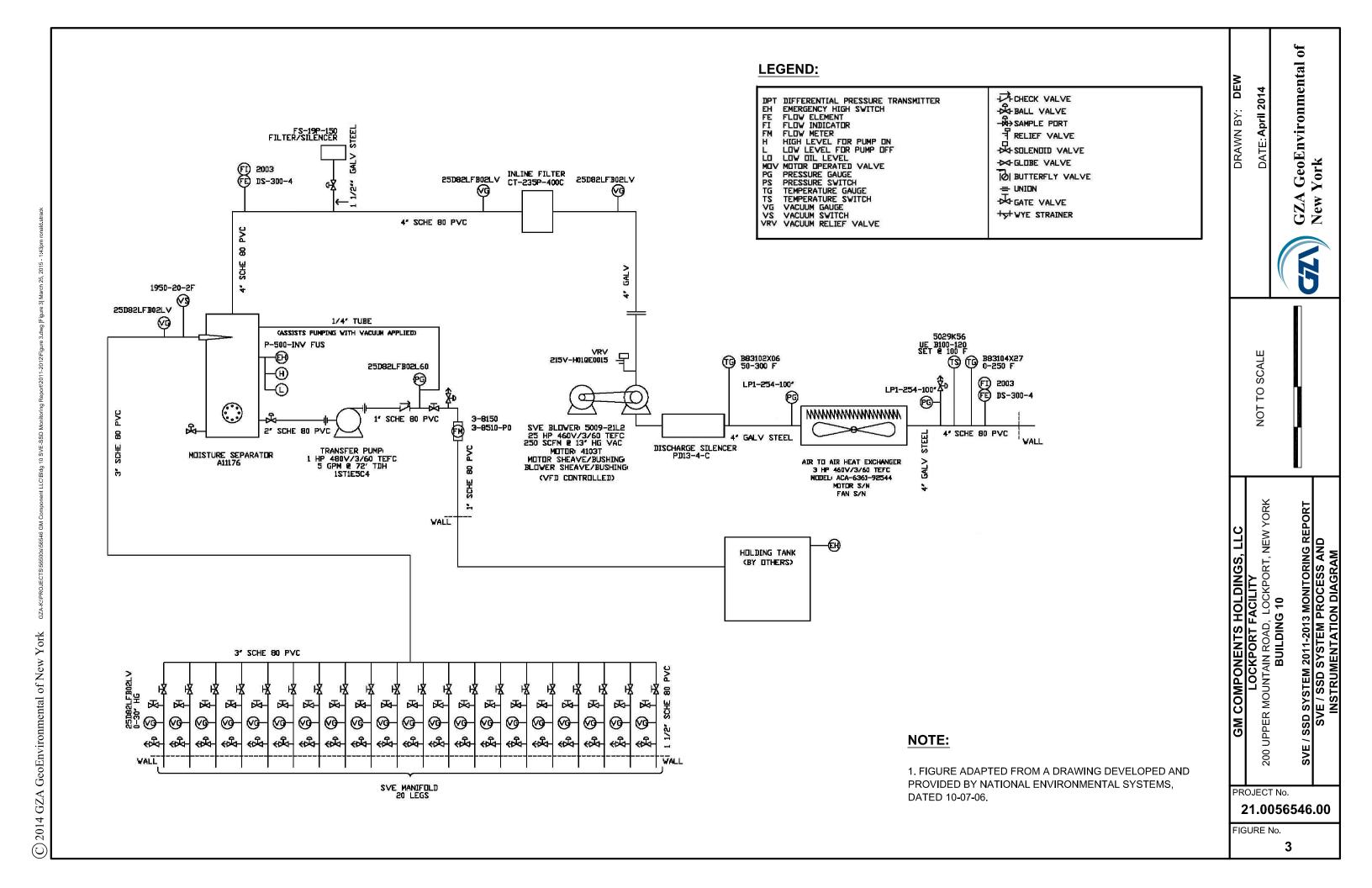
APPROXIMATE SCALE IN FEET

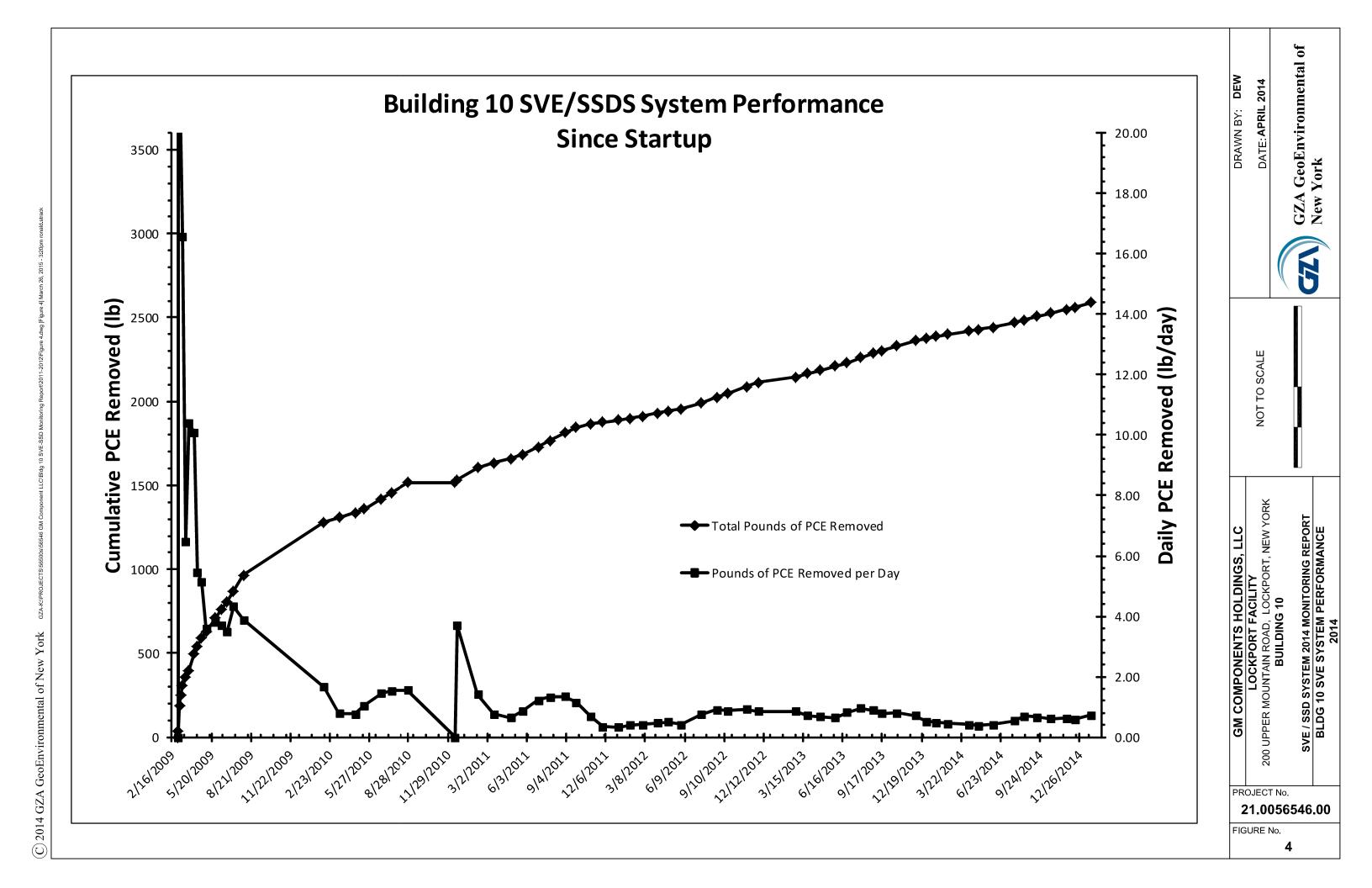
GM COMPONENTS HOLDINGS, LLC
LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD, LOCKPORT, NEW YORK
BUILDING 10 PROJECT No.

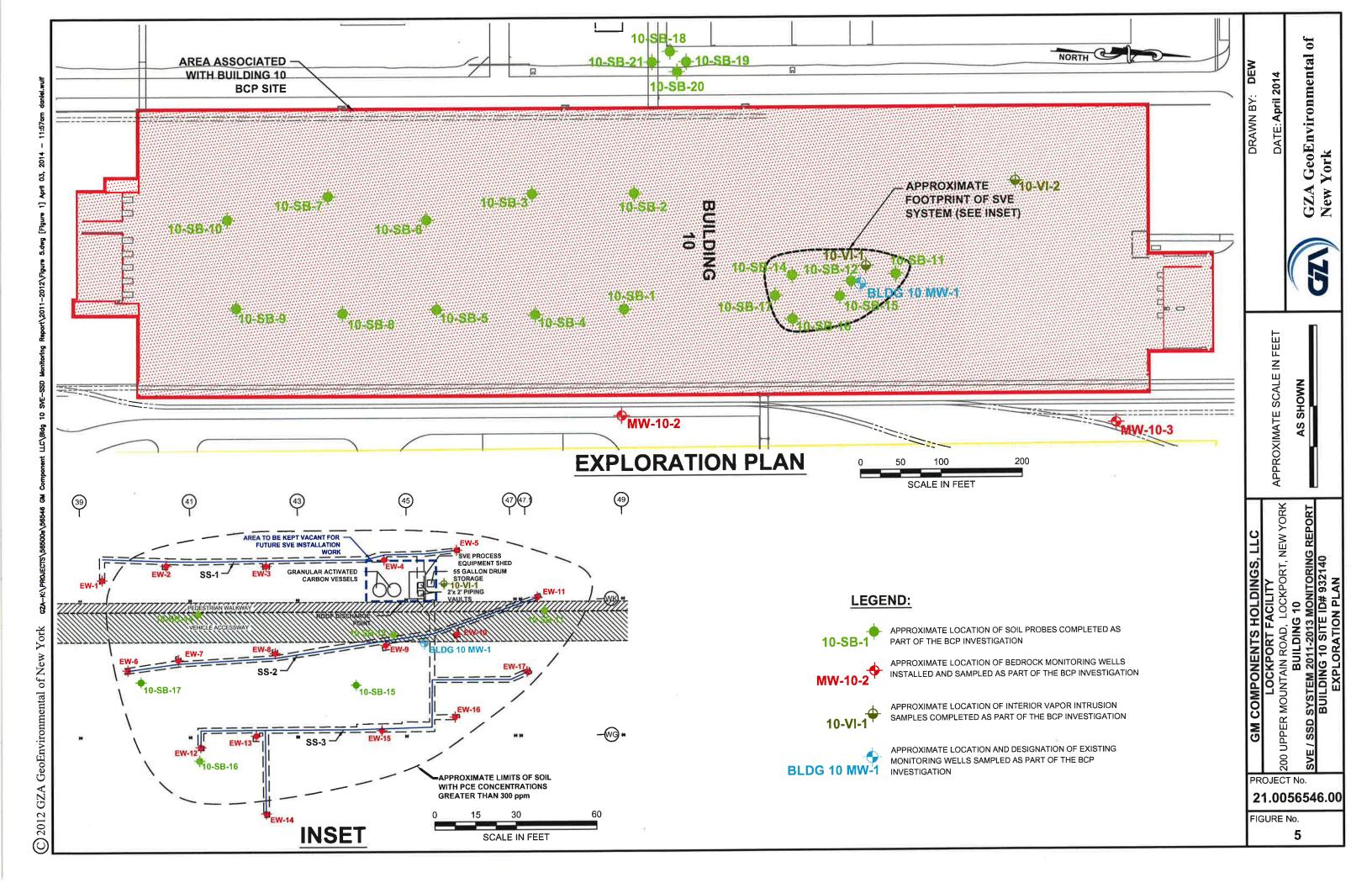
21.0056546.00

FIGURE No.



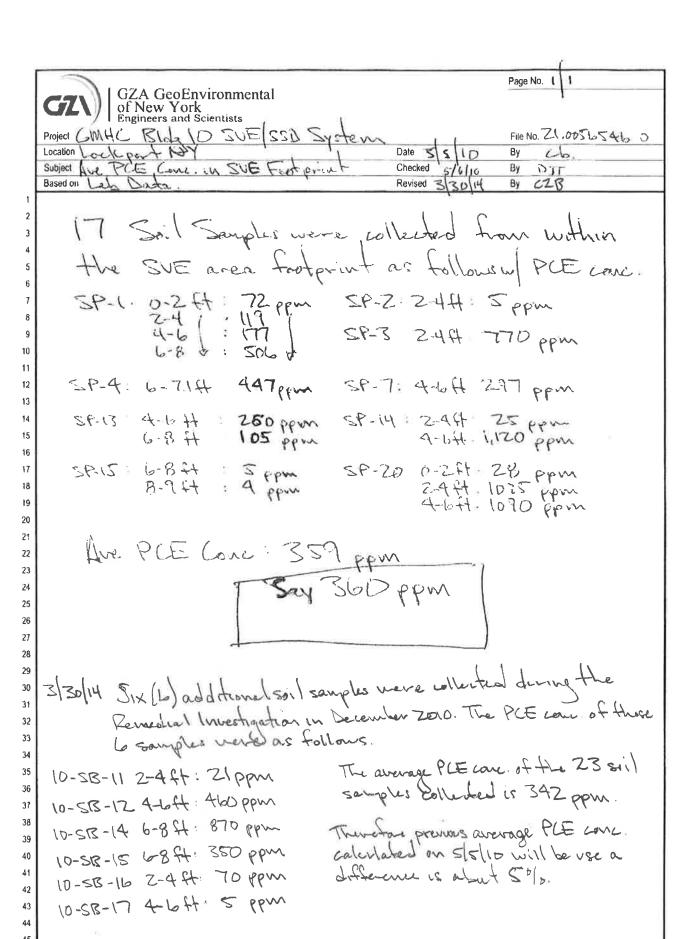








APPENDIX A PCE MASS CALCULATIONS



	·
	Page No. (
	GZA GeoEnvironmental
	of New York Engineers and Scientists
	Project GWHC TSIdy 10 SVE/SSD File No. 21. ODSIGS46. O
	Project GWHC TSIGNO SVE SSD Location Lockport NY Date SISIO By Clo. Subject Was of PCE in Unisaturated Soil Checked 5 6 10 By DT
	Subject Was at PCE in Unsetwated Soil Checked 5/6/10 By DJT
	Based on Revised By
1	
2	111. [] 1
3	Mass of PCE in unsaturated soil to be
4	1) I CHE C I TELL IN
5	addressed w SVE System in TSldg 10
7	,
8	· Area to be addressed is ~14,000 sq. ft.
9	
10	· Assume Uncaturaded soil thickness is 6.0 ft. (6.5 ft to untertable - 0.5 ft for concentent fill)
11	(65ft to at table - 05ft for court of fill)
12	
13	· Assume 360 ppm PCE average soil concentration.
14	
15	· Assure 10% of volume contains stilities
16	
17	01 01 01 01 013 (-111 13)
18	14,000 sqft. x 6ft = 84,000 ft3 (3.111 yds)
19	3 111 13 2000 - 7 0m 3/1 / 1 / 1 / 1/1/1
20	3.111 yd33 x 0.90 = 2,800 x (wol. West dilties)
22	3
23	Z1800 yds * 1.6 tone /yd3 = 4,480 tons of soil
24	51800 daz 1.0 15×1 da = 1, 100 1012 11 2011
25	(,
26	4,480 tons * 1,016 Kylton = 4,551,680 Kg
27	
28	710
29	360 mg/kg * 4,551,680 kg = 1,638,604,800 mg
30	3
31	,
33	1178121 800 WD x 27 MIVID - 3113
34	1,638,604,800 mg * 2.7046×10 = 3,613 ponds
35	(convert vug to
36	1,638,604,800 mg * 2.2046×10 = 3,613 ponds (converting to pounds)
37	
38	Say 3,600 lbs.
39	
40	J OF PCE

			1
		Page	No. 1 1
	GZA GeoEnvironmental		1
	of New York Engineers and Scientists		
	Project GMCH BLAG 10 SVE/SSD System	File !	vo. 21.0056546.0
	Location Location Date To	By	Clo.
	Subject PLE Removal Rate Calc. Checked 5/6.		PJT
ı	Based on Revised	Ву	
1	1		
2	2 1 1 1 2	<u> </u>	- ~ \
3	Pands of PCE Removed by SVE SYS	tor T	ine Period
4	4		
5	5 3/6/09 -> 3/9/09.		
6	6		
7	7 2 1 2 2 3 9 1		
8	8 Days botween Kesslings. C. 1 days.		
9		029	. / . ~
10	10 Aire System How between Leadings. (300	setun+ 2	Election) - Z
11		v	° .
12	12	90 30	tus
13	13 -1 1 1 1 1 1 1 1	4	00
14	14 Estende Drevoge PIE Corc. between Pende	nes: 4	bears 115 bburs
15		S	
16			2
17	VOD. 1	100	
18	18	17 pp	wy.
19	19	, ,	
20			
21	256		
22	791 * 790 - 8 * 741	1 ~	¥ .
24	Z-1 day. Z IV SUIVE Z I INT	60 mi	VA.
25	day	haicola	-
26			
27		-12	11,040 ft3
28	500	- 1, 2	- 1040 11
29	29 1211 NAN ST * 007837 - 347	77 has	3 .
30	30	() 44	· .
31	28 29 (,211,040 ft * 0.02832 = 34,2 30 31 (convert ft) ³ 40 m ³)		
32	32		
33	33 117 ppmv * 6.78 = 793 34 (connect ppmv) 40 mg/m ³	11.3	
34	34 (convert source)	21 m	
35	35 (to walno		
36	36		
37	37	0 -	
38	38 34 297 ms * 793 mg/ 3 = 2	1.19752	21 mg
39	$\frac{37}{38} = \frac{34,297 \text{m}^3}{40} + \frac{793 \text{mg/m}^3}{20} = \frac{27}{20}$	1 5	, 3
40	40 2	7,198	9)
41			
42	27, 198 g * 0.002205 43 (convert g to points) = 60	\	
43	43) (convert a to sounds) (60)	sounds	PCE REMOVED !
44	44		1/



APPENDIX B ROUTINE MONITORING FORMS (JANUARY 2014 – DECEMBER 2014)

ROUTINE MONITORING FORM

OPERATION, MAINTENANCE AND MONITORING PLAN SVE/SSD SYSTEM

	SVE/SSD SY GM COMPONENTS H	IOLDINGS, LLC		2 M
8.1	LOCKPORT, N	EW YORK		Cother wor
Name: T. Bohka	Time	On-Site: 1300	Time Off-Site:	1630
Date: 1/22/14	SVE	28456, 3 + 10172 Blower Run Time:	hours VDI	F: 60.0 hertz
SYSTEM STATUS				
SVE System Operating: YES	NO If no:			
Alarm lights off:	NO If no:			
Autodialer Alarm On: YES	(NO) If Yes:			
	Postion of Swing P	anel HOA Switches:		
Control Power Switch	OFF SVE Blower	Switch HAND	OFF	AUTÒ
M/S Effluent Pump Switch HAND	AUTO Heat Exchan	ger Switch HAND	OFF	AUTO
Heat Exchanger Operating (YES)	NO If no:			
SVE System appear to be operating OVES	NO If no:			
Moisture Separator Tank Level: Empty	1/4 Full 1/2 Fu	II 3/4 Full F	ull Volume T	ranfered: gals
SYSTEM MONITORING READINGS				
Vacuum Gauge Pre-Inline Filter: 4.	ک in Hg	System Monitoring Notes:		
Vacuum Gauge Post-Inline Filter: 5	18388			
Temperature on Discharge Silencer:	6 °F			
Temperature after Heat Exchanger:				
Pressure After Heat Exchanger 17	in H ₂ O			
Pressure Before Heat Exchanger	in H ₂ O	Flow Rate Based on Pressu	re Gauge;	cfm
Pressure Magnehelic Gauge:	7 in H₂O	Flow Rate Based on Vacuui	m Gauge:	cfm
Vacuum Magnehelic Gauge: > 2	in H₂O		J	
Vacuum Gauge After Manifold:	in Hg			
EXTRACTION WELL VACUUM GAUGE READ	2 1111111			
EW 4: // in Ho	EW-11:	in Hg Vaccum Ga	uge Reading Notes:	
EW-2: /, in Hg	EW-12: //	in Hg		
EW-3: \ in Hg	EW-13: <	in Hg		
EW-4: / in Hg	EW-14: 1.2	in Hg		
EW-5: \langle in Hg	EW-15:	in Hg		
	EW-16: /	in Hg		
EW-6:	EW-17: / /	in Hg		
	SS-1: <	in H2O		
	SS-2:	in H2O		
EW-9; in Hg	1.			
EW-10: /,3 in Hg	SS-3: <	in H2O		
AIR FLOW FIELD SCREENING		Database	Deadings	
Background Outside SVE Shed: 0,5	ppm	Detector Tube		
Background Inside SVE Shed: 0,5	ppm	Pre Carbon YES		
Pre Carbon Discharge: 3,6	ppm -		ppm	
Mid Carbon Discharge:	ppm -	Post Carbon YES	ppm ppm	
Post Carbon Discharge: 0, 3	ppm	L , , , ,		
Additional Notes: Sharpie used	1 Hor Tedla	r mbels- al	was do	dury
to ND Prio	r Vo samp	pling / screening	ng	_
Additional Notes: Sharpie used to ND Ario Mid point	- duplic ax	e	_	- 1
- ma point	× /			

GAS CHROMATOGRAPHY REPORT SHEET GC SCREENING RESULTS DIRECT INJECT

Client: File No: GM Lockport 36795-010

Sample Type: BLDG-10 SVE/SSD

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

Operator: HAH

QA/QC: DMC

Sam	ble Identification	Sampl e Volum e (uL)	CASRN	Target Compound	Cal. Ret, Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.	Co	onc.	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		ppmV	0,00		17,91	
		500	75-01-4	vinyl chloride	8,072			0.000	ND mg/m^3	ND	ppmV	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	
ID:	Pre-Carbon	500	75-09-2	methylene chloride	15,444			0.000	ND mg/m/3		ppmV	0,00		0.00	
Date:	1/22/2014	500	156-60-5	trans 1,2-dichloroethene	17,746			0.000	ND mg/m^	ND	ppmV	0,00		0,00	
Time:		500	75-34-3	1,1-dichloroethane	18.185			0.000	ND mg/m^	ND	ppmV	0.00		0,00	
		500	156-59-2	cis 1,2-dichloroethene	19,883			0.000	ND mg/m^s		ppmV	0,00		0,00	
Temp =	°F	500	67-66-3	chloroform	20.437			0.000	ND mg/m ⁴		ppmV	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		ppmV	0,00		0,56	
		500	79-01-6	trichloroethene	24,775			0.000	ND mg/m^3		ppmV	0.00	0.00	0.00	
		500	108-88-3	toluene	27,755	27.924	0.6261	0.049	0.10 mg/m^\$		ppmV	0.00		0.49	
		500	127-18-4	tetrachloroethene	29.631	29.789	26.6696	8.028	16.06 mg/m^3		ppmV	0.02	0.40	81.03	
		500	100-41-4	ethylbenzene	31,355			0.000	ND mg/m^s		ppmV	0,00		0.00	
		500	8-38-3/106-4	m/p-xylene	31,622			0.000	ND mg/m ⁴	ND	ppmV	0.00	0,00	0.00	
		500	95-47-6	o-xylene	32,497			0.000	ND mg/m^\$	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	Vmqq	0.02	0.50	100.00	

Samı	ole Identification	Sample Volum e (uL)	CASRN	Target Compound	Cal. Ret, Time (mir.)	Ret. Time (mín.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		onc.	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		ppmV	0.00	0.10	20.95	
		500	75-01-4	vinyl chloride	8.072			0.000	ND mg/m^3		ppmV	0,00	0.00	0.00	
In.		500	75-35-4	1,1-dichloroethene	15,150			0.000	ND mg/m^3		ppmV	0.00	0.00	0.00	
ID:	Mid-Carbon	500	75-09-2	methylene chloride	15.444			0.000	ND mg/m^		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 ⁴		ppmV	0.00	0.00	0,00	
Time:		500	75-34-3	1,1-dichloroethane	18.185			0.000	ND mg/m^		ppmV	0.00	0.00	0.00	
	°F	500 500	156-59-2 67-66-3	cis 1,2-dichloroethene	19.883	00.004	4.0507	0.000	ND mg/m^3		ppmV	0,00	0.00	0.00	
remp =	280 SCFM	500		chloroform	20,437	20,384	1.3537	1.114	2.23 mg/m^3		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		ppmV	0,00	0.00	0.00	
		500	71-43-2	benzene	23.071	04.000	40.4040	0.000	ND mg/m^3	ND	ppmV	0,00	0.00	0,00	
			79-01-6	trichloroethene	24.775	24.869	16,4013	5,363	10.73 mg/m^3		ppmV	0,01	0,27	55,83	
		500	108-88-3	toluene	27.755			0.000	ND mg/m^		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		ppmV	0.00	0.06	11.63	
		500	100-41-4	ethylbenzene	31,355			0.000	ND mg/m^3		ppmV	0.00	0.00	0.00	
			8-38-3/106-42		31,622			0.000	ND mg/m^3		ppmV	0.00	0.00	0.00	
		500	95-47-6	o-xylene	32,497			0.000	ND mg/m^3		ppmV	0.00	0.00	0.00	
		500		Unknown TPH				0.000	ND mg/m^3		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: File No: GM Lockport 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	Sampl e Volum e (uL)		Target Compound	Cal. Ret, Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.	Cond	c.	Mass Rmvd (fb/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		ppmV	0,00	0.08	100,00	
	500	75-01-4	vinyl chloride	8,072			0,000	ND mg/m^3		ppmV	0,00	0.00	0.00	
	500	75-35-4	1,1-dichloroethene	15_150			0.000	ND mg/m^3		ppmV	0,00	0,00	0.00	
ID: Post-Carbon	500	75-09-2	methylene chloride	15,444			0.000	ND mg/m/s		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 I	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	
emp = °F	500	67-66-3	chloraform	20,437			0.000	ND mg/m^3	ND	ppmV	0.00	0.00	0.00	
low = 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^s	ND i	ppmV	0.00	0.00	0.00	
	500	79-01-6	trichloroethene	24.775			0.000	ND mg/m/s	ND I	ppmV	0.00	0.00	0.00	
	500 500	108-88-3 127-18-4	toluene tetrachioroethene	27.755 29.631			0.000 0.000	ND mg/m^1 ND mg/m^1	ND I	ppmV ppmv	0.00 0.00	0.00	0.00	
	500	100-41-4	ethylbenzene	31.355			0.000	ND mg/m^s		ppmV	0.00	0.00	0.00	
	500	8-38-3/106-42	m/p-xylene	31,622			0,000	ND mg/m/s		ppmV	0.00	0.00	0.00	
	500	95-47-6	o-xylene	32.497			0.000	ND mg/m^3		ppmV	0.00	0.00	0.00	
	500		Unknown TPH	200			0.000	ND mg/m^3		Vmqq	0.00	0.00	0.00	
			total volatiles			20		3.2 mg/m ⁴³		Vmqq	0.00		100.00	

Samp	ple Identification	Sampl e Volum e (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			52,71	
		500	75-01-4	vinyl chloride	8.072			0.000	ND mg/m^3	ND ppmV			0,00	
ID.	DUD	500	75-35-4	1,1-dichloroethene	15,150			0,000	ND mg/m^	ND ppmV			0,00	
ID:	DUP	500 500	75-09-2	methylene chloride	15.444			0.000	ND mg/m^3	ND ppmV			0,00	
Date: Time:	1/22/2014	500	156-60-5	trans 1,2-dichloroethene 1,1-dichloroethane	17.746			0.000	ND mg/m^3	ND ppmV			0.00	
ilme.		500	75-34-3 156-59-2	.,	18.185			0.000	ND mg/m^3	ND ppmV		0.00	0.00	
T	°F	500	67-66-3	cis 1,2-dichloroethene chloroform	19.883			0.000	ND mg/m^3	ND ppmV			0.00	
Temp =					20.437			0.000	ND mg/m^	ND ppmV			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	
		500	71-43-2	benzene	23.071			0.000	ND mg/m^3	ND ppmV			0.00	
		500	79-01-6	trichloroethene	24.775	24.879	0.8903	0,291	0.58 mg/m^3				10,99	
		500	108-88-3	toluene	27.755			0.000	ND mg/m^\$		100	-/	0.00	
		500	127-18-4	tetrachloroethene	29.631	29.739	1.7178	0.517	1.03 mg/m^3				19.52	
		500	100-41-4	ethylbenzene	31:355	31.248	6,9790	0.445	0.89 mg/m^1				16.78	
			8-38-3/106-42		31,622			0.000	ND mg/m^3				0.00	
		500	95-47-6	o-xylene	32,497			0.000	ND mg/m^3	ND ppmV		0.00	0,00	
		500		Unknown TPH		L		0.000	ND mg/m^3				0.00	
			- 1	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: 1340 Time Off-Site: 1330
Date: 3/19/14	SVE Blower Run Time 29129 + hours VDF: 60 hertz
SYSTEM STATUS	10172
SVE System Operating: (FES) NO	If no:
Alarm lights off: (FS) NO	If no:
Autodialer Alarm On: YES NO	If Yes:
Postic	on of Swing Panel HOA Switches:
Control Power Switch ON OFF	SVE Blower Switch HAND OFF (AUTO)
M/S Effluent Pump Switch HAND OF AUTO	Heat Exchanger Switch HAND OFF AUTO
Heat Exchanger Operating (FS) NO	If no:
SVE System appear to be operating vES NO properly?	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. 入	in Hg System Monitoring Notes:
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 ₂ O
Pressure Before Heat Exchanger 20	in H ₂ O Flow Rate Based on Pressure Gauge: cfm
Pressure Magnehelic Gauge: 🔾 .6	in H₂O Flow Rate Based on Vacuum Gauge: cfm
Vacuum Magnehelic Gauge: > 🔾	in H ₂ O
Vacuum Gauge After Manifold:	in Hg
EXTRACTION WELL VACUUM GAUGE READINGS	V 000000000000000000000000000000000000
EW -1: < / in Hg EW-11:	in Hg Vaccum Gauge Reading Notes:
EW-2:], in Hg EW-12:	in Hg
EW-3:	∠ / in Hg
EW-4: ∠ ∫ in Hg EW-14;	/ .) in Hg
	√ I in Hg
EW-6: <) in Hg
EW-7:	∠ ∫ in Hg
EW-8;	in H2O
EW-9: in Hg SS-2:) in H2O
EW-10: /, 2 in Hg SS-3;	in H2O
AIR FLOW FIELD SCREENING	THIRDS CONTROL THE CONTROL TO THE CO
Background Outside SVE Shed: 0, 8 ppm	Detector Tube Readings
Background Inside SVE Shed: 0,8 ppm	Pre Carbon YES NO ppm
Pre Carbon Discharge: 4, 4 ppm	Mid Carbon YES NOppm
Mid Carbon Discharge: 1, 3 ppm	Post Carbon YES NO ppm
Post Carbon Discharge: 0,6 ppm	I NA TOTAL
Additional Notes: Duplicate = Mi	dCaston

GAS CHROMATOGRAPHY REPORT SHEET GC SCREENING RESULTS DIRECT INJECT

Date of Analysis: 21-Feb-14
ICAL Curve Date: Jan-13

Client: GM Lockport File No: 36795-010

Sample Type: BLDG-10 SVE/SSD

Operator: HAH

QA/QC: DMC

Sampl	le Identification	Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	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		ppmV	0.00	
		1,1-dichloroethene	15.150			0.000	ND mg/m^3		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		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		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		ppmV	0.00	
		o-xylene	32.497			0.000	ND mg/m^3		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	Vmaa	0.00	

Sample Identification		Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Conc.		onc.	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		ppmV	0.00	
ID.	Mid Oads an	1,1-dichloroethene	15.150			0.000	ND mg/m^3		ppmV	0.00	
ID:	Mid-Carbon	methylene chloride	15.444			0.000	ND mg/m^3		ppmV	0.00	
Date:	2/21/2014	trans 1,2-dichloroethene	17.746			0.000	ND mg/m^3		ppmV	0.00	
Time:		1,1-dichloroethane	18.185			0.000	ND mg/m^3		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		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		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	Vmaq	0.00	

Sample Identification		Target Compound	Cal. Ret. Time (min.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)			onc.	Mass Rmvd (lb/hr)	REMARKS
		methane	5.024	4.675	22.2333	1.754	3.51 mg/m^3		ppmV	0.00	
		vinyl chloride	8.072			0.000	ND mg/m^3		ppmV	0.00	
		1,1-dichloroethene	15.150			0.000	ND mg/m^3		ppmV	0.00	
ID:	Post-Carbon	methylene chloride	15.444			0.000	ND mg/m^3		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		ppmV	0.00	
		chloroform	20.437			0.000	ND mg/m^3		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	
		tetrachioroethene	29.631			0.000	ND mg/m^3	ND	ppmv	0.00	
		ethylbenzene	31.355			0.000	ND mg/m^3		ppmV	0.00	
		m/p-xylene	31.622			0.000	ND mg/m^3		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		
		vinyl chloride	8.072			0.000	ND mg/m^3			
		1,1-dichloroethene	15.150			0.000	ND mg/m^3			
ID:	DUP	methylene chloride	15.444			0.000	ND mg/m^3			
Date:	2/21/2014	trans 1,2-dichloroethene	17.746			0.000	ND mg/m^3			
Time:		1,1-dichloroethane	18.185			0.000	ND mg/m^3			
		cis 1,2-dichloroethene	19.883	20.189	1.2121	0.339	0.68 mg/m^3			
		chloroform	20.437			0.000	ND mg/m^3			
		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		0.00	
		Unknown TPH	-			0.000	ND mg/m^3			
		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: 4/8/114 4/8/14	SVE Blower Run Time: 30 382, 4 hours VDF: 60 hertz										
SYSTEM STATUS	+10172										
SVE System Operating:	If no:										
Alarm lights off: YES NO	If no:										
Autodialer Alarm On: YES NO	If Yes:										
Postion	n of Swing Panel HOA Switches:										
Control Power Switch 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 NO I	lf 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:	n Hg System Monitoring Notes:										
Vacuum Gauge Post-Inline Filter: 5, 4 i	n Hg										
Temperature on Discharge Silencer: 108 °	°F										
Temperature after Heat Exchanger: 72 °	°F										
	n H₂O										
Pressure Before Heat Exchanger 20 ii	n H₂O Flow Rate Based on Pressure Gauge: cfm										
Pressure Magnehelic Gauge: 2, 7 ii	n H₂O Flow Rate Based on Vacuum Gauge: cfm										
Vacuum Magnehelic Gauge: >2 ii	n H₂O										
Vacuum Gauge After Manifold: / ir	n Hg										
EXTRACTION WELL VACUUM GAUGE READINGS											
EW -1: < in Hg	/ in Hg Vaccum Gauge Reading Notes:										
EW-2: [, [in Hg EW-12: <	(/ in Hg										
EW-3: / in Hg EW-13:	< / in Hg										
EW-4:	/ in Hg										
EW-5: 2 (in Hg EW-15:) in Hg										
EW-6: < / in Hg	I in Hg										
	/ in Hg										
EW-8: SS-1: a	<										
EW-9: in Hg SS-2:	in H2O										
- Bachada											
AIR FLOW FIELD SCREENING											
Background Outside SVE Shed: 0 0 ppm	Detector Tube Readings										
Background Inside SVE Shed: D, D ppm	Pre Carbon YES NO - ppm										
Pre Carbon Discharge: 3, 9 ppm	Mid Carbon YES NOppm										
Mid Carbon Discharge: 1, 3 ppm	Post Carbon YES NO - ppm										
Post Carbon Discharge: 0.0 ppm	L NA										
Post Carbon Discharge: 0.0 ppm Additional Notes: Applicate = Mid (Carbon										
-											

CHAIN OF CUSTODY

PARADIGM				REPORT TO:		то:							
TAVIANNIATAL MAVIES.				ADDRESS:							LAB PROJECT	ID	
				535 WELLINAY	lon		ADDRESS		0745				
				PHONE:	7430	14)03			STATE:	ZIP:	Quotation #:		
	nice data			716 685- 230	0		PHONE;				Email:	.0	
21.005	TO SY			C. Borne			ATTN:	ATTN:			christopher boro		
	Q - 10			Matrix Codes: AQ - Aqueous Líquid	WA - Water WG - Groundwater		DW - Drinking Water		SO - Soil	SD - Solid WP - Wipe	OL - Oil		
				NQ - Non-Aqueous Liquid			WW - Waste	WW - Wastewater SI		PT - Paint CK - Caulk	AR - Air		
				Richard Company				REQUES	TED ANALYS	IS			
DATE COLLECTED	TIME COLLECTED	C O M P O S I T	G R A B	SAMPLE IDENTIFIER		M C A O T D R E I S X	CONTAINERS	xxe atta			REMARKS	PARADIGM LAB SAMPLE NUMBER	
14/8/14	1530		Y	Pre-Carbon		AR		X		1	re use Tedlass		
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4			X	Duglicont		1	1	X		1 46	A OWNER		
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9													
10													
Turnarour Availa		nt upon l	ab appr	Report Supplements oval; additional fees may apply.	The	owa	SE	Sohler	4/8	114			
Standard 5 day	Ø	Batch Q	С	Basic EDD	Sampled	Ву	-	R 11	Date/	Time C/4	Total Cost:		
Rush 3 day		Category	yΑ	NYSDEC EDD	Relinquis	hed By		Agrice	Date/	Time /			
Rush 2 day		Category	уВ		1	1	di	elh	- 411	8/14			
Rush 1 day					Received	Ву		7/	Date/1	Time	P.I.E.		
Other Mease indicate:		Other please indic	cate;	Other EDD please Indicate:	Received	@ Lab	Ву	V	Date/I	Time			



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



Client: <u>GZA Geo Environmental of New York</u>

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

AnalyteResultUnitsQualifierDate AnalyzedMethane12.0mg/m3BH4/15/2014

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

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Analy	zed
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



Client: <u>GZA Geo Environmental of New York</u>

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

AnalyteResultUnitsQualifierDate AnalyzedMethane15.2mg/m3BH4/15/2014

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

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Analy	zed
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



Client: <u>GZA Geo Environmental of New York</u>

Project Reference: 21.0056546.00 Task 33

Sample Identifier: Post-Carbon

Lab Sample ID:141374-03Date Sampled:4/8/2014Matrix:AirDate Received:4/9/2014

Methane

AnalyteResultUnitsQualifierDate AnalyzedMethane14.2mg/m3BH4/15/2014

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

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

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	Qualifier	Date Analy:	zed
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



Client: <u>GZA Geo Environmental of New York</u>

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

AnalyteResultUnitsQualifierDate AnalyzedMethane13.4mg/m3BH4/15/2014

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

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

Volatile Organics

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Analy	zed
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



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 OC 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.

CHAIN OF CUSTODY

PROJECT REFERENCE				ADDRESS: Washington CITY: Buttalo STATE 217403 PHONE: 716 655-2300 ATTN: Boon Matrix Codes:					CLIENT: ADDRESS: CITY: STATE: ZIP: PHONE: ATTN: DW - Drinking Water SO - Soil						eemylghab PROJECT ID 13/4/374 Quotation #: Email: Christopho-borone graf Low SD-Solid WP-Wipe OL-Oil				Total Control of the	
Task33			>	AQ - Aqueous Liquid WA - Water NQ - Non-Aqueous Liquid WG - Groundwater			er	A	W - Wastev	water	SL - Slu		PT - Paint		C - Caulk	AR -				
and the second		ı							I		7	ED ANALY	SIS					<u> </u>		(Estable
DATE COLLECTED	TIME COLLECTED	C O M P O S I T E	G R A B		SAMPLE IDENTIFIER			M C C T D R E S X	CONTAINERS NUMBER OF	CONTAINERS X X SECULAR X				REMARKS			S	.DIGM LAB AMPLE JMBER		
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Availa	bility continge	nt upon	lab appr	oval; additional	fees may apply.		Sample		55	EVI			// 7 e/Time			Total C	ost:			
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Chain of Custody Supplement

Client:	U CA	Completed by:	Way
Lab Project ID:	141374	Date:	4/9/14
	Sample Conditio Per NELAC/ELAP 210	n Requirements 0/241/242/243/244	
Condition	NELAC compliance with the sample o Yes	condition requirements up No	oon receipt N/A
Container Type	X		
Comments	Tellar Bag		
Transferred to method- compliant container			TX.
Headspace (<1 mL) Comments			
Preservation Comments			
Chlorine Absent (<0.10 ppm per test strip) Comments			X
Holding Time Comments			
Temperature Comments			<u> </u>
Sufficient Sample Quantity Comments			



CHAIN OF CUSTODY

ADIRONDACK: ELAP ID: 10709

ĐΛ	RADIG	M		Carried to the later of the	REPORT TO:			COMPAN	v.		CHILDEN PROPERTY	ICE TO):			LAB P	ROJECT#:	Icu	ENT PR	OJEC	T #:	
vinc			COMPANY:	Parac	digm Environ	mental		ADDRESS		Sar	ne							l				
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Sample Condi	tion: Per NELA	AC/ELAP 210/2				_																9
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#### KUUTINE MUNITUKING FUKM

OPERATION, MAINTENANCE AND MONITORING PLAN

SVE/SSD SYSTEM

## GM COMPONENTS HOLDINGS, LLC

LOCKPORT, NEW YORK

Name: T. Bahler	Time	On-Site: /53	0	Time Off-Sit	te: //_30	
Date: 5///3014	SVE	Blower Run Time	3D834.	6 hours	VDF: 60.0	hertz
SYSTEM STATUS				172		,,,,,,
SVE System Operating: YES NO	) If no:					
Alarm lights off: YES NO	) If no:					
Autodialer Alarm On: YES (No	If Yes:				1)	
Po	stion of Swing I	Panel HOA Switc	:hes:			
Control Power Switch ON OF	SVE Blower	Switch	HAND	OFF	(AÚTO)	
M/S Effluent Pump Switch HAND OF AU	O Heat Exchar	nger Switch	HAND	OFF	(AUTA)	
Heat Exchanger Operating VES NO	If no:					
SVE System appear to be operating YES NO properly?	If no:					
Moisture Separator Tank Level: Empty 1/4 F	ull 1/2 Fi	ull 3/4 Full	Full	Volum	me Tranfered:	gals
SYSTEM MONITORING READINGS						
Vacuum Gauge Pre-Inline Filter: 円、깇	in Hg	System Monito	ring Notes:			
Vacuum Gauge Post-Inline Filter: 5, 4	in Hg					
Temperature on Discharge Silencer: 1/2	°F_					
Temperature after Heat Exchanger: 75	*F					
Pressure After Heat Exchanger 17	in H₂O					
Pressure Before Heat Exchanger	in H ₂ O	Flow Rate Base	d on Pressure	Gauge:	cfm	
Pressure Magnehelic Gauge: 2.6	in H₂O	Flow Rate Base	d on Vacuum	Gauge:	cfm	
Vacuum Magnehelic Gauge:	in H₂O					
Vacuum Gauge After Manifold:	in Hg					
EXTRACTION WELL VACUUM GAUGE READINGS						
EW -1: < / in Hg EW-1	1:	in Hg	Vaccum Gau	ge Reading No	otes:	
EW-2:   in Hg EW-1	2: </td <td>in Hg</td> <td></td> <td></td> <td></td> <td></td>	in Hg				
EW-3:   in Hg EW-1	3: 41	in Hg				
EW-4:	1: 1.1	in Hg				
EW-5: <   in Hg EW-1	5:	in Hg				
EW-6: <   in Hg EW-1	3: /	in Hg				
EW-7: < / in Hg EW-1	7: 41	in Hg				
EW-8: $\angle$ in Hg SS-1:	<1	in H2O				
EW-9; / in Hg SS-2:		in H2O				
EW-10: /. 🗘 in Hg SS-3:	<	in H2O				
AIR FLOW FIELD SCREENING						
Background Outside SVE Shed: 0,0 ppm		De	etector Tube R	eadings		
Background Inside SVE Shed: (), () ppm		Pre Carbon	YES NO	ррг	m	
Pre Carbon Discharge: 3, 9 ppm		Mid Carbon	YES NO	ppr	m	
Mid Carbon Discharge: 3, 0 ppm		Post Carbon	YES NO	ppr	m	
Post Carbon Discharge: 0, 3 ppm						
Additional Notes: Dupliate = to	st-Car	bon				



## **CHAIN OF CUSTODY**

PAF	RADIG	M		REPORT TO:	ar a saya			NVOICE TO:			
THE PERSON	detai meritti.	1		CLIENT GZA heokoviron	mental	CLIENT:				LAB PROJEC	ΓID
		1		ADDRESS 35 Washing to	n 5t	ADDRES	S:				
				CITY: By Alalo STATE	14/03	CITY:	->	STATE:	ZIP:	Quotation #:	
				PHONE: 716 - 685 230	0	PHONE:				Email: / /	
PROJE	CT REFER	ENCE		ATTN: C. BATTON		ATTN:		7,1-11		Christopher Doi	DIACO
		2.70	7	Matrix Codes:		-				1 97.a. Com	
11 00565 Task 3	3		100	AQ - Aqueous Liquid NQ - Non-Aqueous Liquid	WA - Water WG - Groundwate	eř	DW - Drinking WW - Wastew		SO - Soil SL - Sludge	SD - Solid WP - Wipe PT - Paint CK - Cáulk	OL - Oil AR - Air
							REQUESTE	ED ANALYS	IS		
DATE COLLECTED	TIME COLLECTED	C O M P O S I T E	G R A B	SAMPLE IDENTIFIER	M C O T D E R E S	NONTA I NERS	SALO VOC.			REMARKS	PARADIGM LAB SAMPLE NUMBER
5/1/14	1545		X	Pre-Carbon	AR	1			0000	use Tedlacs.	
	15 50		X	Mid-Casbon		-			no tu	on & Thomas	
	1555		X	Post-Carbon					Pohl	0.1- 67A	
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Turnaroun				Report Supplements	~/		011	1	11.1		
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tandard 5 day	D	Batch Q0		Basic EDD	Sampled By	an I	Rollh	Date/T	2/14	Total Cost:	
tush 3 day		Category	Α	NYSDEC EDD NYSDEC EDD	Relinquished By		LOVUM	Date/T	Time 7	/7	
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tush 1 day					Received By			Date/T	ime	P.I.F.	
Other ease indicate:		Other please indic	ate;	Other EDD please indicate:	Received @ Lab	Ву		Date/T	īme	in the second	



## 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



Client: <u>GZA Geo Environmental of New York</u>

**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	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Analy	zed
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



Client: <u>GZA Geo Environmental of New York</u>

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

**Sample Identifier:** Mid-Carbon

Lab Sample ID:141748-02Date Sampled:5/1/2014Matrix:AirDate Received:5/3/2014

#### **Volatile Organics**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<b>Qualifier</b>	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

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

**Sample Identifier:** Post-Carbon

Lab Sample ID:141748-03Date Sampled:5/1/2014Matrix:AirDate Received:5/3/2014

#### **Volatile Organics**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Analy	zed
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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<b>Qualifier</b>	Date Analy	zed
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



## **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:

[&]quot;<" = Analyzed for but not detected at or above the quantitation limit.

[&]quot;E" = Result has been estimated, calibration limit exceeded.

[&]quot;Z" = See case narrative.

[&]quot;D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.

[&]quot;M" = Matrix spike recoveries outside OC limits. Matrix bias indicated.

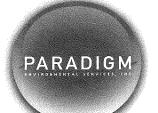
[&]quot;B" = Method blank contained trace levels of analyte. Refer to included method blank report.

[&]quot;I" = Result estimated between the quantitation limit and half the quantitation limit.

[&]quot;L" = Laboratory Control Sample recovery outside accepted QC limits.

[&]quot;P" = Concentration differs by more than 40% between the primary and secondary analytical columns.





## **CHAIN OF CUSTODY**

	CT REFER	ENCE.		ADDRESS: 35 CITY: Bu 4 PHONE: 71/o ATTN: C F	REPORTION  A GEOFFIN  Falo, No.  Falo, No.  FORMALL  REPORTION  RE	0: 1000 men 1300 1300	#1 3-	CLIENT: ADDRESS CITY: PHONE:	:		STATE:		ZIP:	Quotation	LAB PROJECT 1748 1#: topher-bor	·.
11.00565	76.00	Sum ( w		Matrix Codes AQ - Ac NQ - No	5: Jueous Liquid on-Aqueous Liquid	<b>WA</b> - W <b>WG</b> - G	/ater Groundwate	er		- Drinking / - Wastewa		SO - SL -	Soil Sludge	SD - Solid PT - Paint	WP - Wipe CK - Caulk	OL - Oil AR - Air
rask 3									RE	QUESTE	D ANAL	YSIS				
DATE COLLECTED	TIME COLLECTED	C O M P O S I T E	G R A B		SAMPLE IDENTIFIER		M C A O T D R E X	CONTAINERS	2360 VOZ.	work broke				REMAI	RKS	PARADIGM LAB SAMPLE NUMBER
5/1/14	1545 1550	-	X	Are-C Mid-C	action		AR	*** Completion					30	euse To	Edlars -	0 1
	1555		X	Post-	Carpon			No.					Bo	hlen-6	ZA	03
	ngg tiể		_ ~	Dupin	<u> </u>		•	**						nce n		
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	bility continge	T .		oval; additional t		Sampl	ed/By			17/1	<del>ئے۔</del> Da	ite/Time	1 / 100	and and and	Total Cost:	
andard 5 day		Batch Q			Basic EDD		Monu		12	Ubsc	Do	nte/Tiphe	4			
ush 3 day ush 2 day		Categor			NYSDEC EDD	Keiing	rished By	THE	TV .	kf (*	Ųa Č	5/2/	14	907		<u>:                                      </u>
ush 1 day		331.	•			Receive	ed B	<b>,</b>	11	4	m / - 1	ite/Time	094	/ j	P.I.F.	
ther ase indicate:		Other please indic	cate:		Other EDD please indicate:	Receiv	ed @ Lab	Ву	76		) / <u>3</u> / Da	ite/Time	0 (7)	7	· <u>L</u>	

# GAS CHROMATOGRAPHY REPORT SHEET GC SCREENING RESULTS DIRECT INJECT

Date of Analysis: ICAL Curve Date:

29-Nov-11 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)
Removal Efficiency (Pre-Carbon to Post-Carbon)

43% 91%

Sample Identification		Yolume (uL)	CASRN	Target Compound	Cad: Ret. Time (mir.)	Ret. Time (min.)	Det. Resp. (Area Cts.)	Mass (ng)	ō	une.	Co	nc.	Rmvd (tb/hr)	Rmvd (lh/day)	%Total Mase Rawd	REMARKS
		_500	74-62-8	IIIORE &	4.550	4:164	286	1.909	9,62	mg/mr3	5 82	- pomY-	0,004	0.10	9.05	
		500	75-01-4	viny! chloride	7 300			0 000	ND	mg/m^3	ND	PpmV	0.000	0.00	0,00	
		500	75-35-4	1,1-dichioroethene	14,300		1	0.000	ND	mg/m³3	ND	Vmqq	0.000	0,00	0,00	
		500	75-09-2	methylene chloride	14.700		1	0.000	NO	mg/m^3	ND	Vmqq	0.000	0.00	0.00	
ID:	Pre-Carbon	500	156-60-5	trans 1.2-dichloroethene	17,000		1	0.000	ND	mg/m^3	ND	ppmV	0.000	0,00	0.00	
Date:	11/28/2011	600	75-34-3	1,1-dichloroethane	17.500		1	0.000	ND	mg/m^3	ND	Vmqq	0.000	0.00	0.00	
Time:		500	1634-04-4	MTBE	0 000		1	0,000	ND	mg/m^3	ND	Vmqq	0.000	0.00	0,00	
		500	76-93-3	2-butanone (MEK)	18,300		1	0,000	ND	mg/m^3	NO	ppmV	0.000	00,0 00.0	0.00	
		500	156-59-2	ds 1,2-dichloroathene	19,100		1	000,0	ND	mg/m*3	ND	ppmV	0.000		0.00	
Temp =	٩F	500	67-66-3	chloroform	19.800		1	0.000	ND	mg/m*3	ND	Vmqq	0.000	0.00	0.00	
Flow =	280 SCFM	500	71-55-8	1,1,1-trichloroethane	21 600			0.000	NO	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	71-43-2	benzene	22.400		1	0.000	ND	mg/m^3	ND	рртіV	0.000	0.00	00,0	
		500	78-87-5	1,2-dichloropropane	0.000		1	0.000	ND	mg/m^3	ND	ppmV	0,000	0.00	0,00	
		500	79-01-6	trichbroethene	24 200			0,000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
		500	108-88-3	toluene	27 200		1	0 000	ND	mg/m^3	ND	ppm√	0.000	0.00	0.00	
		500	127-18-4	letrachloroethene	29.200	28 596	86 0	19 176	38,35	mg/m^3	5.66	ppmV	0.040	0,97	90 95	
		500	108-90-7	chlorobenzene	30,300		1	0,000	ND	mg/m*3	ND	ppmV	0.000	0.00	0,00	
		500	100-41-4	ethylbenzene	30 900		1	0.000	ND	mg/m/3	ND	Vmqq	0.000	0.00	00.0	
		500	108-38-3/106-42-3	m/p-zylene	31.200		1	0.000	ND	mg/m/3	ND	Vmqq	0.000	0.00	0.00	
		500	95-17-6	o-xylene	32,100			0.000	ND	my/m^3	ND	ppmV	0.000	0.00	0.00	
		600		Uramown-TRU				0.000	NO	mg/m*3	ND-	— ppm∀-	0.000	0.00	0.00	
				total volatiles			214		42.2	mo/mr3	11.5	portiV	0.644	1.06	100.00	

Sample Identification		Sample Volume (oL)	CASRN	Target Compound	Cat. Ret. Time (mln.)	Rec. Time (min.)	Det. Resp. (Area Cts.)	On-Col Mass (ng)	Cr	one.	Ge	ancr.	Mans Rened (fofter)	Mans Rravd (lb(day)	%Total Mass Rmvd	REMARKS
		-600	74-82-9	methene	4500-	4,140	283	1,899	-9.66-	-mylm13	5.79	- pomv-	0.664	0.10	10.25	
		500	75-01-4	vhyl chloride	7.300			0,000	ND	mg/m^3	ND	Vmqq	0,000	0.00	0.00	
		500	75-35-4	1,1-dichioroethene	14,300			0,000	ND	mg/m^3	ND	ppmV	0.000	00,0	0,00	
		500	75-09-2	methylene chloride	14 700		1	0.000	NO	mg/mr^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/m³3	NO	Vmqq	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichioroethane	17 500			0 000	ND	mg/m^3	ND	ppmV	0000	0.00	000	
Time:		500	1834-04-4	MTBE	0.000			0,000	ND	mg/m^3	ND	Vmqq	0.000	0.00	0.00	
		500	78-93-3	2-hutanone (MEK)	18,300		i	0.000	ND	mg/rn^3	ND	Vrrgq	0000	0,00	0.00	
		500	156-59-2	eis 1,2-dichloroethene	19,100		1	0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	0.00	
ľomp =	°F	500	67-66-3	chloroform	19.600		l .	0.000	ND	mg/m^3	ND	Vrrgq	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	ppm∀	0.000	0,00	0.00	
		500	71-43-2	benzene	22 400	Account of		0.000	ND	mg/m^3	ND	ppm∨	0.000	0,06	0.00	
		500	78-87-5	1,2-dichloropropane	0.000	0.00	i I	0.000	ND	mg/m^3	ND	ppmV	D.000	00.0	0.00	
		500	7 <del>9</del> -01 <b>-6</b>	trichlomethene	24,200			0.000	ND	mg/m^3	ND	ppm∨	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	E^m/gm	ND	ppmV	0.000	0,00	00.0	
		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		31,200		1 3	0.000	ND	mg/m/3	ND	ppmV	0 000	0.00	0,00	
		500	95-47-6	o-xviene	92,100			0 000	ND	nig/m^3	ND	ppmV	0.000	0:00	0 00	
		-500		Unknown TPH	02,7100	-		-0.000	NO.	mg/m=3	ND.	Vance	0.000	0.00	0.00	
				total voletiles			103		37,1	mg/m/3	10.7	Vmqq	0,079	0.93	100,00	

No Methane or Unknown TPH per KH 552 5/3/14



## **Chain of Custody Supplement**

Client:	GZA	Completed by:	552
Lab Project ID:	141748	Date: _	5/3/14
	<b>Sample Condit</b> Per NELAC/ELAP	ion Requirements 210/241/242/243/244	
N. Condition	ELAC compliance with the sampl Yes	e condition requirements upon No	receipt N/A
Container Type  Comments	AV		
Transferred to method-		-	
compliant container  Headspace (<1 mL)  Comments			
Preservation			
Comments  Chlorine Absent (<0.10 ppm per test strip)  Comments			
Holding Time  Comments	X		
Temperature  Comments			
Sufficient Sample Quantity  Comments			

#### KUUTINE NIUNITUKING FUKIN

### 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//4	SVE Blower Run Time: 3/667, 8 hours VDF: 60 hertz
SYSTEM STATUS	+ 10172
SVE System Operating: WES NO	If no:
Alarm lights off: (FES) NO	If no:
Autodialer Alarm On: YES MO	If Yes:
Postic	on of Swing Panel HOA Switches:
Control Power Switch 6N OFF	SVE Blower Switch HAND OFF AUTO
M/S Effluent Pump Switch HAND (F) AUTO	Heat Exchanger Switch HAND OFF AUTO
Heat Exchanger Operating (YES) NO	If no:
SVE System appear to be operating VES NO properly?	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: 4.3	in Hg System Monitoring Notes:
Vacuum Gauge Post-Inline Filter: 5.4	in Hg
Temperature on Discharge Silencer: /15	°F
Temperature after Heat Exchanger: 78	°F
Pressure After Heat Exchanger /6, [	in H₂O
Pressure Before Heat Exchanger 19.8	in H ₂ O Flow Rate Based on Pressure Gauge: cfm
Pressure Magnehelic Gauge: 3, 5	in H ₂ O Flow Rate Based on Vacuum Gauge: cfm
Vacuum Magnehelic Gauge: > 2	in H ₂ O
Vacuum Gauge After Manifold:	in Hg
EXTRACTION WELL VACUUM GAUGE READINGS	
EW -1: < / in Hg EW-11:	/ in Hg Vaccum Gauge Reading Notes:
EW-2: / . / in Hg EW-12:	/ in Hg
EW-3:   in Hg EW-13:	∠   in Hg
EW-4: ( ) in Hg EW-14:	I, [ in Hg'
EW-5:	) in Hg
EW-6:	/ in Hg
EW-7:	∠ / in Hg
EW-8:	J in H2O
EW-9: / in Hg SS-2:	/. 5 in H2O
EW-10: 1.3 in Hg SS-3:	in H2O
AIR FLOW FIELD SCREENING	
Background Outside SVE Shed: 0,0 ppm	Detector Tube Readings
Background Inside SVE Shed: 6, 0 ppm	Pre Carbon YES NO ppm
Pre Carbon Discharge: 3, 5 ppm	Mid Carbon YES NO ppm
Mid Carbon Discharge: 4, 6 ppm	Post Carbon YES NO — ppm
Post Carbon Discharge: / , / ppm	
Additional Notes: Puplicate = Mie	d-Carbon
r	
	e.



## **CHAIN OF CUSTODY**

DAG	RADIG	M			REPORT	TO:	, T. E.				INVOICE TO	D:					
THE PARTY NAMED IN	TADIO	57115		CLIENT: 47	4 4 4-	vironmen	Va(	CLIENT:							LAB PROJE	CT ID	
1				ADDRESS: 3	5 Nashi	word ST	<i>L</i> .	ADDRESS	S:								
1				CITY:	Ala la STATE	141	)_3_	CITY:	_		STATE:	ZIP	:	Quotatio	n #:		
				PHONE TIL	-125	300		PHONE:						Email:	1 1 1		
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system,	Monito	ring		AQ -	Aqueous Liquid	WA - 1				W - Drinkin		<b>SO</b> - Se		SD - Solid	WP - Wipe	- (	DL - Oil
1.00565	346.00	(sk	33	NQ -	Non-Aqueous Liquid	WG -	Groundwate	er 		<b>W</b> - Waste		SL - Sh	uage —————	PT - Paint	CK - Caulk		AR - Air
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DATE COLLECTED	TIME COLLECTE	C O M P O S I T E	G R A B		SAMPLE IDENTIFIE	र	M C A O T D R E S X	NUMBER OF		work order				REMA	RKS		PARADIGM LAB SAMPLE NUMBER
6/5/14	935		K	Ano-	Carbon		AR	1	x				* reu	co T	adlars		
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	945	-	X	Doct.	6	4			K				P. W	111 40	51	>	
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tandard 5 day		Batch Q	C		Basic EDD	$\neg \mid \bigcirc$	thon	100	L	MAG	n e	5/1/14	1				
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ther ease indicate:		Other please indi	icate:		Other EDD please indicate:	Recei	ved @ Lab	Ву			Date	e/Time	777		L		
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## 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



Client: <u>GZA Geo Environmental of New York</u>

**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	<u>Result</u>	<u>Units</u>	Qualifier	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	Qualifier	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**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	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**Project Reference:** GMCM Bldg 10 SVE System Monitoring 21.0056546.00

Sample Identifier: Duplicate

Lab Sample ID:142345-04Date Sampled:6/5/2014Matrix:AirDate Received:6/6/2014

#### **Volatile Organics**

<u>Analyte</u>	Result	<u>Units</u>	Qualifier	<b>Date Analy</b>	<u>zed</u>
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



## **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.

## **CHAIN OF CUSTODY**

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)1.00565	2//. AC)	7	3.7		n-Aqueous Liquid			oundwate	er		<b>W</b> - Waste		5	SL - Slud	ge	PT - Paint	CK - Caulk	1	AR - Air	
#.00 <i>5</i> 62	76.00	<u> </u>								R	<b>Ε</b> ργΕS	TED ANA	LYSIS							1000 1000 1000
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!	940		<u> </u>	Mid- C	arbon					1					R TW	n ve	(homa	>		<u> </u>
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tandard 5 day	P	Batch Q	C		Basic EDD		Sample	Tra	M	, Y	ON	n_	57	44	9		Total Goot.			
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Client File No: Sample Type:

#### GAS CHROMATOGRAPHY REPORT SHEET GC SCREENING RESULTS DIRECT INJECT

Date of Analysis: 29-Nov-11 Jan-11 (CAL Curve Date:

Operator: ehs

QA/QC: MGN

GM Lockport 36795-010 BLDG-10 SVE/SSD

Removal Efficiency (Pre-Carbon to Mid-Carbon) Removal Efficiency (Pre-Carbon to Post-Carbon)

Sample	e Identification	Sample Volume	CASRN	Target "Corrected	Cal: Ret. Time (mirt)	Rec. Time	Det. Resp.   [Area Cts.]	On-Col Mans (ng)	C.		Ce	<b>~</b>	(solve)	(lb/day)	% Total Mass Ranva	REMARKS
To leave	and officer as clark -	_(ut.)	14-02-5	medenne	4.595	4.154	28.5	7.909	9,82	Trimigm.	SVI	- ppmv	0.004	3.10	9.05	-
		500	75-01-4	vinyi chloride	7.300			0.000	ND	mg/m^3	NO	pp:nV	0000	3.00	00,0	
		500	75-35-4	1.1-dichloroethene	14,300			0,000	ND	mg/m³3	ND	ppmV	0.000	3.00	0 00	
		500	75-09-2	methylene chloride	14.700			0.000	ND	mg/m^3	ND	ppm√	0.000	3,00 3,00	0.00	
· .	D- C-1	500	156-60-5	trans 1.2-dichloroethene	17,000			0,000	ND	mg/m^3	, ND	ppmV	0.000	0,00	0.00	
ID:	Pre-Carbon 11/28/2011	6D0	75-34-3	1.1-dichloroethane	17,500			0.000	ND	mg/m*3	ND	ppmV	0.000	0.00	0.00	
Dale:	11/28/2011	500	1634-04-4	MTBE	0.000	1 3		0,000	ND	mg/m^3	ND	ppm√	0.000	0,00 0,00 0,00	0,00	
Time:			76-93-3	2-butanone (MEK)	18,300			0.000	ND	mg/m*3	ND	ppmV	0.000	0,00	0.00	
		500 500	156-59-2	ds 1,2-dichloroathene	19,100		l .	0,000	ND	mg/m^3	ND	ppmV	0000.0	0.00	0.00	
_	og.	500	67-66-3	chloreform	19,800		1	0.000	ND	E*m\gm	ND	Vmqq	0.000	0.00	0,00	
Temp =	,	500	71-55-8	1.1.1-trichloroethans	21 600			0.000	ND	mg/m^3	ND	ppmV	0.000	0.00	00.0	
Flow=	280 SCFM	500	71-43-7	benzene	22.400		1	0.000	ND	E^m\gm	ND	ppmV	0.000	0.00	0,00	
		500	78-87-5	1,Z-dichloropropane	0.000			0,000	ND	E^m/gm	ND	ppmV	0.000	0.00	0,00	
		500	79-01-6	richbroetheus	24,200			0,000	ND	mg/m^3	ND	PpmV	0.000	0,00 0,00 00,0	00.0	
		500	108-88-3	toluene	27.200	M		0 000	ND	mg/m^3	ND	Vmgg	0.000	0.00	0.00	
		500	127-16-4	letrachlorgethene	29.200	28.595	80.0	19,176	38,35	mg/m^3	5.60	Vmqq	0.040	0,07	90.05	
		500	108-90-7	chlorobenzene	30,300			0.000	ND	mg/m^3	ND	ppanV	0.000	0.00	0,00	
		500	100-41-4	elhylbenzene	30,900			0.000	ND	rng/m²3	ND	Vmcq	0,000	70,0 0,00 0,00 00,0	0.00	
		600	108-38-3/106-42-3	m/p-xylene	31.200	b 1	1	0.000	ND	mg/m/3	ND	ppm∀	0000	90.9	00,0	
		500	95-47-6	g-xy'ens	32.100			0.000	ND	mg/m^3	ND	ppmV	0000.0	0,00	a_oċ	
		- 500		Criossen Teld			I	0,000	-NO	mg/m^3	NO	ppxIII+	0.000	0:00	0,00	
		1	1 11 11	" total volatiles	-		7.18	11	42.2	mo/m*3.	11:5	- ppmV	0,046	1.05	100,00	222.1

Sampl	e Identification	Sample Volume (ut.)	CASRN	Target Compound	Cal. Ret. Time	Ret. Time	Dat. Resp. (Area Cts.)	On-Gol Mass (ng)	c	one.	Ç.	ne.	Messa Remyd (Belter)	Mass Runvi (lockey)	%Yotal Mass Ranyd	REMARKS
_	100	500	74-82-8	malbone	4.500	4,149	283	1,850	7.66	mylaria.	570	-ppm'r	0.504			
		500	75-01-4	vinyi chlaride	7,300			0.000	ND	mg/m^9	ND	ppmV	0,000	00,0	0.00	
		500	75-35-4	1.1-dichloroethene	14,300			0,000	ND	mg/m^3	ND	ppmV	000.0	00.0	0_00	
		500	75-09-2	methylene chloride	14 700		1	0.000	NO	mg/m/3	NO	ppmV	0.000	0,00	0,00	
ID:	Mid-Carbon	500	156-50-5	trans 1,2-dichlorpethene	17.000	1	l	0.000	NO	mg/m*3	מא	ppmV	0.000	0.00	0.00	
Date:	11/28/2011	500	75-34-3	1,1-dichloroethane	17.500		Į.	0.000	ND	mg/m^3	NO	ppmV	0,000	0.00	0,00	
Time:	111202011	500	1634-04-4	MTBE	0,000		f :	0.000	ND	mg/m^3	ND	Varag	0.000	0.00	0.00	i e
tune.		500	78-93-3	2-hutanone (MEK)	18 300		1	0,000	ND	ing/m/3	ND	ppmV	0.000	0,00	0,,00	
		500	156-59-2	dis 1,2-dichloroothene	19.100	1		0,000	ND	mg/m^3	ND	Vmqq	0.000	0.00	0.00	
= ame	op:	500	67-66-3	choroform	19.600		1	0.000	ND	mq/m^3	ND	ppmV	0.000	0.00	0.00	
Flow =	280 SCIFM	500	71-55-6	1,1,1-trichtorgechane	21,500		2.5	0 800	ND	6°m\gm	ND	ppmV	0.000	0,00	0.00	
IDIL -	200 aas w	500	71-43-2	benzene	22,400	l		0.000	ND	mg/m²3	ND	pprnV	0.000	50,0	0.00	
		500	76-87-5	1.2-dichloropragane	0.000			000,0	ND	mg/m²3	ND	ppm∨	0,000	90,0	0.00	
		500	75-01-6	Likthlomethene	24,200			0.000	ND	mg/m^3	ND	ppm∨	0,000	3,00	0.00	
		500	108-86-3	toluene	27 200	1		0,000	ND	mg/m^3	ND	pom∀	0.000	3.00	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	1.84	89.75	
		500	108-90-7	shiorpbenzene	30.300		1	0,000	ND	E^m/gm		βp.mV	0.000	0.00	00,00	
		500	100-41-4	ethylbenzene	30,900			0.000	ND	mg/m³3	ND	ppm∀	0.000	0.00		
		500	108-38-3/106-42-3	m/p-xylene	31,200		1 :	0.000	ND	E'migm	ND	ppm∨	0.000	3,00		
		500	95-47-6	p-xylene	32,100			0,000	ND	E^m\gm	ND	pρmV	0,000	0:00	0,00	
		-500-		Uninown TPH				0.000	ND	CAm/cm	_ NO	_Vanga_	0.000	3,86	-0.00	
				total volatilea			103		37.1	C'm'om.	10.7	- ppmV.	0.000	0.23	100,00	COLUMN DI

No Methane or Unknown TPH per KH 552 5/3/14

C:VLscriDU(CV-C)pDatalLocatibilicrosof(Windows)Temporary Internet Files/Content. Diction/DHLNCVVMGM Lockpost _SVE Vinpor_Analytical_2011.3(px

24

2 af 2 BF 16/14



## Chain of Custody Supplement

Client:	62A	Completed by:	SSL
Lab Project ID:	142345	Date:	G/E/14
	<b>Sample Conditi</b> Per NELAC/ELAP 2	on Requirements 10/241/242/243/244	v v
N. Condition	ELAC compliance with the sample Yes	e condition requirements upon No	receipt N/A
Container Type  Comments	AV_		
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			

#### 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: 144,5
Date: 7/25/14	SVE Blower Run Time: 32873, a hours VDF: 40.0 hertz
SYSTEM STATUS	+ 10172
SVE System Operating:	If no:
Alarm lights off: (FES) NO	If no:
Autodialer Alarm On: YES NO	If Yes:
Postic	on of Swing Panel HOA Switches:
Control Power Switch ON OFF	SVE Blower Switch HAND OFF AUTO
M/S Effluent Pump Switch HAND OF AUTO	Heat Exchanger Switch HAND OFF AUTO
Heat Exchanger Operating YES NO	If no:
SVE System appear to be operating (YES) NO properly?	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:	in Hg System Monitoring Notes:
Vacuum Gauge Post-Inline Filter: 5, 5	in Hg
Temperature on Discharge Silencer: /3 /	°F
Temperature after Heat Exchanger: 82	°F
Pressure After Heat Exchanger 16	in H ₂ O
Pressure Before Heat Exchanger 18	in H ₂ O Flow Rate Based on Pressure Gauge: cfm
Pressure Magnehelic Gauge: 2,5	in H ₂ O Flow Rate Based on Vacuum Gauge: cfm
Vacuum Magnehelic Gauge: > 2	in H ₂ O
Vacuum Gauge After Manifold: /, /	in Hg
EXTRACTION WELL VACUUM GAUGE READINGS	, Westmann
EW -1: <   in Hg	/, in Hg Vaccum Gauge Reading Notes:
EW-2: /, 2 in Hg EW-12:	∠ / in Hg
EW-3:   in Hg EW-13:	<   in Hg
EW-4:	1.3 in Hg
EW-5: < / in Hg EW-15:	/, / in Hg
EW-6: ( in Hg EW-16:	) , in Hg
EW-7:    in Hg   EW-17:	< │ in Hg
EW-8: $\angle$ in Hg SS-1:	À in H2O
EW-9: / / in Hg SS-2:	3 in H2O
EW-10: 1,4 in Hg SS-3:	J.5 in H20
AIR FLOW FIELD SCREENING	
Background Outside SVE Shed: 0,0 ppm	Detector Tube Readings
Background Inside SVE Shed: 0.0 ppm	Pre Carbon YES NOppm
Pre Carbon Discharge: 6, 3 ppm	Mid Carbon YES NOppm
Mid Carbon Discharge: 9, 7 ppm	Post Carbon YES NOppm
Post Carbon Discharge: 💍 , 💍 ppm	
Additional Notes: Puplical = Mid Carbo	n e e e e e e e e e e e e e e e e e e e

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



## **CHAIN OF CUSTODY**

PA	RADIG	M		Column To Column	REP	ORT TO:	and the second	-				INVO	ICE TO:		LE L							
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	SKB			AQ - A	queous Liquid	Contract to	WA - Wa					king Wate	er	SO - S			SD - Soli	d N	NP - Wipe		L - Oil	1.5
19	ISL -	0		NQ-N	lon-Aqueous Liq	uid	WG - G	roundwal	er		<b>VW</b> - Was				Sludge		PT - Pair		CK - Caulk		R - Air	
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DATE COLLECTED	TIME COLLECTER	C Q M P O S I T E	G R A B		SAMPLE IDEN	ITIFIER:		M C T D R E I S	NONT BEIN OF S	8760 VOC -	LOCK Drawing						RE	MARKS			PARADIG SAMI NUME	PLE
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## 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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<b>Qualifier</b>	<b>Date Analy</b>	zed
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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	Qualifier Date Ana	lyzed
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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<b>Qualifier</b>	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**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	<u>Result</u>	<u>Units</u>	Qualifier	<b>Date Analy</b>	zed
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



## **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.



## CHAIN OF CUSTODY

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#### GAS CHROMATOGRAPHY REPORT SHEET GC SCREENING RESULTS DIRECT INJECT

Date of Analysis: 29-Nov-11

Operator: ehs

ICAL Curve Date:

QA/QC: MGN

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

Client

GM Lockport

43% 91%

Removal Efficiency (Pre-Carbon to Mid-Carbon) Removal Efficiency (Pre-Carbon to Post-Carbon)

Sample Identification	500 500 500 500 500 500 500 601 600	CASRN 15-01-4 75-05-4 75-00-2 156-60-5 75-34-3 1634-04-4	Target Compound Incidence Incidence In-fully/oresthene methyline should trans 12 dictionethene 11-dichlouselhene III-dichlouselhene	7.300 14.300 14.700 17.500 0.000	For Times (min.)	Dr. Rese (Anacota) 285	0p. Got 1 (pq) 1 1909 0.000 0.000 0.000 0.000	N20 N20 N20	E^mign E^mign E^mign E^mign E^mign E^mign	. NO	ppmV ppmV ppmV ppmV ppmV ppmV	000.0 000.0 000.0 000.0 000.0 000.0 000.0	(b) day) (b) day) 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00	
Time: Temp * * Flow = 280 SC	500 500 500 500 500 500 500 600 500 500	1634-04-1 76-93-3 136-59-2 77-66-3 71-55-8 71-43-2 76-87-5 79-01-5 100-88-3 127-16-1 100-90-7 100-91-710-42-3 95-47-6	2-busanone (MEK) ds 12-dichlorazhenó dyloroform 1.1-trichlocosharie bertzené 1.2-dichloropropene biehbioedhaie tokuone leteschloroelharie chloroene chloroene chloroene chloroene	18,300 19,100 19,800 21,500 22,400 0,000 24,200 27,200 26,200 30,300 30,900 31,200 32,100	28.595	84,0	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	mg/m²3 mg/m²3 mg/m²3 mg/m²3 mg/m²3 mg/m²3 mg/m²3 mg/m²3 mg/m²3 mg/m²3	ND 20 20 20 20 20 20 20 20 20 20 20 20 20	ppmV ppmV ppmV ppmV ppmV ppmV ppmV ppmV	200,0 200,0 200,0 200,0 200,0 200,0 200,0 200,0 200,0 200,0 200,0 200,0 200,0	00.0 0.00 0.00 0.00 0.00 0.00 0.00 0.0	00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.	

Sample Identification	Sample Valume	CASRIN	Target Compound	Cal Rat. Time	Rec. Turn (man.)	Ost Ruse (Area Cle)	On-Col Mana (og)	/c	6,6° ()	۵.,		Remod (Rod):		Krove Rove 10.25	REMARKS
(D: Mid-Carbon Osic: 11/28/2011 Time:  Tomp	500 500 500 500 500 500 500 500	75-01-1 75-01-1 75-08-2 75-08-2 15-68-5 75-3-1-2 163-18-1 163-18-1 163-18-1 163-18-1 163-18-1 163-18-1 163-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1 103-18-1	zakhak- vingi elaksida  1,1-dielaksepahan nabhylane deladida taru 1,2-dielaksepahan MTBE 2-busanne (MCK) del 1,2-dielaksepahan 1,1-dielaksepahan 1,1-bishtoradhan tabadaru 1,1-bishtoradhan 1,1-bishtoradhan teladida telad	4.500 7.300 14.900 17.500 17.500 0.000 18.300 18.100 18.900 21.900 22.400 0.003 24.200 27.200 20.200 30.800 31.200 32.100	20.549	74.6	1,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 0,000 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	-500-		total volution			103 .	-0.000	37.1	.pig/m/3"	10.7	- pperV.	9,039	- 0,93		

No Methane or Unknown TPH per KH 552 5/3/14

CHECOTOMO Application of Alliconsolith Section of Employers And Alliconsolite Property Control And Alliconsolite Andrews Andre



## **Chain of Custody Supplement**

Client:	-	GZA 143199	Completed by:	554
Lab Project ID:		143199	Date:	7/25/14
		<b>Sample Conditi</b> Per NELAC/ELAP 2	on Requirements 10/241/242/243/244	,
Condition	NE	ELAC compliance with the sample Yes	condition requirements upon r No	receipt N/A
Container Type	Comments	AV		
Transferred to meth				
Headspace (<1 mL)	Comments			
Preservation	Comments			
Chlorine Absent (<0.10 ppm per te	st strip) Comments			
Holding Time	Comments			
Temperature (	Comments			
Sufficient Sample (	<b>Quantity</b> Comments			

#### OPERATION, MAINTENANCE AND MONITORING PLAN SVE/SSD SYSTEM

# GM COMPONENTS HOLDINGS, LLC LOCKPORT, NEW YORK

Time On-Site: 1540  Time Off-Site: 1640  Date: 8/8/H  SVE Blower Run Time: 33,450, 2 hours VDF: 40,0 hertz  SYSTEM STATUS  SVE System Operating: Fig. NO If no:  Alarm lights off: Fig. NO If no:  Autodialer Alarm On: YES If Yes:  Postion of Swing Panel HOA Switches:  Control Power Switch OFF SVE Blower Switch HAND OFF AUTO  Heat Exchanger Operating Fig. NO If no:  SVE System appear to be operating OFF NO If no:  SVE System appear to be operating OFF NO If no:  SVE System Appear to be operating OFF NO If no:  SYSTEM MONITORING READINGS  Vacuum Gauge Pre-Inline Filter: In Hg  Femperature on Discharge Silencer: AD OFF  Femperature after Heat Exchanger: BO OFF  SVE Blower Run Time: 33,450, 2 hours VDF: 40,0 hertz  SVE Blower Run Time: 33,450, 2 hours VDF: 40,0 hertz  Fine On-Site: 1540 hours VDF: 40,0 hertz  SVE Blower Run Time: 33,450, 2 hours VDF: 40,0 hertz  Fine On-Site: 1540 hours VDF: 40,0 hertz  F
SYSTEM STATUS  SVE System Operating:  Alarm lights off:  Autodialer Alarm On:  YES  OFF  VES  OFF  SVE Blower Switch  OFF  VES  NO  If Yes:  Control Power Switch  MAND  OFF  AUTO  Heat Exchanger Switch  HAND  OFF  AUTO  Heat Exchanger Operating  VES  NO  If no:  SVE System appear to be operating  OFF  SVE System appear to be operating  OFF  NO  If no:  SVE System Appear to be operating  OFF  NO  If no:  SVE System Appear to be operating  OFF  NO  If no:  SVE System Appear to be operating  OFF  NO  If no:  SVE System Appear to be operating  OFF  NO  If no:  SVE System Appear to be operating  OFF  NO  If no:  SVE System Appear to be operating  OFF  NO  If no:  SVE System Appear to be operating  NO  If no:  SVE System Appear to be operating  OFF  NO  If no:  SYSTEM MONITORING READINGS  Vacuum Gauge Pre-Inline Filter:  In Hg  In Hg  Imperature on Discharge Silencer:  IND  Fremperature after Heat Exchanger:  NO  Fremperature after Heat Exchanger:  NO  Fremperature after Heat Exchanger:  NO  OFF  NO  OFF  OFF  OFF  OFF  OFF
SVE System Operating:  Alarm lights off: Autodialer Alarm On:  Postion of Swing Panel HOA Switches:  Control Power Switch  OFF SVE Blower Switch HAND OFF AUTO  W/S Effluent Pump Switch HAND OFF AUTO  Heat Exchanger Switch HAND OFF AUTO  Heat Exchanger Operating  VES NO If no:  SVE System appear to be operating  NO If no:  SVE System appear to be operating  VES NO If no:  SVE System Appear to Discharge Silencer:  Vacuum Gauge Post-Inline Filter:  Vacuum Gauge Post-Inline Filter:
Alarm lights off:  Autodialer Alarm On:  YES  Postion of Swing Panel HOA Switches:  Control Power Switch  M/S Effluent Pump Switch  HAND  AUTO  Heat Exchanger Switch  HAND  OFF  AUTO  System Monitoring Notes:  Vacuum Gauge Pre-Inline Filter:  Vacuum Gauge Post-Inline Filter
Postion of Swing Panel HOA Switches:  Control Power Switch
Control Power Switch  OFF  SVE Blower Switch  HAND  OFF  AUTO  Heat Exchanger Switch  HAND  OFF  AUTO  OFF  AUTO  Fino:  SVE System appear to be operating  NO  If no:  SVE System appear to be operating  NO  If no:  SYSTEM MONITORING READINGS  Vacuum Gauge Pre-Inline Filter:  In Hg  Imperature on Discharge Silencer:  IND  OFF  SVE Blower Switch  HAND  OFF  AUTO  Fino:  System Monitoring Notes:  System Monitoring Notes:  Femperature after Heat Exchanger:  NO  OFF  OFF  OFF  OFF  OFF  OFF  OFF
M/S Effluent Pump Switch HAND OFF AUTO Heat Exchanger Operating (YES) NO If no: SVE System appear to be operating Oroperly? Moisture Separator Tank Level: Empty 1/4 Full 1/2 Full 3/4 Full Full Volume Transfered: 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: /20 ° F Temperature after Heat Exchanger: 80 ° F
Heat Exchanger Operating  VES NO If no:  SVE System appear to be operating Oroperly?  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:  Vacuum Gauge Post-Inline Filter:
SVE System appear to be operating  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:  Vacuum Gauge Post-Inline Filter:  System Monitoring Notes:  Femperature on Discharge Silencer:  /// O ° F  Femperature after Heat Exchanger:  80 ° F
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: /20 °F  Temperature after Heat Exchanger: 80 °F
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: /20 °F  Temperature after Heat Exchanger: 80 °F
Vacuum Gauge Pre-Inline Filter:  Vacuum Gauge Post-Inline Filter:  Signature on Discharge Silencer:  Signature on Discharge Silencer:  Signature on Post-Inline Filter:  System Monitoring Notes:  System Monitoring Notes:
Vacuum Gauge Post-Inline Filter: 5,5 in Hg  Femperature on Discharge Silencer: /20 °F  Femperature after Heat Exchanger: 80 °F
Temperature on Discharge Silencer:       /20 °F         Temperature after Heat Exchanger:       80 °F
remperature after Heat Exchanger: 80 °F
3 00
Pressure After Heat Exchanger $\lambda$ ? in H ₂ O
Pressure Before Heat Exchanger JO in H ₂ O Flow Rate Based on Pressure Gauge: cfm
Pressure Magnehelic Gauge: in H ₂ O Flow Rate Based on Vacuum Gauge: cfm
/acuum Magnehelic Gauge: > 2 in H₂O
/acuum Gauge After Manifold: a in Hg
EXTRACTION WELL VACUUM GAUGE READINGS
EW -1: / in Hg Vaccum Gauge Reading Notes:
EW-2: /, 3 in Hg
EW-3: / in Hg
EW-4:
EW-5:
EW-6: / in Hg
EW-7:
W-8:
SW-9; /, 3 in Hg SS-2; 2 In H2O
W-10: 1,5 in Hg SS-3: 1,3 In H20
0.0
Proceedings   Procedenge   Pr
Additional Notes: Duplicate = Post-Car Don
9



## **CHAIN OF CUSTODY**

PARADIGM				REPORT TO:						E TO:							
i.violat	in a review	the /			pamental	CLIENT:								LAB PROJECT ID			
		1		ADDRESS: 25 Washington	a St.	ADDRESS	5:		64.	YF.	ZIP:						-
		1		Buttalo, NY	14203-	CITY:								n #:	, lie		
				716 685- J300	0 7	PHONE:								Email: Homas bohlen@gza.co			
	CT REFERI		14	T. Bohlen		ATTN:	AIN:							sames. (ichert egza.			1
				Matrix Codes: AQ - Aqueous Liquid	WA - Water			DW - Drinki	ing Water		<b>SO</b> - So		SD - Solid	WP - Wip		OL - Oil	0
$T_{i}$	ask 3	3		NQ - Non-Aqueous Liquid	WG - Groundwate	ər		WW - Wast			SL - Slu		PT - Paint	CK - Cau		AR - Air	
						1		REQUES	TED AN	IALYSIS							
DATE COLLECTED	TIME COLLECTED	C O M P O S I T E	G R A B	SAMPLE IDENTIFIER	M C O T D R I E S	NONTAINERS OF	8760 00	Mark Beder					REMA	ARKS		PARADIGM LAI SAMPLE NUMBER	8
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Rush 2 day		Category	В		4/21	1	held		-	8/18	111	1		TELL	157 2		
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Other		Other		Other EDD	Received @ Lab	Ву				Date/Tim	e		-		7		
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CALL THE STATE OF		13.00															



## 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



Client: <u>GZA Geo Environmental of New York</u>

**Project Reference:** 21.0056546.00 Task 33

**Sample Identifier:** Pre-Carbon

Lab Sample ID:143591-01Date Sampled:8/18/2014Matrix:AirDate Received:8/19/2014

### **Volatile Organics**

<u>Analyte</u>	<b>Result</b>	<u>Units</u>	Qualifier	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**Project Reference:** 21.0056546.00 Task 33

**Sample Identifier:** Mid-Carbon

Lab Sample ID:143591-02Date Sampled:8/18/2014Matrix:AirDate Received:8/19/2014

### **Volatile Organics**

Analyte	Result	<u>Units</u>	Qualifier	<b>Date Analy</b>	zed
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



Client: <u>GZA Geo Environmental of New York</u>

**Project Reference:** 21.0056546.00 Task 33

**Sample Identifier:** Post-Carbon

**Lab Sample ID:** 143591-03 **Date Sampled:** 8/18/2014

Matrix: Date Received: 8/19/2014

### **Volatile Organics**

<u>Analyte</u>	<b>Result</b>	<u>Units</u>	Qualifier	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**Project Reference:** 21.0056546.00 Task 33

Sample Identifier: Duplicate

**Lab Sample ID:** 143591-04 **Date Sampled:** 8/18/2014

Matrix: Date Received: 8/19/2014

### **Volatile Organics**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<b>Qualifier</b>	<b>Date Analy</b>	<u>zed</u>
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
Ethylbenzene m,p-Xylene Methyl tert-butyl Ether Methylene chloride o-Xylene Tetrachloroethene Toluene trans-1,2-Dichloroethene Trichloroethene	< 2.00 < 2.00 < 2.00 < 5.00 < 2.00 < 2.00 < 2.00 < 2.00 < 2.00 < 2.00	mg/m3 mg/m3 mg/m3 mg/m3 mg/m3 mg/m3 mg/m3 mg/m3		8/22/2014 8/22/2014 8/22/2014 8/22/2014 8/22/2014 8/22/2014 8/22/2014 8/22/2014 8/22/2014	17:13 17:13 17:13 17:13 17:13 17:13 17:13 17:13 17:13

Method Reference(s): EPA 8260C Modified

EPA 5030 Modified

**Data File:** x16343.D



## **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 OC 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.



# CHAIN OF CUSTODY

S RYJECHU!	PROJECT REFERENCE 21.00 50546.00			CLIENT: 12 A ADDRESS 35 CITY: BUA PHONE 7/6	REPORT Aco En Washin ab, A 6f5-J	viron gron	mest.	? <b>\</b>	CLIENT: ADDRESS CITY: PHONE:	:		STA		ZIP:			35 ition #:	AB PROJ G as. box		939	S Page 7 of 8
21.005		00			i: ueous Liquid n-Agueous Liquid		WA - Wa	ater oundwate	,		<b>W</b> - Drinki <b>W</b> - Waste			<b>SO</b> - So <b>SL</b> - Slu		<b>SD</b> - Sc <b>PT</b> - Pa	lid	WP - Wip CK - Cau	е	OL - Oil AR - Air	₹ .Con
10	25E-2-	<b>-&gt;</b>		NQ - NO	n-Aqueous Liquiu		<b>WG</b> - OI	Odridwall	-1				IALYSIS		9						
DATE COLLECTED	TIME COLLECTED	C O M P O S I T E	G R A B		SAMPLE IDENTIFIE	ΞR		M C C T D E E S X	CONTAINERS NUMBER OF		work order					F	REMARKS			PARADIGN SAMPL NUMBE	.E
8/18/14	1600 1602 1603		XXXX	Mid- Post-	Carbon Carbon Carbon			AR	1	XXXX					* re- re-fi Bohl	USE CN CN	40 Z	dlos Thomas 4 Off	-5 - 7 -5 12 - X	9 9 9	3
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2 0 4 0



# Chain of Custody Supplement

Client:	62A	Completed by:	14yle Swarick
Lab Project ID:	143591	Date:	8/19/14
	Per NELAC/ELAP 21	on Requirements 10/241/242/243/244	
N. Condition	ELAC compliance with the sample Yes	condition requirements upo No	on receipt 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			

### OPERATION, MAINTENANCE AND MONITORING PLAN SVE/SSD SYSTEM GM COMPONENTS HOLDINGS, LLC

# GM COMPONENTS HOLDINGS, LLC LOCKPORT, NEW YORK

Name: T. Bohba	Time On-Site: / L \ OO Time Off-Site:
Date: 9/17/14	SVE Blower Run Time: 34166, 4 hours VDF: 60.0 hert
SYSTEM STATUS	+ 10172
SVE System Operating:	IO If no:
Alarm lights off: (E3 N	IO If no:
Autodialer Alarm On: YES	D If Yes:
Р	ostion of Swing Panel HOA Switches:
Control Power Switch O	FF SVE Blower Switch HAND OFF AUTO
M/S Effluent Pump Switch HAND F	TO Heat Exchanger Switch HAND OFF AUTO
Heat Exchanger Operating N	O If no:
SVE System appear to be operating VES N	O If no:
	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, 7	in Hg
Temperature on Discharge Silencer: 119	- 0. o. E
Temperature after Heat Exchanger: 79	°F
Pressure After Heat Exchanger	in H ₂ O
Pressure Before Heat Exchanger 26	in H ₂ O Flow Rate Based on Pressure Gauge: cfm
Pressure Magnehelic Gauge: 3, 4	in H₂O Flow Rate Based on Vacuum Gauge: cfm
Vacuum Magnehelic Gauge: > 2	in H ₂ O
Vacuum Gauge After Manifold: 2	in Hg
EXTRACTION WELL VACUUM GAUGE READINGS	
EW-1: <   in Hg EW-	11: /, / in Hg Vaccum Gauge Reading Notes:
EW-2: 1,5/,4 in Hg EW-	12: / in Hg
EW-3:   in Hg EW-	13: 🗸   in Hg
EW-4: Z in Hg EW-	14:  , 3 in Hg
EW-5: < / in Hg EW-	15: / , / in Hg
EW-6: < / in Hg	16:
EW-7: < / in Hg EW-	17: 🖟 / in Hg
EW-8:	: 🔾 in H2O
EW-9; / in Hg SS-2	:
EW-10: / 4 in Hg SS-3	: 2 in H2O
AIR FLOW FIELD SCREENING	
Background Outside SVE Shed: 0,5 ppm	Detector Tube Readings
Background Inside SVE Shed: 0, 3 ppm	Pre Carbon YES NO — ppm
Pre Carbon Discharge: 5,6 ppm	Mid Carbon YES NO - ppm
Mid Carbon Discharge: 1, 7 ppm	Post Carbon YES NO - ppm
Post Carbon Discharge: 0, 4 ppm	
Additional Notes: Duplicate = Mid	Larbon
-	

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



# CHAIN OF CUSTODY

PARADIGM					REPORT TO:		1000	Set !	SW	STATE OF	IN	VOICE	TO:	300	STREET, STREET	// Lat - 11 - 1	r fisheria in the	
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		С								REQUE	SIEL	ANA	LYSIS	1		WESTERN		
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## 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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	Result	<u>Units</u>	Qualifier	<b>Date Analy</b>	zed
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



Client: <u>GZA Geo Environmental of New York</u>

**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	<u>Result</u>	<u>Units</u>	Qualifier	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	Qualifier	<b>Date Analy</b>	<u>zed</u>
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



Client: <u>GZA Geo Environmental of New York</u>

**Project Reference:** 21.0056546.00 Task 33

Sample Identifier: Duplicate

Lab Sample ID:144085-04Date Sampled:9/17/2014Matrix:AirDate Received:9/18/2014

### **Volatile Organics**

Analyte	Result	<u>Units</u>	Qualifier	Qualifier Date Analy	
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



## **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.

"I" = Result estimated between the quantitation limit and half the quantitation limit.

"L" = Laboratory Control Sample recovery outside accepted OC 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**

PAR	RADIG	M		CLIENT: /2 > 1	-4 1999	RT TO:			CLIENT:		[ 5 =	INVOIC	E TO:				LAB I	PROJECT ID		e 7 of 8
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# **Chain of Custody Supplement**

Client:	62A Ges Environmental	Completed by:	lhyle Sworick
Lab Project ID:	144085	Date:	9/18/14
	Sample Condition Req Per NELAC/ELAP 210/241/2		
l Condition	NELAC compliance with the sample condition	n requirements up No	on receipt N/A
Container Type	$\searrow^{r}$		
Comments			
Transferred to method-			
compliant container			
Headspace (<1 mL) Comments			<u></u>
Preservation			
Comments			
Chlorine Absent (<0.10 ppm per test strip)			
Comments		A AMERICAN STREET	
Holding Time			
Comments			
Temperature			The state of the s
Comments		4-14-13	
Sufficient Sample Quantity			
Comments			

### 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: 10/30/14	249C12 + 1017]
SYSTEM STATUS	SVE Blower Run Time: 31701 4 hours VDF: (a) hertz
SVE System Operating: VES NO If no	0.
Alarm lights off: YES NO If no	
Autodialer Alarm On: YES NO If Y	
	Swing Panel HOA Switches:
	E Blower Switch HAND OFF
	t Exchanger Switch HAND OFF AUTO
Heat Exchanger Operating YE8 NO If no	
SVE System appear to be operating YES NO If no properly?	
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: 식,니 in H	g System Monitoring Notes:
Vacuum Gauge Post-Inline Filter: 5, 8 in H	9
Temperature on Discharge Silencer: 112 ° F	
Temperature after Heat Exchanger: 7.3 ° F	
Pressure After Heat Exchanger 26 in H	,0
Pressure Before Heat Exchanger 20 in H	Flow Rate Based on Pressure Gauge: cfm
Pressure Magnehelic Gauge: 7,4 in H	Plow Rate Based on Vacuum Gauge: cfm
Vacuum Magnehelic Gauge: > 2 in H	20
Vacuum Gauge After Manifold: /, / in He	9
EXTRACTION WELL VACUUM GAUGE READINGS	
EW -1: {   in Hg   EW-11:	in Hg Vaccum Gauge Reading Notes:
EW-2: /, 2 in Hg	in Hg
EW-3: ∫ in Hg EW-13: <	in Hg
	<b>Ĵ</b> in Hg in Hg
EW-5: < \ in Hg	in Hg
EW-6: ⟨\ in Hg EW-16:	in Hg
EW-7:	in Hg
EW-8: <\ in Hg   SS-1: 1, 9	) in H2O
EW-9: /, 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 CNOppm
Pre Carbon Discharge: 4725,4 ppm	Mid Carbon YES 🐼ppm
Mid Carbon Discharge: 2 ppm	Post Carbon YES (Judppm
Post Carbon Discharge: ppm ppm	
Additional Notes: Suplicate = Post-Ca	arbon
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# **CHAIN OF CUSTODY**

PAR	RADIG	M			REPOR	RT TO:			919	Wil	125	INVO	CE TO:							701101
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Standard 5 day	YED	Batch Q	C		Basic EDD		Sampled	Ву		0	11		Date/	Time	1			Total Cost:	fe	
							The	MARK	1	Soi	lan	/	000	3/14	/					
Rush 3 day		Categor	yΑ		NYSDEC EDD	ب	Relinquis	hed By	111				Date	Time	1					
Rush 2 day		Categor	у В				Received	Pu	Voly	-	(		Date/	0/10	1.1			015		
Rush 1 day							Received	Бу	W				Date	rime				P.I.F.		
Other olease indicate:		Other please indic	cate:		Other EDD please indicate:		Received	@ Lab	Ву				Date/	Time					9	



## 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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Ana	llyzed
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.



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Ana	llyzed
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.



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u> <u>Date Analyzed</u>	
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.



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	Date Ana	lyzed
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.



## **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 OC 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.

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

## **CHAIN OF CUSTODY**

NAO BIO NA	RADIG			CLIENT: Z ADDRESS: 3 CITY: PHONE: 716 ATTN: 76	A Geo Wash falo, 645	ung d 174 1300	7421	**************************************	CLIENT: ADDRESS CITY: PHONE:	:		INVOICE		· ZIP:		Quotation Email:	LAB PROJE 595 #: wmas.bo	hlen		
21,005			9948		BON VEV :: ueous Liquid on-Aqueous Liqui		<b>WA</b> - Wa <b>WG</b> - Gr	ater oundwate	er	٧	DW - Drinkir VW - Waste		S	O - Soil L - Sludg	e	SD - Solid PT - Paint	WP - Wipe CK - Caulk	ŏ	L - Oil R - Air	
DATE COLLECTED	TIME COLLECTED	C O M P O S I T E	G R A B		SAMPLE IDENT	·		M C T D R E I S	CONTAINERS OF	0 VOC	3		3/10	1004		REMAR	KS	P	ARADIGM L SAMPLE NUMBER	- 1
10/20/14 2 3	1500 1505 1510		У У У	Post- Dupli	cate			AR	l	X X X				j	retu 6 2	Bohb	edloss Hice	*	0 0	1 8 6 7
, , , , , ,															99°C	10/21	@ 1010			
Turnarour Availa Standard 5 day Rush 3 day Rush 2 day Rush 1 day		nt upon  Batch Q  Categor  Categor	nC Ty A	Report Supproval; additional			Sample	ished By	3/2	Bo	klin	10	Date/Tim/	114			Total Cost:			
Other lease indicate:		Other please indi	icate:		Other EDD please indicate:		Receive	ed @ Lab	Ву	JC,			O ( ) (	15	23	<u> </u>				





# **Chain of Custody Supplement**

Client:		674	Completed by:	Kyle Sucrick
Lab Project ID:		144595	Date:	10/21/14
		Sample Conditio Per NELAC/ELAP 21	n Requirements 0/241/242/243/244	
Condition	NI	ELAC compliance with the sample o Yes	condition requirements up No	on receipt N/A
Container Type	Comments	X,		
Transferred to met	hod-			
compliant containe  Headspace (<1 mL)				× ×
	Comments			
Preservation	Comments			<u> </u>
Chlorine Absent (<0.10 ppm per t	est strip) Comments			
Holding Time	Comments			
Temperature	Comments	99°C	<u>×</u>	
Sufficient Sample	e Quantity	X		
	Comments			

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

Name: R Strack		Time O	n-Site: /300	Time O	ff-Site: 140 (	5
Date: 11/2 8/14		SVE BI	ower Run Time: 358	114.1. +10	171 VDF: (0 (	hertz
SYSTEM STATUS			Workston, I.		S VIDI	live. n
SVE System Operating:	) NO	If no:				
Alarm lights off:	NO	If no:				
Autodialer Alarm On: YES	(NO)	lf Yes:			V	-10,12
	Postio	on of Swing Par	nel HOA Switches:			
Cantrol Power Switch		SVE Blower Sw	vitch HAND	OFF	AUTO	
M/S Effluent Pump Switch HAND OFF	AUTO	Heat Exchange	r Switch HAND	OFF	AUTO	
Heat Exchanger Operating YES	ON C	If no:				
SVE System appear to be operating properly?	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 S	ystem Monitoring No	tes:		
Vacuum Gauge Post-Inline Filter: 4, (		in Hg				
Temperature on Discharge Silencer:		°F				
Temperature after Heat Exchanger: 72		°F				
Pressure After Heat Exchanger 30		in H ₂ O				
Pressure Before Heat Exchanger 20		in H ₂ O F	low Rate Based on Pre	essure Gauge:	cfm	
Pressure Magnehelic Gauge: 2.4		in H₂O F	low Rate Based on Va	cuum Gauge:	cfm	
Vacuum Magnehelic Gauge:		in H ₂ O				
Vacuum Gauge After Manifold: // 2		in Hg	ilian <u>a miles de come</u>	A)		
EXTRACTION WELL VACUUM GAUGE READI	NGS		The state of the s			
EW -1: (\) in Hg	EW-11:		Hg Vaccum	Gauge Readin	g Notes:	
EW-2: in Hg	EW-12:		ı Hg			75.7
EW-3: in Hg	EW-13:	10.1	ı Hg			
EW-4: 4 in Hg	EW-14:	110	ı Hg			
EW-5: (in Hg	EW-15:	4 1	ı Hg			
EW-6: in Hg	EW-16:	-	ı Hg			
EW-7: in Hg	EW-17:	100	ı Hg			
EW-8:  in Hg	SS-1:	4	H2O			
EW-9:  .  in Hg	SS-2:	* 10	H2O			
EW-10: 1,5 in Hg	SS-3;	LS Jin	H2O			
AIR FLOW FIELD SCREENING	- T	ACONT SERVICES				
Background Outside SVE Shed: 0.5	ppm			4 M C	PCE	
Background Inside SVE Shed: 0.5	ppm -		re Carbon (YES)	NO 3.75	ppm -	
Pre Carbon Discharge: (, ()	ppm		lid Carbon YES	NO 0,3	_ppm	
Mid Carbon Discharge: 0.8	ppm	P	ost Carbon YES	NO 0.0	_ ppm	
Post Carbon Discharge: 0.0	ppm					
Duplicate: Mid-poin Bldg 10 SUE Shed requi	+ C	jarb on		,		
Bldg 10 SUE Shed requi	ires c	a Neh	1 sigh i	n by	(Fu/1)	



## **CHAIN OF CUSTODY**

DADADICM				REPORT TO:	Faulty	CVI IZ ?	7000	100	07	INVOIC	E TO:	SUIS III	1777	STATE OF THE PARTY	THE OWNER	1300	6	ı
PARADIGM							CLIENT:					LAB PROJECT ID						
ADDRE				ADDRESS: 535 Washing tou	St	1 1	ADDRESS	7	اللري	87		+						
				CITY: Buffalo STATE DP	ZIP: ///)(	2.3	CITY: /			STA	ATE:	ZIP;		Quotation	#:			
	-			PHONE: 716-685-2300	18.3		PHONE:							Email: 140	Mess. bolelo	0.16	26.00h	
PROJE	CT REFERE	ENCE		ATTN: T Role (c)				ATTN:					james. Ficher & Gza. com			ĺ		
21,005	6546.	00		Matrix Codes:										James . I	icheld &	gza	.com	
TASK	- 23		-	AQ - Aqueous Liquid NQ - Non-Aqueous Liquid	WA - Wate WG - Grou		er.		<b>W</b> - Drink <b>W</b> - Wast	ing Water		SO - Soi SL - Sluc		SD - Solid PT - Paint	WP - Wipe CK - Caulk		L - Oil R - Air	
A TOTAL		THE REAL PROPERTY.	1 240		No. 17 Sha						VALYSIS			Attraction	OTT GUGIN			
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DATE COLLECTED	TIME COLLECTED	C O M P O S I T E	G R A B	SAMPLE IDENTIFIER		M C A O T D R E X	NUMTAINERS OF	8260 100	See riev.		4.			REMARK	s	Pi	ARADIGM LAB SAMPLE NUMBER	
1 11/25/19	1330		X	Pre-Carbon		AR	i	X			- 52	64	* re-u	SP TP	1/465-			
	13.35		Х	Mid-Carbon		1	į.	X		4	12/9	in a	return	11	Bohler			
3	1340		X	Post-Carbon				X					GZA	1 offic	e A			
1			X	Duplicate		V	1/	Y						- Orrice				
							-											
3					-	- 4												
7																		
				*														
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10				V., 2														
10											1 1							1
Turnaroun	d Time			Report Supplements	Λ -	( )	1				nla - l	1.	13116					
Availab	bility continge	nt upon	ab appr	oval; additional fees may apply.	1.001					1340								
Standard 5 day		Batch Q	С	Basic EDD	Sampled	By	17	-		1/1	Date/Tir	ne	1/00		Total Cost:			
Rush 3 day		Categor	v A	NYSDEC EDD	Relinquiş	hed By	Jany .	-13	7	1//	Date/Tir	ne /	1400				TV.	1
Rush 2 day		Categor			/	7	FB	Li	des	/	1/22	JR	116	(0)				
Rush 1 day		Sategor	, 5	- 8	Received	Ву			1		/Date/Tit	me	,		P.I.F.			
Other olease indicate:		Other please indi	cate:	Other EDD please Indicate:	Received	@ Lab	Ву				Date/Ti	пе			_			



## 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



A .1'C' . .

Client: <u>GZA Geo Environmental of New York</u>

**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

TT . '4 -

## **Volatile Organics**

A . . 1 . .

<u>Analyte</u>	<u>Result</u>	<u>Units</u>		<u>Qualifier</u>	<b>Date Analy</b>	<u>vzed</u>
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
<u>Surrogate</u>	Percei	nt Recovery	<b>Limits</b>	<b>Outliers</b>	<b>Date Analy</b>	zed
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.



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>		<b>Qualifier</b>	<b>Date Analy</b>	<u>yzed</u>
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 I	Recovery	<u>covery</u> <u>Limits</u>		<b>Date Analy</b>	zed
1,2-Dichloroethane-d4	11	.5	70 - 130		12/3/2014	19:14
4-Bromofluorobenzene	99	.5	70 - 130		12/3/2014	19:14
Pentafluorobenzene	10	1	70 - 130		12/3/2014	19:14
Toluene-D8	10	2	70 - 130		12/3/2014	19:14

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

EPA 5030 Modified

Data File: x19098.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.



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<u>Result</u>	<u>Units</u>		<b>Qualifier</b>	<b>Date Analy</b>	<u>yzed</u>
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
<u>Surrogate</u>	Percent Recovery		<u>Limits</u>	<b>Outliers</b>	<b>Date Analy</b>	<u>zed</u>
1,2-Dichloroethane-d4	11	2	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	10	2	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.



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	Result	<u>Units</u>		<b>Qualifier</b>	<b>Date Analy</b>	yzed
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 F	Recovery	<u>Limits</u>	<b>Outliers</b>	<b>Date Analy</b>	<u>zed</u>
1,2-Dichloroethane-d4	11	5	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	10	1	70 - 130		12/3/2014	20:02

Method Reference(s): EPA 8260C Modified

EPA 5030 Modified

Data File: x19100.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.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

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.

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.

Page 6 of 9

### 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, term 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 reperform 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

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.

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.

Page 7 of 9



# **CHAIN OF CUSTODY**

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standard 5 day		Batch Q	С		Basic EDD		Sample	d By			o'	8.4			11.00		Total Cost:		
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# **Chain of Custody Supplement**

Client:		GEA DES ENVIESNMENTAL	Completed by:	Grean recails
Lab Project ID:		145179	Date:	11/26/14
		Sample Condition R Per NELAC/ELAP 210/24	<b>equirements</b> 1/242/243/244	•
Condition	Λ	NELAC compliance with the sample cond Yes	ition requirements up No	on receipt N/A
Container Type				
	Comments			
Transferred to metho compliant container				
Headspace (<1 mL)	Comments			
	•			:
Preservation (	Comments			
Chlorine Absent (<0.10 ppm per te	st strip) Comments			
Holding Time				
(	Comments			:
Temperature	·			
	Comments			
Sufficient Sample	<b>Quantity</b> Comments			
	·			

### **ROUTINE MONITORING FORM**

SVE/SSD SYSTEM INSTALLATION DOCUMENT DELPHI LOCKPORT, NEW YORK

Name. Ron Strack	Time On-Site: 1200 Time Off-Site: 1330
	1/0/73
Date: /2/16/19	SVE Blower Run Time: 36,327,   hours VDF: 60 her
SYSTEM STATUS	
SVE System Operating: YES NO	If no:
Alarm lights off: YES NO	If no:
Autodialer Alarm On: YES NO	If Yes:
	ion of Swing Panel HOA Switches:
Control Power Switch OFF	SVE Blower Switch HAND OFF AUTO
M/S Effluent Pump Switch HAND OFF AUTO	
Heat Exchanger Operating YES NO SVE System appear to be operating	If no:
properly? YES NO	If no:
Moisture Separator Tank Level Empty 1/4 Full	l 1/2 Fuil 3/4 Fuil Full Volume Tranfered: gal
SYSTEM MONITORING READINGS	
Vacuum Gauge Pre-Inline Filter: 4, 5	in Hg System Monitoring Notes:
Vacuum Gauge Post-Inline Filter: 5, 0	in Hg
Temperature on Discharge Silencer: //O	<u>°F</u>
Temperature after Heat Exchanger: 72	°F
Pressure After Heat Exchanger 30	in H₂O
Pressure Before Heat Exchanger 20	in H ₂ O
Pressure Magnehelic Gauge: 2, 6	in H ₂ O
Vacuum Magnehelic Gauge: 7 2	in H₂O
Vacuum Gauge After Manifold: /, 2	in Hg
EXTRACTION WELL VACUUM GAUGE READINGS	
EW -1:	in Hg Vaccum Gauge Reading Notes:
EW-2:   in Hg	( ) in Hg
EW-3: in Hg EW-13:	< │ in Hg
EW-4: C in Hg EW-14:	1, 2 in Hg
EW-5:	
EW-6: ( in Hg EW-16:	/ in Hg
EW-7:	in Hg
EW-8: () in Hg SS-1:	/ in H2O
EW-9: /, 1 in Hg SS-2:	2, 5 in H2O
EW-10: 15 in Hg SS-3:	/ in H2O
AIR FLOW FIELD SCREENING	
Background Outside SVE Shed: 0 5 ppm	Detector Tube Readings
Background Inside SVE Shed: D, 5 ppm	Pre Carbon YES NO ppm
Pre Carbon Discharge: 4, 7 ppm	Mid Carbon YES M ppm
Mid Carbon Discharge: 0.5 ppm	Post Carbon YES ppm
Post Carbon Discharge: 0.0 ppm	
Additional Notes:	
Duplicate: Pre-	Carbon Discharge



# **CHAIN OF CUSTODY**

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Task	33			AQ - Aqueous Liquid NQ - Non-Aqueous Liquid	WA - Water WG - Groundwate	er	DW - Drink WW - Was		SO - Soil SL - Sludge	SD - Solid PT - Paint	CK - Caulk	AR - Air
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### 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



Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<b>Result</b>	<u>Units</u>		<b>Qualifier</b>	<b>Date Analy</b>	<u>yzed</u>
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 F	Recovery	<u>Limits</u>	<b>Outliers</b>	<b>Date Analy</b>	zed
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.

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.

Page 2 of 9

Report Prepared Monday, December 29, 2014



Client: <u>GZA Geo Environmental of New York</u>

**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	<u>Result</u>	<u>Units</u>		<b>Qualifier</b>	<b>Date Analy</b>	<u>vzed</u>
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 F	•	<u>Limits</u>	<u>Outliers</u>	<b>Date Analy</b>	zed
1,2-Dichloroethane-d4	92.		70 - 130		12/24/2014	05:48
4-Bromofluorobenzene	95.		70 - 130		12/24/2014	05:48
Pentafluorobenzene	96.		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.

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Client: <u>GZA Geo Environmental of New York</u>

**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**

<u>Analyte</u>	<b>Result</b>	<u>Units</u>		<b>Qualifier</b>	<b>Date Analy</b>	<u>yzed</u>
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	<u>Percent</u>	Recovery	<u>Limits</u>	<u>Outliers</u>	<b>Date Analy</b>	zed
1,2-Dichloroethane-d4	90	5.5	70 - 130		12/24/2014	05:24
4-Bromofluorobenzene	97	7.3	70 - 130		12/24/2014	05:24
Pentafluorobenzene	90	5.4	70 - 130		12/24/2014	05:24
Toluene-D8	98	3.2	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.

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Client: <u>GZA Geo Environmental of New York</u>

**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	<u>Result</u>	<u>Units</u>		<b>Qualifier</b>	<b>Date Analy</b>	<u>vzed</u>
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
<u>Surrogate</u>	Percent F	Recovery	<u>Limits</u>	<b>Outliers</b>	<b>Date Analy</b>	<u>zed</u>
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.		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.

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.

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### **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.

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### 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, term 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 reperform 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

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.

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.

Page 7 of 9 179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311



### **CHAIN OF CUSTODY**

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# Chain of Custody Supplement

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Headspace (<1 mL)	Comments			
Preservation				
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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 subslab 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.