HALEY ALDRICH

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PROGRESS REPORT ON

SUB-SLAB DEPRESSURIZATION SYSTEM - BUILDINGS 7, 7A, 8
JANUARY 2015 - MARCH 2016
BCP SITE #C932138
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK

by Haley & Aldrich of New York
Rochester, New York

on behalf of GM Components Holdings, LLC

for New York State Department of Environmental Conservation
Buffalo, New York

File No. 36795-027
May 2016

HALEY & ALDRICH OF NEW YORK
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17 May 2016
File No. 36795-033

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, New York 13206-1127

Attention: Glenn May, CPG
Environmental Geologist 2

Subject: Sub-Slab Depressurization System Progress Report - Buildings 7, 7A, 8
Operating Period: January 2015 - March 2016
GMCH Lockport BCP Site #C932138
200 Upper Mountain Road
Lockport, New York

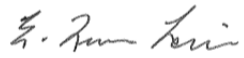
Dear Mr. May:

Haley & Aldrich of New York (Haley & Aldrich) is pleased to submit this Progress Report (Report) for the above-referenced site. This Report presents a summary of the on-going monitoring activities associated with the Sub-Slab Depressurization (SSD) system installed as an Interim Remedial Measure (IRM) in accordance with the IRM Work Plan approved by the Department on December 4, 2012. This Progress Report presents:

- A review of the operations, maintenance, and monitoring (OM&M) activities conducted between January 2015 - March 2016 and overall SSD system performance;
- A summary of the installation details for the extension of the SSD system in Building 7A completed in April 2015; and
- Recommendations for on-going SSDS System OM&M activities.

Please refer to the references section for a list of documents previously submitted to the Department that are referenced within this report.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK



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Enclosures

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GMCH, LLC; Roy Knapp
GM, LLC; James Hartnett, Ken Gold, Matt Chambers
Bond, Schoeneck and King LLC; Barry Kogut

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Table of Contents

List of Tables

List of Figures

1. Introduction

The installation of the Sub-Slab Depressurization System (SSDS) at the GMCH Lockport BCP Site #932138 (hereinafter referred to as the "Site") was completed as an Interim Remedial Measure (IRM) in August 2013 in accordance with New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Agreement (BCA) #C932138-03-10 executed between GMCH and the NYSDEC on May 20, 2010 as amended by Amendment No. 1 dated June 18, 2014 and the IRM Work Plan dated November 9, 2012 and approved by the NYSDEC on December 4, 2012.

Haley & Aldrich of New York (Haley & Aldrich) has prepared this Progress Report which; summarizes the SSDS monitoring activities for the period from January 2015 through March 2016, completed in accordance with the IRM Work Plan and the DRAFT OM&M Plan (Haley & Aldrich 2014); compares the SSDS performance during this period to the objectives outlined in the IRM Work Plan and to the baseline operating conditions presented in the DRAFT SSD System Installation Construction Completion Report (Haley & Aldrich 2015); and provides recommendations for potential enhancements to the SSDS. The monitoring data presented herein have been previously provided to the NYSDEC in the monthly progress reports for the Site.

1.1 INTERIM REMEDIAL MEASURE (IRM) OBJECTIVES

The objective of the IRM installation of the SSDS within Buildings 7, 7A and 8 is to mitigate the potential for VOC impacted soil vapors to migrate into the indoor air space. This objective is achieved by creating a negative pressure differential between the interior space of the building and the subsurface beneath the facility floor slab to induce transport of vapor-phase contaminants through a series of soil vapor collection (suction) pits, and transfer via interconnected piping, for discharge to atmosphere at the exterior of the buildings. The SSDS is intended to operate to achieve a target sub-slab vacuum (negative pressure) of 0.002 inches water column (in. W.C.) of differential pressure within the areas of concern identified during the Remedial Investigation (RI) for the Site.

2. SSDS OM&M Activities

During the period from January 2015 through March 2016, the following OM&M activities were completed for the SSDS:

- Monthly suction pit data collection, quarterly blower systems operating data collection and blower effluent PID field screening measurements. Table I provides a summary of the data collected during the monitoring period.
- Quarterly sub-slab vacuum monitoring point measurements. Table II provides a summary of the data collected during the monitoring period.
- Annual blower effluent sample collection for laboratory analysis of the three suction pit locations exhibiting the highest blower PID field screening results. Table III provides a summary of the Effluent Discharge Sampling Results. (Refer to Section 2.1 for additional details)
- Extension of the SSDS in Building 7A during April 2015. (Refer to Section 2.2 for additional details)
- Blower maintenance checks conducted in April 2015. (Refer to Section 2.3 for additional details)

2.1 SSDS OPERATIONS

All of the SSDS blowers/pits were operated on a full time basis with the exception of maintenance of blower 7A-1 beginning on 21 March 2016 and short duration shutdowns (approximately 1-2 hours each) for the site-wide blower maintenance and inspection work in April 2015. As discussed below and as indicated on Table I, suction pits 7A-1, 2 and 3 are currently operated utilizing blower 7A-2.

A summary of the Potential-to-Emit (PTE) data based on the sampling analytical results outlined in Table III, suggest a declining trend in the annual emissions rate for the SSDS as outlined below:

Year	PTE (tons/year)
2014	0.40
2015	0.32
2016	0.29

Refer to Appendix A for the Air Guide – 1 analysis and PTE calculations and Appendix B for laboratory analytical reports for the collected blower effluent sampling.

2.2 BUILDING 7A SSDS EXTENSION

Based on the results of the December 2014 Indoor Air sampling event, and the NYSDEC approval letter dated 9 March 2015, the Building 7A SSDS was expanded to provide an additional suction pit (7A-3). This suction pit was installed on 7 April 2015 by Matrix Environmental consistent with the methods employed for the original SSDS sub-slab suction pit installations.

Between 13 and 15 April 2015, Danforth Mechanical installed and pressure tested the 4" SCH 40 PVC conveyance piping from suction pit 7A-3 to the 7A-1 blower unit. The piping installation was configured to tie into the existing conveyance piping from suction pit 7A-1 to allow suction pit 7A-3 to be operated utilizing existing blower 7A-1 in conjunction with suction pit 7A-1. A by-pass valve was also installed at

the inlet piping to blowers 7A-1 and 7A-2 to allow operation of all three suction pits, if needed, on one or both of the Building 7A blower units.

The SSDS extension work was completed in accordance with the Site Specific Health and Safety Plan (HASP). Excavated soils and concrete debris generated during the installation of the suction pit and piping trench were containerized and transported by GMCH personnel to a satellite collection area designated within Buildings 7 and handled in accordance with Plant requirements. Refer to Appendix C for; figures and sketches showing details associated with the piping installation; pipe pressure testing results; and a photo log associated with the 7A-3 suction pit installation.

2.3 SSDS BLOWER MAINTENANCE & INSPECTION

On 20 and 27 April 2015, a blower maintenance and inspection was completed by a licensed mechanical subcontractor, Danforth Mechanical, with support from a representative from the blower manufacturer's service organization, Kinequip. These activities included change outs of the internal and external filters at each blower unit along with a visual inspection of each blower's impeller to assess current filter and blower internal wear trends, if any, since operational start-up of the SSDS in August 2013. The results of these activities indicated that there were only visible signs of slight build-up of particulate in the filters for blower units 7W-3, 7W-7, 7E-1, B8-3, B8-4, B8-7, and minor oxidation was also observed on a small area of the 7A-2 blower impeller.

Based on feedback from the manufacturer's representative, these conditions would not impact the routine operation of the blower units. All spent/ replaced filters were placed in plastic bags and transported by Danforth to the satellite collection area designated within Building 8 and handled in accordance with Plant requirements. Refer to Appendix D for a photo log of the blower inspections and completed SSDS maintenance logs.

2.4 SUB-SLAB VACUUM INFLUENCE ASSESSMENT

Based on review of Figures 1, 2 and 3, which provides a comparison of SSDS vacuum influence in Buildings 7, 7A, and 8 from November 2013 through January 2016, as well as the operating trend data summarized in Tables I and II, suggests a potential periodic reduction in sub-slab vacuum influence during the monitoring period. These variable operating conditions may be attributed to potential changes in the Plant operations and floor loading conditions, or changes in seasonal building HVAC operations (i.e. more negative pressure in the indoor space during the winter season in which the SSDS must overcome to achieve target sub-slab vacuums).

On 17 and 21 March 2016, GZA and Haley & Aldrich conducted area spot checks to assess the existing Site conditions that could contribute to limiting the sub-slab vacuum influence from the suction pits. Based on this spot review, it was determined that several areas appeared to have floor seams/ expansion joints that may provide connection to the sub-slab area and potentially create a short circuiting effect and limit the propagation of sub-slab vacuum from the suction pits. The effects of short-circuiting "scavenges" available vacuum and air flow from the suction pit/blower unit and decreases the area of sub-slab vacuum influence by pulling in air from the indoor space to the sub-surface through existing seams/ cracks in the floor.

Vacuum measurements between 0.020-0.060 inches of water column (in. W.C.) were collected using a handheld digital manometer from seams/ cracks in the concrete floor ranging from 3-30 feet away from

several suction pits (7W-1, 7W-3, 7W-4, 7W-7, 7E-1, 7A-3, 8-3, 8-4 and 8-5). In addition, slight air flow velocities could be measured using a handheld anemometer from seams/ cracks in a few of these suction pit areas (7W-1, 7A-3) which indicates air is flowing from the indoor space to the sub-slab area via the floor seams/ cracks.

3. Recommendations

3.1 FLOOR SEALING PROGRAM

The SSDS is designed to achieve a sub-slab vacuum of 0.002 in. W.C. of differential pressure between the indoor space and the sub-slab within the areas of concern identified during the RI for the BCP Site.

Based on the near steady state operating conditions of the SSDS blowers as summarized in Table I and the periodic decreased vacuum influence trends summarized in in Table II and depicted in Figures 1-3, we recommend that a field survey to identify seams/cracks or other features that may be contributing to the short-circuiting effects of the SSDS be performed in each of the SSDS areas in Buildings 7, 7A and 8. Once completed, review the findings of the survey with Plant personnel to determine the viability of sealing the identified areas with considerations of operations and existing equipment locations and the appropriate materials for use where applicable.

The floor sealing program should increase the sub slab area of vacuum influence to achieve the baseline operations identified in the DRAFT SSD System Installation Construction Completion Report (Haley & Aldrich 2015). After the floor sealing program has been completed, indoor air samples should be collected within Buildings 7, 7A, and 8 to further evaluate the effectiveness of the SSDS.

3.2 CONTINUED SSDS OM&M

Based on the current operations, it is recommended to continue conducting the monthly and quarterly system data collection as outlined In the DRAFT SSD System OM&M Plan.

References

1. New York State Department of Environmental Conservation, (2010). "DER-10 Technical Guidance for Site Investigation and Remediation". Division of Environmental Remediation, May 2010.

2. New York State Department of Environmental Conservation, (2006). "6 NYCRR Part 375 Environmental Remediation Programs". Division of Environmental Remediation, December, 2006.

3. New York State Department of Health, (2006). "Guidance for Evaluating Soil Vapor Intrusion in the State of New York". Center for Environmental Health, Bureau of Environmental Exposure Investigation, October 2006.

4. Haley & Aldrich of New York, (2011). "Remedial Investigation Report – GM Components Holdings, LLC, 200 Upper Mountain Road – Building 7, Lockport, New York, BCP Site #C932138", November 2011.

5. Haley & Aldrich of New York, (2011). "Remedial Investigation Report – GM Components Holdings, LLC, 200 Upper Mountain Road – Building 8, Lockport, New York, BCP Site #C932139", November 2011.

6. Haley & Aldrich of New York, (2011). "Remedial Investigation Report – GM Components Holdings, LLC, 200 Upper Mountain Road – Building 10, Lockport, New York, BCP Site #C932140", November 2011.

7. Haley & Aldrich of New York, (2012). "Sub Slab Depressurization Systems Pilot Testing Report – Interim Remedial Measures (IRM) Work Plan, BCP Sites #C932138/C932139, 200 Upper Mountain Road, Lockport, NY", November 2012

8. Haley & Aldrich of New York, (2014). "Summary of Indoor Air Testing Results, GMCH Lockport Facility – Bldgs. 7, 7A, 8 BCP Sites #C932138/C932139, 200 Upper Mountain Road, Lockport, NY", May 2014.

9. Haley & Aldrich of New York, (2014). "DRAFT Operations, Maintenance and Monitoring Plan, Bldgs. 7/7A, and 8 Sub-slab Depressurization Systems, GM Components Holdings, 200 Upper Mountain Road, Lockport, NY 14094", February 2014.

10. Haley & Aldrich of New York, (2015). "DRAFT Construction Completion Report, Sub-Slab Depressurization System Installation, GMCH Lockport BCP Site #C932138, 200 Upper Mountain Road, Lockport, New York", July 2015.

TABLES

Table I
SSD System - Summary of Blower System & Suction Pit Operating Data: January 2015 - March 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower							Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - (calculated) (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
7W-1	L-49	Penthouse 9	1/22/2015 14:36	30	76	31	39	83	125	42	0.1	12329.0	97	1.8	2257.5	100%	
			3/18/2015 10:20	29	78												
			4/17/2015 14:44	29	80	32	38	88	134	46	0.1	14369.0	99	3.4	2040	100%	
			5/18/2015 11:28	33	87												
			6/18/2015 11:03	34	88												
			7/22/2015 14:54	32	89	35	41	92	141	49	0.2	16672.7	95	3.0	2303.7	100%	
			8/20/2015 13:28	34	92												
			9/15/2015 13:44	30	83												
			10/20/2015 13:16	29	81	32	38	86	132	46	0.1	18832.0	99	2.9	2159.3	100%	
			10/30/2015 10:50	Data not collected		29	39	81	126	45	0.8	19068.0	97	2.7	236.0	99%	Blower Vapor Effluent: 29.0% R.H., FID (methane) - 1.8 ppm (see note 4)
			11/18/2015 13:15	29	82												
			12/18/2015 11:00	29	80												
			1/20/2016 13:33	27	77	30	37	83	127	44	0	21037.5	100	2.4	2205.5	100%	
			2/18/2016 11:56	28	76												
			3/17/2016 14:28	28	80												
7W-2	G-61	Penthouse 21	1/22/2015 14:00	20	76	23	33	80	116	36	0.1	12318.0	106	2.0	2257.5	100%	
			3/18/2015 10:25	20	76												
			4/17/2015 14:42	21	78	24	34	80	118	38	0.1	14358.0	104	8.2	2040	100%	
			5/18/2015 11:30	23	83												
			6/18/2015 11:01	23	84												
			7/22/2015 14:53	23	85	25	35	87	126	39	0.1	16661.8	103	3.4	2303.8	100%	
			8/20/2015 13:24	24	88												
			9/15/2015 13:39	23	83												
			10/20/2015 13:23	22	80	24	35	80	119	39	0.1	18821.0	103	7.2	2159.2	100%	
			10/30/2015 11:30	Data not collected		24	35	80	116	36	0.1	19057.6	103	7.8	236.6	99%	Blower Vapor Effluent: 27.9% R.H., FID (methane) - 2.7 ppm (see note 4)
			11/18/2015 13:18	23	80												
			12/18/2015 11:04	23	78												
			1/20/2016 13:31	21	70	24	35	77	112	35	0.1	21023.5	103	2.4	2202.5	100%	
			2/18/2016 11:58	22	77												
			3/17/2016 14:36	23	78												

Table I
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GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
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Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower							Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - (calculated) (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
7W-3	C-52	Penthouse 9	1/22/2015 14:11	24	78	28	36	83	124	41	0.8	5099.0	102	5.5	1367.5	61%	Hr meter issues - blower fully operational during checks
			3/18/2015 10:22	19	78												
			4/17/2015 14:33	21	80	28	35	88	128	40	0.8	265.5	103	12.4	724.2	100%	Hr meter replaced on 4/6/15
			5/18/2015 11:29	24	87												
			6/18/2015 11:59	34	88												
			7/22/2015 14:36	29	88	33	42	92	140	48	0.8	2569.1	94	15.8	2303.6	100%	
			8/20/2015 13:26	30	90												
			9/15/2015 13:37	23	86												
			10/20/2015 13:14	21	82	25	36	85	126	41	0.8	4728.4	102	6.3	2159.3	100%	
			10/30/2015 10:50	Data not collected		25	35	80	120	40	0.2	4964.4	103	6.1	236.0	99%	Blower Vapor Effluent: 29.4% R.H., FID (methane) - 2.7 ppm (see note 4)
			11/18/2015 13:17	21	82												
			12/18/2015 11:02	21	81												
			1/20/2016 13:23	18	78	23	33	83	120	37	0.8	6933.9	106	5.0	2205.5	100%	
			2/18/2016 11:37	18	78												
			3/17/2016 14:43	19	80												
7W-4	E-38	3rd Flr - Mech Room	1/22/2015 14:20	13	74	18	26	84	120	36	0.2	12308	115	2.5	891.3	100%	
			3/18/2015 10:05	12	75	18	26	82	118	36	0.2	13623.2	115		1315.2	100%	
			4/17/2015 14:49	14	80	19	27	90	136	46	0.1	14348	113	5.1	724.8	100%	
			5/18/2015 11:32	13	84	18	27	97	146	49	0.2	15088.2	113		740.2	100%	
			6/18/2015 11:06	14	84	19	27	96	132	36	0.1	15831.7	113		743.5	100%	
			7/22/2015 15:00	14	85	19	27	96	132	36	0.15	16652	113	1.8	820.3	100%	
			8/20/2015 13:38	14	89	19	27	98	135	37	0.2	17345.9	113		693.9	100%	
			9/15/2015 13:48	14	81	18	27	93	130	37	0.15	17970.4	113		624.5	100%	
			10/20/2015 13:00	13	79	18	27	89	125	36	0.1	18810.6	113	3.9	840.2	100%	
			10/30/2015 10:50	Data not collected		19	28	85	120	35	0.1	19047.1	112	4.3	236.5	99%	Blower Vapor Effluent: 25.7% R.H., FID (methane) - 0.9 ppm (see note 4)
			11/18/2015 13:20	14	81	18	28	91	127	36	0.1	19506.8	112		696.2	100%	
			12/18/2015 11:07	14	78	19	28	84	118	34	0.2	20224.5	112		717.7	100%	
			1/20/2016 13:35	12	73	19	26	85	122	37	0.3	21015.6	115	4.5	791.1	100%	
			2/18/2016 11:26	12	72	23	26	87	120	33	0.3	21708.7	115		693.1	100%	
			3/17/2016 14:43	13	77	18	27	86	120	34	0.1	22383.8	113		675.1	100%	

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GMCH Lockport NY Facility - BCP Site #932138
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				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - (calculated) (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
7W-5	E-27	3rd Flr - Mech Room	1/22/2015 14:20	41	80	45	60	88	140	52	0.2	9930.6	46	2.1	0	0%	Hr meter issues - blower fully operational during checks
			3/18/2015 10:00	41	80	45	50	85	134	49	0.2	11026.9	80		1096.3	83%	Hr meter issues - blower fully operational during checks
			4/17/2015 14:53	42	84	46	50	90	143	53	0.15	265.6	80	4.7	724.9	100%	Hr meter replaced on 4/6/15
			5/18/2015 11:33	42	90	47	51	100	153	53	0.3	1005	78		739.4	100%	
			6/18/2015 11:08	44	90	48	52	98	153	55	0.2	1748.6	75		743.6	100%	
			7/22/2015 15:02	43	92	48	52	98	153	55	0.2	2568.9	75	2.8	820.3	100%	
			8/20/2015 13:40	42	94	47	51	100	154	54	0.2	3262.8	78		693.9	100%	
			9/15/2015 13:50	43	88	48	52	97	149	52	0.2	3887.3	75		624.5	100%	
			10/20/2015 12:55	42	84	47	52	90	143	53	0.1	4727.5	75	5.1	840.2	100%	
			10/30/2015 10:50	Data not collected		47	52	86	136	50	0.2	4964.0	75	4.0	236.5	99%	Blower Vapor Effluent: 30.6% R.H., FID (methane) - 1.6 ppm (see note 4)
			11/18/2015 13:25	43	86	48	52	94	143	49	0.2	5423.8	75		696.3	100%	
			12/18/2015 11:08	43	84	48	52	85	135	50	0.3	6141.5	75		717.7	100%	
			1/20/2016 13:46	43	80	46	51	90	140	50	0.2	6932.6	78	5.8	791.1	100%	
			2/18/2016 11:42	42	81	46	52	89	138	49	0.5	7625.7	75		693.1	100%	
			3/17/2016 14:46	42	84	47	51	86	138	52	0.1	8300.8	78		675.1	100%	
7W-6	J-33	3rd Flr - Mech Room	1/22/2015 14:20	37	78	41	48	82	138	56	0	12331	84	1.9	891.5	100%	
			3/18/2015 10:02	37	75	42	48	80	132	52	0.1	13646	84		1315	100%	
			4/17/2015 14:58	37	78	42	47	85	143	58	0.05	14371	86	3.0	725	100%	
			5/18/2015 11:38	38	82	42	47	93	154	61	0.1	15110.7	86		739.7	100%	
			6/18/2015 11:09	39	83	43	48	91	150	59	0.1	15854.2	84		743.5	100%	
			7/22/2015 15:18	38	85	43	48	92	153	61	0.05	16674.5	84	1.9	820.3	100%	
			8/20/2015 13:42	39	87	43	48	94	155	61	0.1	17364.4	84		689.9	99%	
			9/15/2015 13:53	38	81	43	48	90	151	61	0.05	17992.9	84		628.5	101%	
			10/20/2015 13:04	38	78	42	48	85	144	59	0.1	18833.1	84	4.6	840.2	100%	
			10/30/2015 10:50	Data not collected		43	48	80	138	58	0.1	19069.4	84	4.6	236.3	99%	Blower Vapor Effluent: 28.5% R.H., FID (methane) - 5.7 ppm (see note 4)
			11/18/2015 13:21	39	80	43	47	87	145	58	0.1	19529.3	86		696.2	100%	
			12/18/2015 11:10	39	77	43	48	81	158	77	0.1	20247.1	84		717.8	100%	
			1/20/2016 13:56	37	74	42	47	84	143	59	0	21039.2	86	6.0	792.1	100%	
			2/18/2016 11:45	37	74	42	48	82	142	60	0.1	21731.3	84		692.1	100%	
			3/17/2016 15:05	38	77	43	48	80	140	60	0.2	22406.3	84		675	100%	

Table I
SSD System - Summary of Blower System & Suction Pit Operating Data: January 2015 - March 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower							Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - (calculated) (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
7W-7	N-41	Penthouse 4	1/22/2015 14:44	36	80	40	47	84	132	48	0.2	11792	86	1.5	2206.9	98%	
			3/18/2015 10:05	37	80												
			4/17/2015 15:00	39	77	42	48	88	136	48	0.2	13837	84	8.1	2045	100%	
			5/18/2015 11:39	34	90												
			6/18/2015 11:11	34	90												
			7/22/2015 15:27	34	91	36	41	94	140	46	0.6	16140.8	95	4.3	2303.8	100%	
			8/20/2015 13:45	35	95												
			9/15/2015 13:56	33	90												
			10/20/2015 13:02	32	84	35	41	83	127	44	0.4	18300	95	2.2	2159.2	100%	
			10/30/2015 10:50	Data not collected		35	42	80	122	42	0.1	18536.6	94	4.5	236.6	99%	Blower Vapor Effluent: 26.3% R.H., FID (methane) - 2.2 ppm (see note 4)
			11/18/2015 13:29	33	85												
			12/18/2015 11:12	33	80												
			1/20/2016 13:37	32	81	35	41	85	129	44	0	20505	95	1.9	2205	100%	
			2/18/2016 11:47	32	80												
			3/17/2016 15:05	33	82												
7E-1	HH-33	Roof Area	1/22/2015 14:46	18	76	14	26	76	102	26	0	12324	115	4.2	2256.7	100%	
			3/18/2015 11:00	18	78												
			4/17/2015 15:51	18	78	14	27	84	115	31	0	14365	113	21.0	2041	100%	
			5/18/2015 13:07	17	82												
			6/18/2015 11:43	18	84												
			7/22/2015 10:29	18.5	86	14	27	95	127	32	0	16668.2	113	31.8	2303.2	100%	
			8/20/2015 13:50	18	88												
			9/20/2015 13:00	16	84												
			10/20/2015 13:42	19	80	14	27	84	118	34	0	18827.6	113	15.4	2159.4	100%	
			11/18/2015 12:56	18.5	80												
			12/18/2015 10:33	18	79												
			1/20/2016 13:59	18	77	14	28	80	108	28	0	21031.8	112	0.16	2204.2	100%	
			2/18/2016 12:03	18	77												
			3/17/2016 14:46	18	79												

Table I
SSD System - Summary of Blower System & Suction Pit Operating Data: January 2015 - March 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower							Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - (calculated) (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
7A-1	Eng. Training - Storage Rm	7A Mech Rm	1/22/2015 10:18	24	77	41.5	45	84	160	76	0.1	11599	89	0.7	867.1	98%	
			3/18/2015 9:25	28	76	36	40	82	157	75	0.7	11993.9	96		394.9	30%	Hr meter issues - blower fully operational during checks
			4/17/2015 9:39	Data not collected	78	48	56	75	125	50	0.6	11993.9	63	420.0	0	0%	Hr meter issues - blower fully operational during checks - new 7A-3 pit tied into blower unit on 4/7/15
			5/18/2015 10:39	20	78	22	25.5	85	163	78	0.2	11993.9	115		0	0%	Hr meter issues - blower fully operational during checks
			6/18/2015 9:53	20	78	21	26	83	168	85	0.1	11993.9	115		0	0%	Hr meter issues - blower fully operational during checks
			7/22/2015 7:44	19	79	21	24	84	175	91	0.0	11993.9	117	48.0	0	0%	Hr meter issues - blower fully operational during checks
			8/20/2015 8:48	20	79	19	24	87	185	98	0.9	11993.9	117		0	0%	Hr meter replaced on 8/20/15
			9/15/2015 12:37	18	79	19	23	81	188	107	0.4	624.7	118		627.8	100%	
			10/20/2015 10:30	15	78	15	19	80	190	110	0.02	1462.5	123	38.6	837.8	100%	
			11/18/2015 12:35	12	80	13	16	80	199	119	0.2	2161.6	128		699.1	100%	
			12/18/2015 10:20	12	78	12	15	75	192	117	0.2	2879.3	131		717.7	100%	
			1/20/2016 9:58	5	79	3	5	82	198	116	0.0	3666.8	15	29.2	787.5	99%	Blower shutoff on 1/20/16 due to low vac. readings and unit cycling on/off
			2/18/2016 10:07	7	79	8	12	81	210	129	>5	4170.5	17	36.2	503.7	72%	1/26/16 - unit restarted after electrical check and flow sensor tubing cleanout completed. Tedlar vapor effluent sample collected on 2/18/16
			3/17/2016 14:46	1.5	80	5	8	79	218	139	3.4	4843.2	16		672.7	99%	
			3/18/2016 20:30	Data not collected		10	12	85	216	131	4.0	4874	17		30.8	104%	Potential discharge temp. gauge issue and moisture observed in inlet filter
			3/21/2016 12:15	15	78	7A-1 blower shutdown at 11:50 AM on 3/21/16 - pits 1 and 3 running on blower 7A-2 pending maintenance check for 7A-1 blower											
7A-3	Men's Locker Room	Tied in with Unit 7A-1 (see note 3)	4/17/2015 10:36	9	70	Suction Pit tied into piping and blower for 7A-1 - data is referenced above											
			5/18/2015 13:02	19	73												Valve at pit opened 100%
			6/18/2015 10:25	20	74												
			7/22/2015 16:15	20.5	76												
			8/20/2015 8:55	19	79												
			9/15/2015 12:58	18	72												
			10/20/2015 10:48	14	70												
			11/18/2015 12:50	12.5	68												
			12/18/2015 10:30	11	68												
			1/20/2016 10:53	0	72												7A-1 fan off temporarily
			2/18/2016 10:20	5	72												
			3/17/2016 12:20	1.5	67												
			3/21/2016 12:15	15	78												

Table I
SSD System - Summary of Blower System & Suction Pit Operating Data: January 2015 - March 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower							Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - (calculated) (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
7A-2	Financial Area - Storage Rm	7A Mech Rm	1/22/2015 10:32	16	75	46	54	74	126	52	0	12143	69	0.3	888.1	100%	
			3/18/2015 9:30	15	74	47	56	74	123	49	0	13461.1	63		1318.1	100%	
			4/17/2015 9:45	17	76	48	56	74	126	52	0.4	14178.9	63	NR	717.8	100%	
			5/18/2015 10:40	20	78	42	51	77	123	46	0.1	14922.7	78		743.8	100%	
			6/18/2015 10:25	21.5	78	43	53	76	126	50	0.1	15666.2	71		743.5	100%	
			7/22/2015 7:46	23	80	56	53	79	127	48	0.1	16479.8	71	1.2	813.6	100%	
			8/20/2015 8:50	24	80	44	53	79	130	51	0.1	17177.2	71		697.4	100%	
			9/15/2015 12:44	23	79	46	54	77	128	51	0	17804	69		626.8	100%	
			10/20/2015 10:44	22	77	45	54	76	124	48	0.1	18642.7	69	0.9	838.7	100%	
			11/18/2015 12:42	22.5	78	45	54	76	127	51	0.2	19341.7	69		699	100%	
			12/18/2015 10:22	22	76	43	54	72	120	48	0.2	20059.4	69		717.7	100%	
			1/20/2016 10:04	22	76	45	55	76	124	48	0.1	20848.2	66	0.3	788.8	100%	
			2/18/2016 10:20	21	75	45	55	74	122	48	0.1	21545.0	66		696.8	100%	
			3/17/2016 11:57	21	77	44	64	74	123	49	0	22217.6	46		672.6	100%	
			3/21/2016 12:15	22	78	48	55	76	110	34	2.2	22313.8	66	31.8	96.2	100%	PID reading collected with (3) pits operating on 7A-2 blower

Table I
SSD System - Blower System Operating Data & Trend Summary: January 2015 - March 2016
GMCH Lockport Facility
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower						Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - calculated (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
8-1	HH-87	Penthouse 14	1/22/2015 12:45	58	68	55	60	73	146	73	0	5940	46	0.9	2161.5	96%	Hr meter issues - blower fully operational during checks
			3/18/2015 10:47	55	70												
			4/17/2015 13:20	60	75	57	60	80	165	85	0	263.4	46	3.9	722.5	100%	Hr meter replaced on 4/6/15
			5/18/2015 11:04	>60	82												
			6/18/2015 10:46	>60	83												
			7/22/2015 9:16	>60	86	60	>60	92	182	90	0	2562.7	46	1.6	2299.3	100%	
			8/20/2015 13:14	>60	88												
			9/15/2015 13:26	>64	84												
			10/20/2015 11:28	58	77	56	60	80	125	45	0.3	4724.4	46	0.9	2161.7	100%	
			11/18/2015 13:05	60	78												
			12/18/2015 10:53	60	82												
			1/20/2016 11:15	58	72	55	60	75	148	73	0.1	6933.6	46	0.6	2209.2	100%	
			2/18/2016 11:17	60	72												
			3/17/2016 13:54	60	79												
8-2	PP-89	HVAC Mech Rm	1/22/2015 12:37	32	65	35	46	70	110	40	0	12296	88	1.1	2250.7	100%	
			3/18/2015 10:42	37	66												
			4/17/2015 13:04	38	70	41	49.5	81	127	46	0.1	14335	88	3.0	2039	100%	
			5/18/2015 11:05	38	78												
			6/18/2015 10:45	38	80												
			7/22/2015 9:02	37	83	40	48	89	138	49	0.1	16634.7	84	2.4	2299.7	100%	
			8/20/2015 13:15	37	85												
			9/15/2015 13:19	38	80												
			10/20/2015 11:18	37	74	40	48	78	125	47	0.1	18796.8	84	0.9	2162.1	100%	
			11/18/2015 13:06	38	74												
			12/18/2015 10:45	39	75												
			1/20/2016 11:08	33	67	36	44	72	112	40	0.1	20200.3	91	0.4	1403.5	64%	check hr meter during next quarterly review
			2/18/2016 11:19	34	68												
			3/17/2016 13:38	38	72												

Table I
SSD System - Blower System Operating Data & Trend Summary: January 2015 - March 2016
GMCH Lockport Facility
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower							Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - calculated (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
8-3	HH-91	Penthouse 15	1/22/2015 12:44	54	66	55	60	72	137	65	0	8540.5	46	114.0	0	0%	Hr meter issues - blower fully operational during checks
			3/18/2015 10:45	55	67												
			4/17/2015 13:11	55	73	56	59.5	80	158	78	0.2	263.4	46	212.0	722.4	100%	Hr meter replaced on 4/6/15
			5/18/2015 11:07	57	80												
			6/18/2015 10:45	56	82												
			7/22/2015 9:05	57	84	57	>60	88	169	81	0	2563	46	221.6	2299.6	100%	
			8/20/2015 13:15	57	86												
			9/15/2015 13:20	55	82												
			10/20/2015 11:20	54	74	55	60	79	134	55	0.1	4725.1	46	79.3	2162.1	100%	
			11/18/2015 13:08	54	75												
			12/18/2015 10:46	54	76												
			1/20/2016 11:10	54	68	55	60	72	136	64	0.1	6933.2	46	92.5	2208.1	100%	
			2/18/2016 11:20	55	70												
			3/17/2016 13:39	55	76												
8-4	BB-87	Penthouse 9	1/22/2015 12:56	41	62	38	42	86	150	64	0	12162	94	0.9	2273.2	101%	
			3/18/2015 10:50	48	65												
			4/17/2015 13:19	52	70	49	52	92	165	73	0	14211	75	3.4	2049	100%	
			5/18/2015 11:13	52	78												
			6/18/2015 10:47	50	78												
			7/22/2015 9:15	50	80	46	49	100	176	76	0	16524	82	2.3	2313	101%	Unit shut down / cycled during blower effluent check
			8/20/2015 13:16	48	83												
			9/15/2015 13:24	48	79												
			10/20/2015 11:27	49	72	46	49	71	167	96	0	18483.2	82	1.1	1959.2	91%	
			11/18/2015 13:10	50	73												
			12/18/2015 10:48	50	73												
			1/20/2016 11:14	47	67	43	46	85	158	73	0	20715.5	88	0.6	2232.3	101%	
			2/18/2016 11:22	51	68												
			3/17/2016 13:54	50	73												

Table I
SSD System - Blower System Operating Data & Trend Summary: January 2015 - March 2016
GMCH Lockport Facility
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower							Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - calculated (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
8-5	DD-81	Penthouse 14	1/22/2015 13:05	50	69	50	56	75	134	59	0	12327	63	1.5	2258.1	100%	
			3/18/2015 10:35	53	70												
			4/17/2015 13:23	54	75	54	59	81	146	65	1	14360	51	3.3	2033	100%	
			5/18/2015 11:15	55	82												
			6/18/2015 10:48	54	84												
			7/22/2015 9:30	54.5	88	54	60	88	159	71	0	16660.1	46	1.7	2300.1	100%	
			8/20/2015 13:15	55	90												
			9/15/2015 13:58	55	84												
			10/20/2015 11:31	54	80	54	60	80	144	64	0.3	18822.1	46	1.6	2162	100%	
			11/18/2015 13:12	54	80												
			12/18/2015 10:51	54	79												
			1/20/2016 11:27	52	72	52	58	75	135	60	0.3	21030.9	55	1.6	2208.8	100%	
			2/18/2016 11:25	52	69												
			3/17/2016 14:18	54	77												
8-6	FF-83	Penthouse 14	1/22/2015 13:07	27	68	25	38	76	115	39	0	12327	99	8.4	2258.4	100%	
			3/18/2015 10:37	30	70												
			4/17/2015 13:22	31	74	28	42	81	124	43	0.1	14360	94	11.5	2033	100%	
			5/18/2015 11:14	31	80												
			6/18/2015 10:49	32	80												
			7/22/2015 9:31	33	84	31	43	90	138	48	0	16659.4	92	13.0	2299.4	100%	
			8/20/2015 13:18	33	88												
			9/15/2015 13:27	32	82												
			10/20/2015 11:30	31	77	29	41	80	124	44	0.1	18821.4	95	6.1	2162	100%	
			11/18/2015 13:11	31	78												
			12/18/2015 10:50	33	82												
			1/20/2016 11:30	30	73	31	42	76	118	42	0.1	21030.2	94	7.3	2208.8	100%	
			2/18/2016 11:24	31	72												
			3/17/2016 14:40	32	80												

Table I
SSD System - Blower System Operating Data & Trend Summary: January 2015 - March 2016
GMCH Lockport Facility
Buildings 7, 7A, 8
Project No.: 36795-033

Bldg Location - Fan/Pit Tag	Suction Pit Location (Col No.)	Fan Location	Data Collection Date/ Approximate Time	Suction Pit		Vacuum Blower						Vapor Flow Rate (CFM) (see note 1)	Blower Outlet Vapor Phase PID Reading (ppm)	Run Hrs Between Last Readings	% Uptime Between Last Hr Meter Reading (see note 2)	Comments
				Vacuum ("W.C.)	Temp (°F)	Filter Inlet Vacuum ("W.C.)	Blower Inlet Vacuum ("W.C.)	Filter Inlet Temp (°F)	Blower Outlet Temp (°F)	Temp Diff - calculated (°F)	Flow Sensor Diff. Press. ("W.C)	Hr Meter Reading					
8-7	MM-85	Penthouse 14	1/22/2015 12:35	52	64	49	55	70	127	57	0	11969	66	0.7	2257.9	100%	
			3/18/2015 10:40	53	68												
			4/17/2015 13:20	56	72	55	59	78	144	66	0.1	14003	51	2.9	2034	100%	
			5/18/2015 11:03	57	78												
			6/18/2015 10:42	57	80												
			7/22/2015 9:03	57	81	55	59	87	158	71	0	16302.3	51	1.5	2299.3	100%	
			8/20/2015 13:13	57	84												
			9/15/2015 13:17	57	80												
			10/20/2015 11:16	57	73	54	60	78	145	67	0.2	18464.1	46	0.9	2161.8	100%	
			11/18/2015 13:04	57	75												
			12/18/2015 10:43	57	78												
			1/20/2016 11:07	56	70	55	60	73	135	62	0.1	20673.1	46	0.6	2209	100%	
			2/18/2016 11:16	56	70												
			3/17/2016 13:27	57	76												

Nomenclature

"W.C.	inches water column
°F	degrees Fahrenheit
ppm	parts per million
%R.H.	percent Relative Humidity

Notes

1. Flow rate as read from the blower curve data based on the operating vacuum at the blower inlet. Flow rates for blower 7A-1 from Jan-Mar 2016 were reduced due to out of range operating conditions. Flow rates indicated were based on a system using an in-line anemometer in the 7A-1 blower discharge piping.
2. % uptime is +/- 2% based on actual field reading times and accuracy of the hour meter.
3. Suction Pit 7A-3 installed on 4/7/15.
4. Blower effluent methane concentration and relative humidity data collection was completed on 10/30/15 as a baseline for potential future application of the Bldg 10 groundwater remedy.

Table II
SSD System - Summary of Sub Slab Vacuum Monitoring Point Readings: January 2015 - March 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

	Date:	22-Jan-15	17-Apr-15	22-Jul-15	20-Oct-15	20-Jan-16	17-Mar-16 (see note 2)
Location	Sub Slab Monitoring Point ID	Vacuum Reading (inches water column)					
Bldg 7-West	SMP-7W-1	0.013	0.000	+0.003	+0.005	0.002	
	SMP-7W-2	0.000	0.000	0.000	0.000	0.000	
	SMP-7W-2A	0.018	0.002	0.000	0.000	0.000	
	SMP-7W-4	0.020	0.000	0.052	0.260	0.000	
	SMP-7W-5A	0.013	0.000	0.000	0.009	0.006	
	SMP-7W-6	0.142	0.106	0.100	0.130	0.163	
	SMP-7W-7	0.018	0.000	0.003	0.000	0.000	
	SMP-7W-9	0.055	0.002	0.000	0.002	0.000	
	SMP-7W-11A	0.000	No data collected	0.000	0.000	0.000	
	SMP-7W-12B	0.000	0.000	0.000	0.000	0.000	
	SMP-7W-13	+0.157	0.000	0.000	0.007	0.000	
Bldg 7-East	SMP-7E-1	0.005	+0.005	0.003	0.000	0.000	
	SMP-7E-3	0.018	0.001	0.031	0.015	0.000	
	SMP-7E-4	0.010	+0.005	0.032	0.000	0.000	
	SMP-7E-6	0.007	0.000	0.023	0.180	0.000	
	SMP-7E-7A	0.000	0.000	0.021	0.000	0.000	
	SMP-7E-8A	0.000	0.000	0.000	0.000	0.000	
Bldg - 7A	SMP-7A-1	0.042	0.023	0.044	0.028	0.066	0.030
	SMP-7A-2	0.040	0.000	0.018	0.010	0.000	0.000
	SMP-7A-3	0.055	0.119	0.019	0.038	0.047	0.027
	SMP-7A-4	0.037	0.011	0.015	0.035	0.013	0.000
	SMP-7A-5	0.003	0.000	0.044	0.000	0.000	0.026
	SMP-7A-6	0.073	0.000	0.025	0.000	0.000	0.000
	SMP-7A-7	0.011	0.008	0.008	0.000	0.000	
	SMP-7A-8	0.000	0.006	0.015	0.000	0.000	0.000
	SMP-7A-9	0.010	0.000	0.035	0.003	0.008	
	SMP-7A-12	0.000	0.000	No data collected	0.000	0.000	0.000
	SMP-7A-13	0.011	0.013	0.000	0.005	0.000	0.000
	SMP-7A-13A	0.018	0.740	0.232	1.310	0.000	0.382
	SMP-7A-14	0.000	0.000	0.002	0.000	0.000	0.000
	SMP-7A-14A	No data collected	No data collected	No data collected	0.001	0.000	0.000
Bldg 8	SMP-B8-1A	0.028	0.006	0.000	0.000	0.000	
	SMP-B8-2	0.205	0.346	0.435	0.050	0.000	0.116
	SMP-B8-3	0.052	0.183	0.065	0.207	0.058	0.173
	SMP-B8-4	0.000	0.000	0.000	0.000	0.000	0.000
	SMP-B8-7	0.016	0.000	0.000	0.015	0.000	
	SMP-B8-9	0.000	0.012	0.034	0.025	0.000	0.023
	SMP-B8-10	0.000	0.000	0.009	0.005	0.000	0.000
	SMP-B8-11	0.000	0.000	0.015	0.015	0.002	0.000
	SMP-B8-13A	0.204	0.285	0.447	0.328	0.220	

Notes

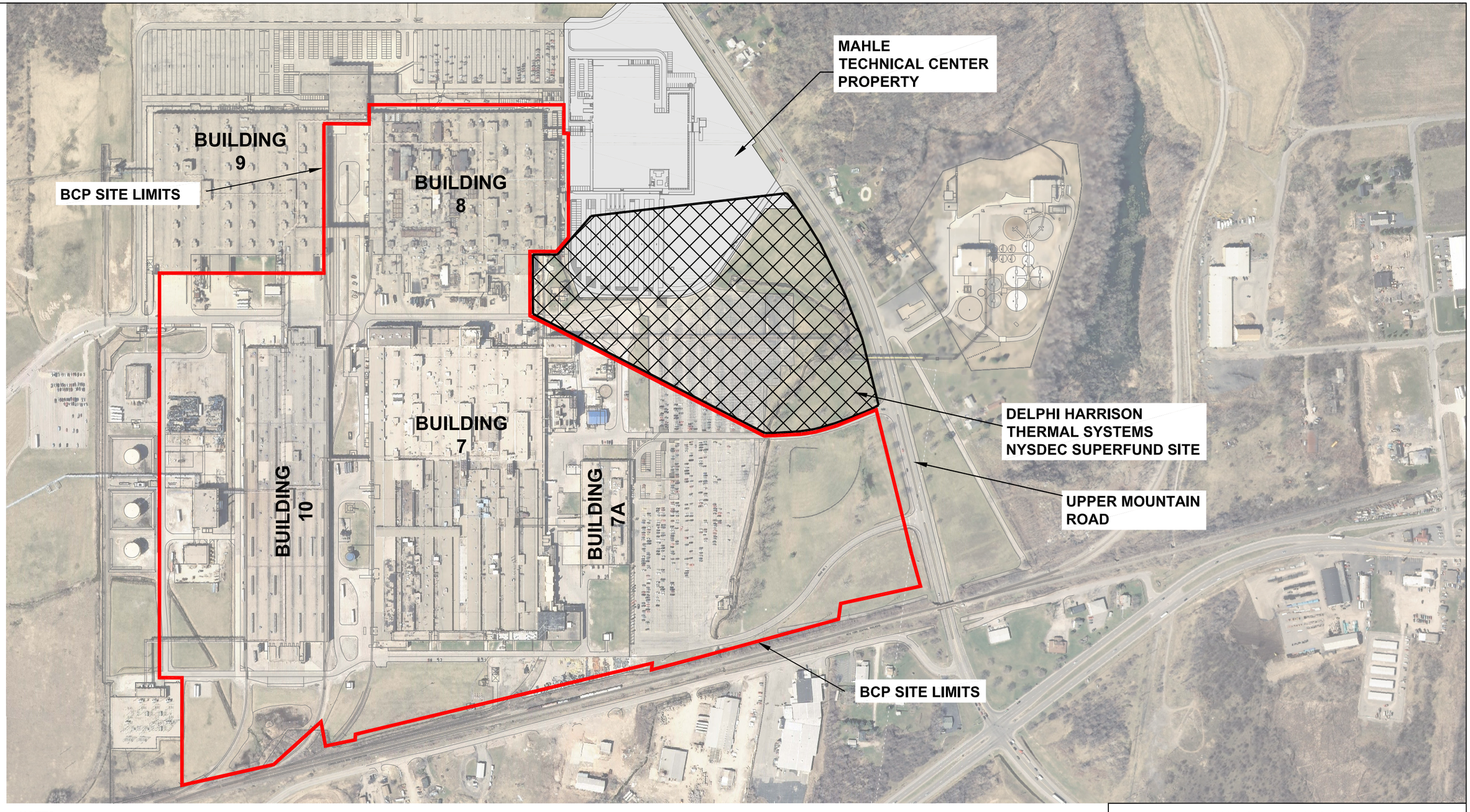
1. Data collected utilizing TPI Series 621 Digital Manometer
2. Data collected during March 2016 was for spot checks to assess potential seasonal operational variance

TABLE III
SSD System - Summary of Blower System Effluent Sampling Results
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No. 36795-033

Parameter Detected (mg/M^3)	Sample Date	Cis 1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
B7W-SCP-5 EFF	22-Jan-15	<2.0	**3.50**	**10.1**	<2.0
B7W-SCP-6 EFF	22-Jan-15	<2.0	**2.50**	**4.60**	<2.0
B8-SCP-3 EFF	22-Jan-15	**4.93**	<2.0	**130**	<2.0
B7A-1/3 EFF	17-Apr-15	<2.0	**74.7**	**146**	<2.0
B7W-SCP-6 EFF	20-Jan-16	<2.0	<2.0	<2.0	<2.0
B8-SCP-3 EFF	20-Jan-16	**4.03**	<2.0	**78.9**	<2.0
B8-SCP-6 EFF	20-Jan-16	<2.0	<2.0	**8.55**	<2.0
B7A-1/3 EFF	18-Feb-16	<2.0	**35.8**	**59.7**	<2.0

1. Analysis performed by Paradigm Environmental Services Inc., Rochester , New York Laboratory using EPA Method 8260C.
2. Effluent Samples collected by GZA Environmental, Inc. within Tedlar Samplng Bags directly from the vacuum blower discharge.

FIGURES



NOTES:

1. THIS FIGURE IS BASED ON THE DRAWING PROVIDED BY DELPHI THERMAL AND INTERIOR SYSTEMS, DATED SEPTEMBER 2007.
2. AERIAL IMAGERY COURTESY OF NYS GIS CLEARINGHOUSE, 2008.

N

0 400 800
SCALE IN FEET

HALEY ALDRICH

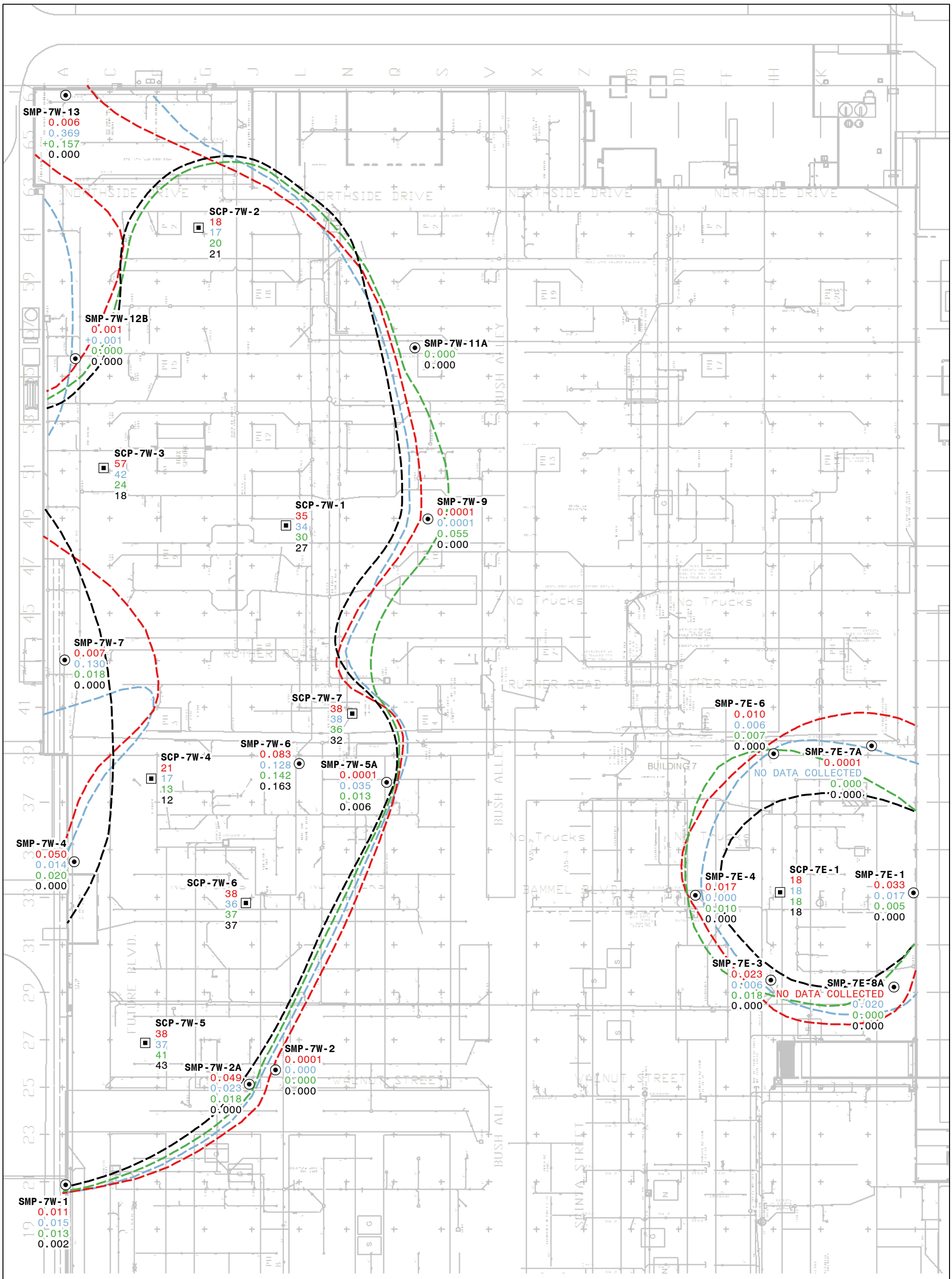
GM COMPONENTS HOLDINGS, LLC
LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK

SITE PLAN

SCALE: AS SHOWN
MAY 2016

FIGURE 1

VOGLER, THOMAS Printed: 5/17/2016 8:41 AM Layout: SITE PLAN (FIG 1)
G:\PROJECTS\36795_GM LOCKPORT\CAD\36795-BLDG7-AAR-02 (MAY 2016).DWG



LEGEND

- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 11/1/13
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 12/30/13
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 1/22/15
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 1/20/16
- SUCTION PIT WITH VACUUM DATA (" W.C.)
- SUB-SLAB MONITORING POINT WITH VACUUM DATA (" W.C.)

NOTES

1. " W.C. - INCHES WATER COLUMN
2. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

0 80 160
SCALE IN FEET

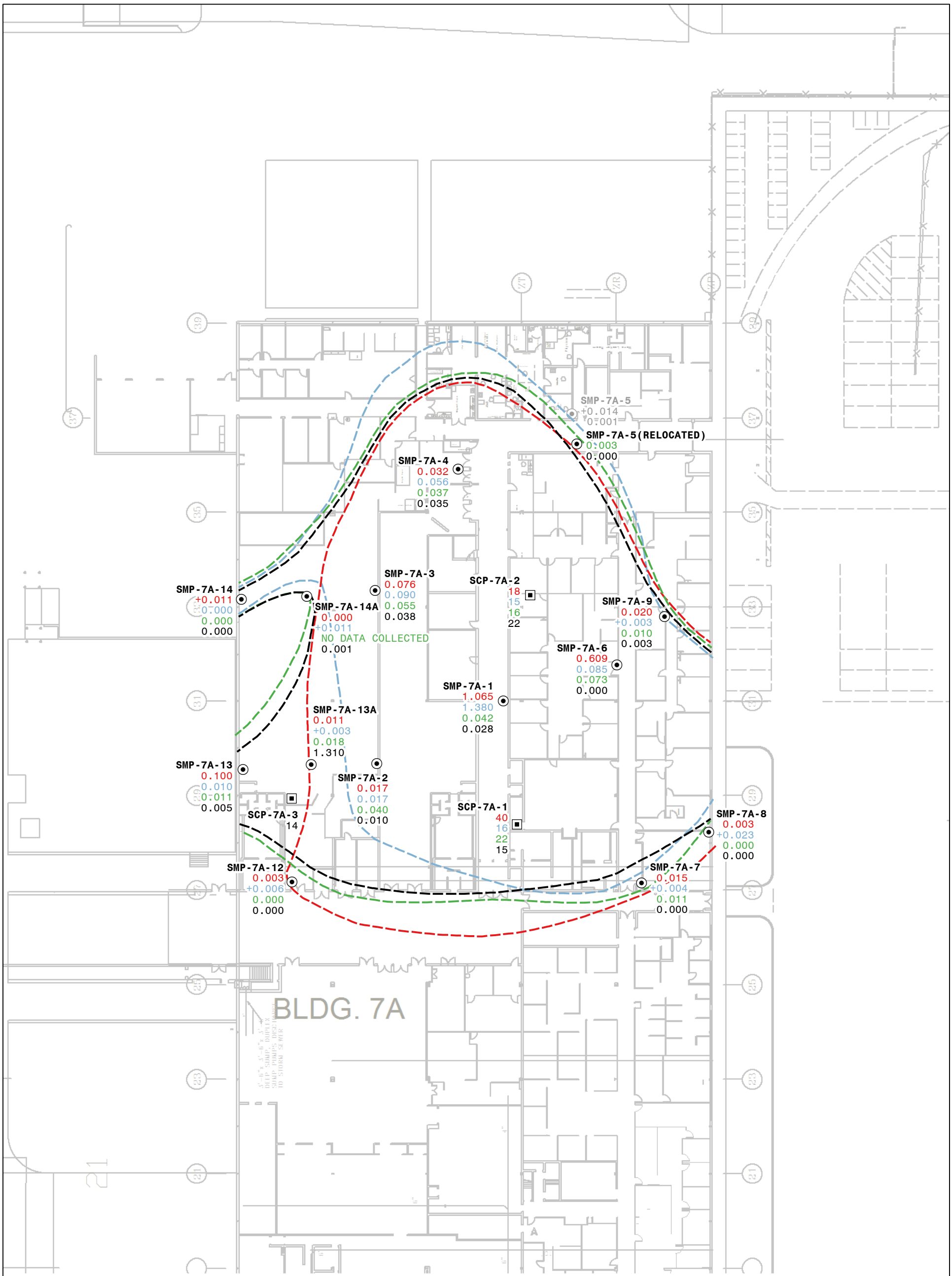
HALEY ALDRICH

GM LOCKPORT FACILITY
LOCKPORT, NEW YORK

OBSERVED VACUUM INFLUENCE - BUILDING 7W AND 7E

MAY 2016

FIGURE 2



LEGEND

- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 11/1/13
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 12/30/13
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 1/22/15
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 10/20/15
- SUCTION PIT WITH VACUUM DATA (" W.C.)
- SUB-SLAB MONITORING POINT WITH VACUUM DATA (" W.C.)

NOTES

1. " W.C. - INCHES WATER COLUMN
2. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

0 40 80

SCALE IN FEET

HALEY ALDRICH

GM LOCKPORT FACILITY
LOCKPORT, NEW YORK

OBSERVED VACUUM INFLUENCE - BUILDING 7A

MAY 2016

FIGURE 3

SMP-B8-3
2.000
0.057
0.052
0.058

SCP-B8-3
53
55
54
54

SMP-B8-2
0.650
0.061
0.205
0.000

SCP-B8-2
38
34
32
33

SMP-B8-4
0.055
NO READING
0.000
0.000

SMP-B8-7
0.029
0.058
0.016
0.000

SCP-B8-4
45
43
41
47

SCP-B8-1
51
52
58
58

SCP-B8-7
56
50
52
56

SMP-B8-1A
0.038
0.028
0.028
0.000

SMP-B8-9
0.020
0.000
0.000
0.000

SCP-B8-6
29
28
27
30

SMP-B8-13A
0.365
0.107
0.204
0.220

SCP-B8-5
55
52
50
52

SMP-B8-10
0.001
+0.005
0.000
0.000

SMP-B8-11
0.004
NO READING
0.000
0.002

LEGEND

- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 11/1/13
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 12/30/13
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 1/22/15
- ESTIMATED CONTOUR 0.002" W.C. VAC. DATA COLLECTED ON 1/20/16
- SUCTION PIT WITH VACUUM DATA (" W.C.)
- SUB-SLAB MONITORING POINT WITH VACUUM DATA (" W.C.)

NOTES

1. " W.C. - INCHES WATER COLUMN
2. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

GM LOCKPORT FACILITY
LOCKPORT, NEW YORK

OBSERVED VACUUM INFLUENCE - BUILDING 8

MAY 2016

FIGURE 4

APPENDIX A

Air Guide-1 Analysis

Air Guide -1 Review

Area Source Method - SSDS Operations - January/ April 2015
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

s - Bldg side length (ft) - Bldg 7 1200 (Assumes area source is a square)

Contaminant	Q (lb/hr)	Q_a (lb/yr)	C_a (µg/m^3)	C_p (µg/m^3)	AGC (µg/m^3)	C_{st} (µg/m^3)	SGC (µg/m^3)
Bldg 7W SCP-5							
tetrachloroethene	0.00060	5.3	0.0012	0.0012	4.0	0.03	1000
trichloroethene	0.0017	15.2	0.0033	0.0033	0.2	0.08	14000

s - Bldg side length (ft) - Bldg 7A 500 (Assumes area source is a square)

Bldg 7A-SCP 1/3							
tetrachloroethene	0.012	109.3	0.12	0.12	4.0	2.90	1000
trichloroethene	0.024	213.6	0.2	0.2	0.2	5.67	14000

s - Bldg side length (ft) - Bldg 8 600 (Assumes area source is a square)

Bldg 8 SCP-3							
cis, 1-2 dichloroethene	0.00085	7.4	0.0057	0.0057	63.0	0.14	NGV
trichloroethene	0.022	196	0.15	0.15	0.2	3.75	14000

Notes

1. Vapor phase Tedlar bag samples were collected on 1/22/15 for units 7W-5, 7W-6, 8-3. Based on PID readings collected on 4/17/15, which was after completing the suction pit 7A-3 installation and piping tie in to the 7A-1 blower unit, a 7A-1/3 vapor phase sample was collected for analysis. These analytical results were higher than the 7W-6 results, therefore the emissions calculations are based on analytical data for units 7W-5, 7A-1/3, 8-3.

2. The pounds per hours data used for the Bldg 7A-1/3 calculation is based on the two data points outlined in the PTE table.

Assumptions

Method used to determine the maximum overall actual annual, potential annual, and short term impacts from an area source.

Calculations

Maximum Actual Annual Impact (C_a): C_a (µg/m^3) = $(76.6*Q_a)/(s^{1.8})$

Maximum Potential Annual Impact (C_p): C_p (µg/m^3) = $(670600*Q)/(s^{1.8})$

Maximum Short Term Impact (C_{st}): C_{st} (µg/m^3) = C_p * 25

Q: Hourly Emissions (lbs/hr)
Q_a: Annual Emissions Rate (lbs/yr)
s: Building Side Dimension (feet)
SGC: Short-Term Guidance Concentrations - Guidance Values - 2014
AGC: Annual Guidance Concentrations - Guidance Valves - 2014
NGV: No Guidance Value
µg/m^3 micro-grams per cubic meter

Sub-Slab Depressurization System - Annual Emissions 2015
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033
SSDS Blower Effluent Samples Collected: 1/22/15 & 4/17/15

Suction Pit Location	Analyte	Vapor Phase Concentration** (mg/m3) *A*	Vapor Flow Rate (CFM) *B*	HAPs Potential to Emit (lb/yr) *C*	HAPs Potential to Emit (ton/yr) *D*	Field PID Reading (PPM)
Bldg 7W SCP-5	Tetrachloroethene*	3.5	46	5.3	0.0026	2.1
	Trichloroethene*	10.1		15.2	0.0076	
	Total HAPs	13.6		20.5	0.0103	
Bldg 7A SCP-1/3 (1 Jan - 16 Apr 2015)	Tetrachloroethene*	0.12	89	0.1	0.0001	0.7
	Trichloroethene*	0.24		0.2	0.0001	
	Total HAPs	0.36		0.3	0.0002	
Bldg 7A SCP-1/3 (17 Apr - 31 Dec 2015)	Tetrachloroethene*	74.7	63	109.2	0.0546	420
	Trichloroethene*	146		213.4	0.1067	
	Total HAPs	220.70		322.5	0.1613	
Bldg 8 SCP-3	cis-1,2-Dichloroethene	4.93	46	7.4	0.0037	114.0
	Trichloroethene*	130		196.2	0.0981	
	Total HAPs	134.93		203.7	0.1018	

* - hazardous air pollutant (HAP)
** - The vapor phase concentrations used for the 7A-1/3 emissions calculations from 1 Jan-16 Apr 2015 were estimated based the PID readings and analytical results from 17 Apr 2015 data and sample collections. Additionally there were observed decreasing trends in PID readings (48.0 ppm in July 2015 and 38.6 ppm in Oct 2015) at the 7A-1/3 blower effluent in 2015.

Conversion equation: $A\,\frac{mg}{m^3} \times \frac{1\,lb}{453{,}592.37\,mg} \times B\,\frac{ft^3}{min} \times \frac{m^3}{35.31\,ft^3} \times \frac{525{,}600\,min}{1\,yr} = C\,\frac{lb}{yr}$

Location	Suction Pit Number	Flow (SCFM)	PID (PPMV)	PTE Lb/yr	PTE tons/yr
Bldg 7W	1	97	1.8	5.7	0.0029
	2	106	2.0	7.0	0.0035
	3	102	5.5	18.4	0.0092
	4	115	2.5	9.4	0.0047
	6	84	1.9	5.2	0.0026
	7	86	1.5	4.2	0.0021
Bldg 7E	1	115	4.2	15.9	0.0079
Bldg 7A	2	69	0.3	0.7	0.0003
Bldg 8	1	46	0.9	1.4	0.0007
	2	88	1.1	3.2	0.0016
	4	94	0.9	2.8	0.0014
	5	63	1.5	3.1	0.0016
	6	99	8.4	27.3	0.0136
	7	66	0.7	1.5	0.0008
				Total PTE tons/yr	**0.0529**

HAPs Potential to Emit(ton/yr)D Updated projection	
Bldg 7W SCP-5	0.0103
Bldg 7A SCP-1/3(1 Jan - 16 Apr 2015)	0.0002
Bldg 7A SCP-1/3(17 Apr - 31 Dec 2015)	0.1613
Bldg 8 SCP-3	0.0981
Remaining 14 Units	0.0529
TOTAL ESTIMATED PTE	**0.3227**

(Using flow rates and PID readings estimated to equal mg/m3)

Air Guide -1 Review

Area Source Method - SSDS Operations - January/ February 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

s - Bldg side length (ft) - Bldg 7A 500 (Assumes area source is a square)

Contaminant	Q (lb/hr)	Q_a (lb/yr)	C_a (µg/m^3)	C_p (µg/m^3)	AGC (µg/m^3)	C_{st} (µg/m^3)	SGC (µg/m^3)
Bldg 7A SCP-1/3							
tetrachloroethene	0.015	129.2	0.14	0.14	4.0	3.4	1000
trichloroethene	0.025	215.5	0.2	0.2	0.2	5.7	14000

s - Bldg side length (ft) - Bldg 8 600 (Assumes area source is a square)

Bldg 8 SCP-3							
tetrachloroethene	0.0007	6.1	0.005	0.005	4.0	0.12	1000
trichloroethene	0.014	119.1	0.09	0.09	0.2	2.3	14000

Bldg 8 SCP-6							
cis, 1-2 dichloroethene	0.00	3.08	0.00	0.00	63.0	0.06	NGV
trichloroethene	0.003	26.4	0.02	0.02	0.2	0.5	14000

Notes

Due to periods of observed out of normal operating range of blower 7A-1 during Jan-Mar 2016, vapor phase Tedlar bag samples were collected on 1/20/16 for units 7W-6, 8-3, and 8-6. Based on PID readings collected on 2/18/16 at unit 7A-1/3 a vapor phase sample was collected for analysis. These results were higher than the 7W-6 analytical results, therefore the emissions calculations are based on analytical data for units 7A-1/3, 8-3, and 8-6.

Assumptions

Method used to determine the maximum overall actual annual, potential annual, and short term impacts from an area source.

Calculations

Maximum Actual Annual Impact (C_a): C_a (µg/m^3) = (76.6*Q_a)/($s^{1.8}$)

Maximum Potential Annual Impact (C_p): C_p (µg/m^3) = (670600*Q)/($s^{1.8}$)

Maximum Short Term Impact (C_{st}): C_{st} (µg/m^3) = C_p * 25

Q: Hourly Emissions (lbs/hr)
Q_a: Annual Emissions Rate (lbs/yr)
s: Building Side Dimension (feet)
SGC: Short-Term Guidance Concentrations - Guidance Values - 2014
AGC: Annual Guidance Concentrations - Guidance Valves - 2014
NGV: No Guidance Value
µg/m^3 micro-grams per cubic meter

Sub-Slab Depressurization System - Annual Emissions 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033
SSDS Blower Effluent Samples Collected: 1/20/16 & 2/18/16

Suction Pit Location	Analyte	Vapor Phase Concentration** (mg/m3) *A*	Vapor Flow Rate *** (CFM) *B*	HAPs Potential to Emit (lb/yr) *C*	HAPs Potential to Emit (ton/yr) *D*	Field PID Reading (PPM)
Bldg 7A SCP-1/3	Tetrachloroethene*	35.8	110	129.2	0.0646	36.2
	Trichloroethene*	59.7		215.5	0.1078	
	Total HAPs	95.5		344.7	0.1724	
Bldg 8 SCP-3	cis-1,2-Dichloroethene	4.03	46	6.1	0.0030	92.5
	Trichloroethene*	78.9		119.1	0.0596	
	Total HAPs	82.93		125.2	0.0626	
Bldg 8 SCP-6	cis-1,2-Dichloroethene	1.0	94	3.1	0.0015	7.3
	Trichloroethene*	8.55		26.4	0.0132	
	Total HAPs	9.55		29.5	0.0147	

* - hazardous air pollutant (HAP)
** - The vapor phase concentration used for cis 1,2-DCE for Bldg 8 SCP-6 is conservative based reported concentration in the analytical report below a reporting limit of <2.0 mg/m3.

*** - Due to periods of observed out of normal operating range of blower 7A-1 during Jan-Mar 2016, the flow rate was reduced at the time of the vapor phase sampling collected on 2/18/16, therefore the average flow rate for 2015 was used for the emissions calculations which would be representative of routine operations.

Conversion equation: $A\ \frac{mg}{m^3} \times \frac{1\ lb}{453{,}592.37\ mg} \times B\ \frac{ft^3}{min} \times \frac{m^3}{35.31\ ft^3} \times \frac{525{,}600\ min}{1\ yr} = C\ \frac{lb}{yr}$

Location	Suction Pit Number	Flow (SCFM)	PID (PPMV)	PTE Lb/yr	PTE tons/yr
Bldg 7W	1	100	2.4	7.9	0.0039
	2	103	2.4	8.1	0.0041
	3	106	5.0	17.4	0.0087
	4	115	4.5	17.0	0.0085
	5	78	5.8	14.8	0.0074
	6	86	6.0	16.9	0.0085
	7	95	1.9	5.9	0.0030
Bldg 7E	1	112	0.16	0.6	0.0003
Bldg 7A	2	66	0.3	0.6	0.0003
Bldg 8	1	46	0.9	1.4	0.0007
	2	91	1.1	3.3	0.0016
	4	88	0.9	2.6	0.0013
	5	55	1.5	2.7	0.0014
	7	46	0.7	1.1	0.0005

Total PTE tons/yr	**0.0502**

HAPs Potential to Emit(ton/yr)D Updated projection	
Bldg 7A SCP-1/3	0.1724
Bldg 8 SCP-3	0.0596
Bldg 8 SCP-6	0.0132
Remaining 14 Units	0.0502
TOTAL ESTIMATED PTE	**0.2953**

(Using flow rates and PID readings estimated to equal mg/m3)

APPENDIX B

Laboratory Analytical Reports

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

150279

Referencing

21.0056546.00 Task 33

Prepared

Wednesday, January 28, 2015

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

Report Prepared Wednesday, January 28, 2015

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 150279

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

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	B8-3-012215		
Lab Sample ID:	150279-01	**Date Sampled:**	1/22/2015
Matrix:	Air	**Date Received:**	1/26/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		1/27/2015 18:05
1,1-Dichloroethane	< 2.00	mg/m3		1/27/2015 18:05
1,1-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:05
1,2-Dichloropropane	< 2.00	mg/m3		1/27/2015 18:05
2-Butanone (MEK)	< 10.0	mg/m3		1/27/2015 18:05
Benzene	< 2.00	mg/m3		1/27/2015 18:05
Chlorobenzene	< 2.00	mg/m3		1/27/2015 18:05
Chloroform	< 2.00	mg/m3		1/27/2015 18:05
cis-1,2-Dichloroethene	**4.93**	mg/m3		1/27/2015 18:05
Ethylbenzene	< 2.00	mg/m3		1/27/2015 18:05
m,p-Xylene	< 2.00	mg/m3		1/27/2015 18:05
Methyl tert-butyl Ether	< 2.00	mg/m3		1/27/2015 18:05
Methylene chloride	< 5.00	mg/m3		1/27/2015 18:05
o-Xylene	< 2.00	mg/m3		1/27/2015 18:05
Tetrachloroethene	< 2.00	mg/m3		1/27/2015 18:05
Toluene	< 2.00	mg/m3		1/27/2015 18:05
trans-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:05
Trichloroethene	**130**	mg/m3		1/27/2015 18:05
Vinyl chloride	< 2.00	mg/m3		1/27/2015 18:05

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**113**	70 - 130		1/27/2015 18:05
4-Bromofluorobenzene	**97.2**	70 - 130		1/27/2015 18:05
Pentafluorobenzene	**102**	70 - 130		1/27/2015 18:05
Toluene-D8	**100**	70 - 130		1/27/2015 18:05

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

Data File: x20161.D

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

PARADIGM
ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 150279

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

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	7W-5-012215		
Lab Sample ID:	150279-02	**Date Sampled:**	1/22/2015
Matrix:	Air	**Date Received:**	1/26/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		1/27/2015 18:29
1,1-Dichloroethane	< 2.00	mg/m3		1/27/2015 18:29
1,1-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:29
1,2-Dichloropropane	< 2.00	mg/m3		1/27/2015 18:29
2-Butanone (MEK)	< 10.0	mg/m3		1/27/2015 18:29
Benzene	< 2.00	mg/m3		1/27/2015 18:29
Chlorobenzene	< 2.00	mg/m3		1/27/2015 18:29
Chloroform	< 2.00	mg/m3		1/27/2015 18:29
cis-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:29
Ethylbenzene	< 2.00	mg/m3		1/27/2015 18:29
m,p-Xylene	< 2.00	mg/m3		1/27/2015 18:29
Methyl tert-butyl Ether	< 2.00	mg/m3		1/27/2015 18:29
Methylene chloride	< 5.00	mg/m3		1/27/2015 18:29
o-Xylene	< 2.00	mg/m3		1/27/2015 18:29
Tetrachloroethene	**3.50**	mg/m3		1/27/2015 18:29
Toluene	< 2.00	mg/m3		1/27/2015 18:29
trans-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:29
Trichloroethene	**10.1**	mg/m3		1/27/2015 18:29
Vinyl chloride	< 2.00	mg/m3		1/27/2015 18:29

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**114**	70 - 130		1/27/2015 18:29
4-Bromofluorobenzene	**97.5**	70 - 130		1/27/2015 18:29
Pentafluorobenzene	**101**	70 - 130		1/27/2015 18:29
Toluene-D8	**102**	70 - 130		1/27/2015 18:29

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

Data File: x20162.D

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 150279

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

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	7W-6-012215		
Lab Sample ID:	150279-03	**Date Sampled:**	1/22/2015
Matrix:	Air	**Date Received:**	1/26/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		1/27/2015 18:54
1,1-Dichloroethane	< 2.00	mg/m3		1/27/2015 18:54
1,1-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:54
1,2-Dichloropropane	< 2.00	mg/m3		1/27/2015 18:54
2-Butanone (MEK)	< 10.0	mg/m3		1/27/2015 18:54
Benzene	< 2.00	mg/m3		1/27/2015 18:54
Chlorobenzene	< 2.00	mg/m3		1/27/2015 18:54
Chloroform	< 2.00	mg/m3		1/27/2015 18:54
cis-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:54
Ethylbenzene	< 2.00	mg/m3		1/27/2015 18:54
m,p-Xylene	< 2.00	mg/m3		1/27/2015 18:54
Methyl tert-butyl Ether	< 2.00	mg/m3		1/27/2015 18:54
Methylene chloride	< 5.00	mg/m3		1/27/2015 18:54
o-Xylene	< 2.00	mg/m3		1/27/2015 18:54
Tetrachloroethene	**2.50**	mg/m3		1/27/2015 18:54
Toluene	< 2.00	mg/m3		1/27/2015 18:54
trans-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2015 18:54
Trichloroethene	**4.60**	mg/m3		1/27/2015 18:54
Vinyl chloride	< 2.00	mg/m3		1/27/2015 18:54

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**113**	70 - 130		1/27/2015 18:54
4-Bromofluorobenzene	**96.4**	70 - 130		1/27/2015 18:54
Pentafluorobenzene	**101**	70 - 130		1/27/2015 18:54
Toluene-D8	**99.3**	70 - 130		1/27/2015 18:54

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

Data File: x20163.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

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

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

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

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

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

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

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

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

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

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

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

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

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

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

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

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

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

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	LAB PROJECT ID
CLIENT: GZA GeoEnvironmental	CLIENT:	150279
ADDRESS: 535 Washington St	ADDRESS:	Quotation #:
CITY: Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:	Email: thomas.bohlen@gza.com james.richert@gza.com
PHONE: 716-685-2300	PHONE:	
ATTN: T. Bohlen	ATTN:	

PROJECT REFERENCE
21.0056546.00
Task 33

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

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	See Prev. W.O.	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	1/22/15	1318		X	B8-3-012215	AR	1	X		*re-use Tedlars - return to T. Bohlen @ GZA office *	01
2	↓	1425		X	TW-5-012215	↓	1	X			02
3	↓	1420		X	TW-6-012215	↓	1	X			03
4											
5											
6											
7											
8											
9											
10											

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

R. Strack	1/22/15	1425
Sampled By	Date/Time	
[signature]	1/23/15	1515
Relinquished By	Date/Time	
[signature]	1/23/15	1515
Received By	Date/Time	
[signature]	1/26/15	16:48
Received @ Lab By	Date/Time	

Total Cost:

P.I.F.

PARADIGM ENVIRONMENTAL SERVICES, INC.

Chain of Custody Supplement

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

Lab Project ID: 150279 **Date:** 1/26/15

Sample Condition Requirements

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

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

PARADIGM

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

151406

Referencing

21.0056546.00 Task 33

Prepared

Friday, April 24, 2015

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

KRHansen

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 151406

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

Project Reference: 21.0056546.00 Task 33

Sample Identifier: 7A1-041715
Lab Sample ID: 151406-01 **Date Sampled:** 4/17/2015
Matrix: Air **Date Received:** 4/20/2015

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		4/23/2015 19:28
1,1-Dichloroethane	< 2.00	mg/m3		4/23/2015 19:28
1,1-Dichloroethene	< 2.00	mg/m3		4/23/2015 19:28
1,2-Dichloropropane	< 2.00	mg/m3		4/23/2015 19:28
2-Butanone (MEK)	< 10.0	mg/m3		4/23/2015 19:28
Benzene	< 2.00	mg/m3		4/23/2015 19:28
Chlorobenzene	< 2.00	mg/m3		4/23/2015 19:28
Chloroform	< 2.00	mg/m3		4/23/2015 19:28
cis-1,2-Dichloroethene	< 2.00	mg/m3		4/23/2015 19:28
Ethylbenzene	< 2.00	mg/m3		4/23/2015 19:28
m,p-Xylene	< 2.00	mg/m3		4/23/2015 19:28
Methyl tert-butyl Ether	< 2.00	mg/m3		4/23/2015 19:28
Methylene chloride	< 5.00	mg/m3		4/23/2015 19:28
o-Xylene	< 2.00	mg/m3		4/23/2015 19:28
Tetrachloroethene	**74.7**	mg/m3		4/23/2015 19:28
Toluene	< 2.00	mg/m3		4/23/2015 19:28
trans-1,2-Dichloroethene	< 2.00	mg/m3		4/23/2015 19:28
Trichloroethene	**146**	mg/m3		4/23/2015 19:28
Vinyl chloride	< 2.00	mg/m3		4/23/2015 19:28

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**105**	70 - 130		4/23/2015 19:28
4-Bromofluorobenzene	**92.0**	70 - 130		4/23/2015 19:28
Pentafluorobenzene	**97.5**	70 - 130		4/23/2015 19:28
Toluene-D8	**94.6**	70 - 130		4/23/2015 19:28

Method Reference(s): EPA 8260C Modified
EPA 5030
Data File: x22143.D

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"Z" = See case narrative.
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"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.
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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.

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Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

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

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

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

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:	INVOICE TO:	
CLIENT: GZA GeoEnvironmental	CLIENT:	LAB PROJECT ID: 151406
ADDRESS: 535 Washington St.	ADDRESS:	
CITY: Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:	Quotation #:
PHONE: 716 685-2380	PHONE:	Email: thomas.bohlen@gza.com
ATTN: T. Bohlen / J. Ricket	ATTN:	

PROJECT REFERENCE

21.0056546.00
Task 33

Matrix Codes:

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

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOCs	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	4/17/15	1653		X	TA1-041715	AR	1	X	*re-use Tedlars - please send to T. Bohlen - GZA office	01
2										
3										
4										
5										
6										
7										
8										
9										
10										

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

Thomas Bohlen	4/17/15	Total Cost:
Sampled By	Date/Time	
Thomas Bohlen	4/17/15 1830	
Relinquished By	Date/Time	
Jim Ricket	4/20/15 0917	P.I.F.
Received By	Date/Time	
John Hall	4/20/15 0917	
Received @ Lab By	Date/Time	
Molly Vail	4/20/15 1641	

2012

Chain of Custody Supplement

Client: GZA **Completed by:** Molly Nail

Lab Project ID: 151406 **Date:** 4/20/15

Sample Condition Requirements

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

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

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

PARADIGM

ENVIRONMENTAL SERVICES, INC.

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

160309

Referencing

21.0056546.00 Task 33

Prepared

Thursday, January 28, 2016

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

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160309

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

Project Reference: 21.0056546.00 Task 33

Sample Identifier: B8-3
Lab Sample ID: 160309-01 **Date Sampled:** 1/20/2016
Matrix: Air **Date Received:** 1/22/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		1/27/2016 18:50
1,1-Dichloroethane	< 2.00	mg/m3		1/27/2016 18:50
1,1-Dichloroethene	< 2.00	mg/m3		1/27/2016 18:50
1,2-Dichloropropane	< 2.00	mg/m3		1/27/2016 18:50
2-Butanone (MEK)	< 10.0	mg/m3		1/27/2016 18:50
Benzene	< 2.00	mg/m3		1/27/2016 18:50
Chlorobenzene	< 2.00	mg/m3		1/27/2016 18:50
Chloroform	< 2.00	mg/m3		1/27/2016 18:50
cis-1,2-Dichloroethene	**4.03**	mg/m3		1/27/2016 18:50
Ethylbenzene	< 2.00	mg/m3		1/27/2016 18:50
m,p-Xylene	< 2.00	mg/m3		1/27/2016 18:50
Methyl tert-butyl Ether	< 2.00	mg/m3		1/27/2016 18:50
Methylene chloride	< 5.00	mg/m3		1/27/2016 18:50
o-Xylene	< 2.00	mg/m3		1/27/2016 18:50
Tetrachloroethene	< 2.00	mg/m3		1/27/2016 18:50
Toluene	< 2.00	mg/m3		1/27/2016 18:50
trans-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2016 18:50
Trichloroethene	**78.9**	mg/m3		1/27/2016 18:50
Vinyl chloride	< 2.00	mg/m3		1/27/2016 18:50

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**113**	80.6 - 125		1/27/2016 18:50
4-Bromofluorobenzene	**102**	86.6 - 111		1/27/2016 18:50
Pentafluorobenzene	**99.5**	90.9 - 107		1/27/2016 18:50
Toluene-D8	**103**	90.8 - 109		1/27/2016 18:50

Method Reference(s): EPA 8260C Modified
EPA 5030C modified
Data File: x29227.D

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160309

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

Project Reference: 21.0056546.00 Task 33

Sample Identifier: B8-6
Lab Sample ID: 160309-02 **Date Sampled:** 1/20/2016
Matrix: Air **Date Received:** 1/22/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		1/27/2016 19:14
1,1-Dichloroethane	< 2.00	mg/m3		1/27/2016 19:14
1,1-Dichloroethene	< 2.00	mg/m3		1/27/2016 19:14
1,2-Dichloropropane	< 2.00	mg/m3		1/27/2016 19:14
2-Butanone (MEK)	< 10.0	mg/m3		1/27/2016 19:14
Benzene	< 2.00	mg/m3		1/27/2016 19:14
Chlorobenzene	< 2.00	mg/m3		1/27/2016 19:14
Chloroform	< 2.00	mg/m3		1/27/2016 19:14
cis-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2016 19:14
Ethylbenzene	< 2.00	mg/m3		1/27/2016 19:14
m,p-Xylene	< 2.00	mg/m3		1/27/2016 19:14
Methyl tert-butyl Ether	< 2.00	mg/m3		1/27/2016 19:14
Methylene chloride	< 5.00	mg/m3		1/27/2016 19:14
o-Xylene	< 2.00	mg/m3		1/27/2016 19:14
Tetrachloroethene	< 2.00	mg/m3		1/27/2016 19:14
Toluene	< 2.00	mg/m3		1/27/2016 19:14
trans-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2016 19:14
Trichloroethene	**8.55**	mg/m3		1/27/2016 19:14
Vinyl chloride	< 2.00	mg/m3		1/27/2016 19:14

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**117**	80.6 - 125		1/27/2016 19:14
4-Bromofluorobenzene	**100**	86.6 - 111		1/27/2016 19:14
Pentafluorobenzene	**99.0**	90.9 - 107		1/27/2016 19:14
Toluene-D8	**103**	90.8 - 109		1/27/2016 19:14

Method Reference(s): EPA 8260C Modified
EPA 5030C modified
Data File: x29228.D

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160309

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

Project Reference: 21.0056546.00 Task 33

Sample Identifier:	7W-6		
Lab Sample ID:	160309-03	**Date Sampled:**	1/20/2016
Matrix:	Air	**Date Received:**	1/22/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		1/27/2016 19:37
1,1-Dichloroethane	< 2.00	mg/m3		1/27/2016 19:37
1,1-Dichloroethene	< 2.00	mg/m3		1/27/2016 19:37
1,2-Dichloropropane	< 2.00	mg/m3		1/27/2016 19:37
2-Butanone (MEK)	< 10.0	mg/m3		1/27/2016 19:37
Benzene	< 2.00	mg/m3		1/27/2016 19:37
Chlorobenzene	< 2.00	mg/m3		1/27/2016 19:37
Chloroform	< 2.00	mg/m3		1/27/2016 19:37
cis-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2016 19:37
Ethylbenzene	< 2.00	mg/m3		1/27/2016 19:37
m,p-Xylene	< 2.00	mg/m3		1/27/2016 19:37
Methyl tert-butyl Ether	< 2.00	mg/m3		1/27/2016 19:37
Methylene chloride	< 5.00	mg/m3		1/27/2016 19:37
o-Xylene	< 2.00	mg/m3		1/27/2016 19:37
Tetrachloroethene	< 2.00	mg/m3		1/27/2016 19:37
Toluene	< 2.00	mg/m3		1/27/2016 19:37
trans-1,2-Dichloroethene	< 2.00	mg/m3		1/27/2016 19:37
Trichloroethene	< 2.00	mg/m3		1/27/2016 19:37
Vinyl chloride	< 2.00	mg/m3		1/27/2016 19:37

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**112**	80.6 - 125		1/27/2016 19:37
4-Bromofluorobenzene	**99.4**	86.6 - 111		1/27/2016 19:37
Pentafluorobenzene	**97.5**	90.9 - 107		1/27/2016 19:37
Toluene-D8	**102**	90.8 - 109		1/27/2016 19:37

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

Data File: x29229.D

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

Analytical Report Appendix

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

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

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

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

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

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

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

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

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

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

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

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

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

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

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

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

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

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

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

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

CHAIN OF CUSTODY

PARADIGM ENVIRONMENTAL SERVICES, INC.

REPORT TO:	INVOICE TO:	
CLIENT: GZA	CLIENT:	LAB PROJECT ID: 160309
ADDRESS: 535 Washington ST	ADDRESS:	Page 7 of 8
CITY: Buffalo STATE: NY ZIP: 14203	CITY: STATE: ZIP:	Quotation #:
PHONE: 716-685-2300	PHONE:	Email: thomas.bohlen@GZA.com
ATTN: T. Bohlen	ATTN:	

PROJECT REFERENCE

21.0056546.00
TASK 33

Matrix Codes:

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

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260 VOC	#See prev work order							REMARKS	PARADIGM LAB SAMPLE NUMBER
1	1-20-16	1140		X	BB-3	AIR	1	X								*Please return Tedlars	01
2	↓	1153		↓	BB-6	↓	↓	↓								to T. Bohlen - GZA	02
3	↓	1500		↓	TW-6	↓	↓	↓								Buffalo office*	03
4																	
5																	
6																	
7																	
8																	
9																	
10																	

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

T. Bohlen	1-20-16 /	Sampled By / Date/Time
	1-21-16 / 1320	Relinquished By / Date/Time
	1-21-16 / 1320	Received By / Date/Time
	1/22/16 1423	Received @ Lab By / Date/Time

Total Cost:

P.I.F.

262

Chain of Custody Supplement

Client: EZA

Completed by: MollyKail

Lab Project ID: 160309

Date: 1/22/16

Sample Condition Requirements

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

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

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

Analytical Report For

GZA Geo Environmental of New York

For Lab Project ID

160724

Referencing

21.0056546 Task 33

Prepared

Thursday, February 25, 2016

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

KRJansen

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160724

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

Project Reference: 21.0056546 Task 33

Sample Identifier:	1/3		
Lab Sample ID:	160724-01	**Date Sampled:**	2/18/2016
Matrix:	Air	**Date Received:**	2/19/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		2/22/2016 19:44
1,1-Dichloroethane	< 2.00	mg/m3		2/22/2016 19:44
1,1-Dichloroethene	< 2.00	mg/m3		2/22/2016 19:44
1,2-Dichloropropane	< 2.00	mg/m3		2/22/2016 19:44
2-Butanone (MEK)	< 10.0	mg/m3		2/22/2016 19:44
Benzene	< 2.00	mg/m3		2/22/2016 19:44
Chlorobenzene	< 2.00	mg/m3		2/22/2016 19:44
Chloroform	< 2.00	mg/m3		2/22/2016 19:44
cis-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 19:44
Ethylbenzene	< 2.00	mg/m3		2/22/2016 19:44
m,p-Xylene	< 2.00	mg/m3		2/22/2016 19:44
Methyl tert-butyl Ether	< 2.00	mg/m3		2/22/2016 19:44
Methylene chloride	< 5.00	mg/m3		2/22/2016 19:44
o-Xylene	< 2.00	mg/m3		2/22/2016 19:44
Tetrachloroethene	**35.8**	mg/m3		2/22/2016 19:44
Toluene	< 2.00	mg/m3		2/22/2016 19:44
trans-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 19:44
Trichloroethene	**59.7**	mg/m3		2/22/2016 19:44
Vinyl chloride	< 2.00	mg/m3		2/22/2016 19:44

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**107**	80.6 - 125		2/22/2016 19:44
4-Bromofluorobenzene	**94.3**	86.6 - 111		2/22/2016 19:44
Pentafluorobenzene	**96.5**	90.9 - 107		2/22/2016 19:44
Toluene-D8	**97.9**	90.8 - 109		2/22/2016 19:44

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

Data File: x29752.D

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160724

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

Project Reference: 21.0056546 Task 33

Sample Identifier:	Pre-Carbon		
Lab Sample ID:	160724-02	**Date Sampled:**	2/18/2016
Matrix:	Air	**Date Received:**	2/19/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		2/22/2016 19:19
1,1-Dichloroethane	< 2.00	mg/m3		2/22/2016 19:19
1,1-Dichloroethene	< 2.00	mg/m3		2/22/2016 19:19
1,2-Dichloropropane	< 2.00	mg/m3		2/22/2016 19:19
2-Butanone (MEK)	< 10.0	mg/m3		2/22/2016 19:19
Benzene	< 2.00	mg/m3		2/22/2016 19:19
Chlorobenzene	< 2.00	mg/m3		2/22/2016 19:19
Chloroform	< 2.00	mg/m3		2/22/2016 19:19
cis-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 19:19
Ethylbenzene	< 2.00	mg/m3		2/22/2016 19:19
m,p-Xylene	< 2.00	mg/m3		2/22/2016 19:19
Methyl tert-butyl Ether	< 2.00	mg/m3		2/22/2016 19:19
Methylene chloride	< 5.00	mg/m3		2/22/2016 19:19
o-Xylene	< 2.00	mg/m3		2/22/2016 19:19
Tetrachloroethene	**2.08**	mg/m3		2/22/2016 19:19
Toluene	< 2.00	mg/m3		2/22/2016 19:19
trans-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 19:19
Trichloroethene	< 2.00	mg/m3		2/22/2016 19:19
Vinyl chloride	< 2.00	mg/m3		2/22/2016 19:19

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**106**	80.6 - 125		2/22/2016 19:19
4-Bromofluorobenzene	**94.7**	86.6 - 111		2/22/2016 19:19
Pentafluorobenzene	**98.0**	90.9 - 107		2/22/2016 19:19
Toluene-D8	**95.8**	90.8 - 109		2/22/2016 19:19

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

Data File: x29751.D

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160724

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

Project Reference: 21.0056546 Task 33

Sample Identifier: Mid-Carbon
Lab Sample ID: 160724-03 **Date Sampled:** 2/18/2016
Matrix: Air **Date Received:** 2/19/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		2/22/2016 18:55
1,1-Dichloroethane	< 2.00	mg/m3		2/22/2016 18:55
1,1-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:55
1,2-Dichloropropane	< 2.00	mg/m3		2/22/2016 18:55
2-Butanone (MEK)	< 10.0	mg/m3		2/22/2016 18:55
Benzene	< 2.00	mg/m3		2/22/2016 18:55
Chlorobenzene	< 2.00	mg/m3		2/22/2016 18:55
Chloroform	< 2.00	mg/m3		2/22/2016 18:55
cis-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:55
Ethylbenzene	< 2.00	mg/m3		2/22/2016 18:55
m,p-Xylene	< 2.00	mg/m3		2/22/2016 18:55
Methyl tert-butyl Ether	< 2.00	mg/m3		2/22/2016 18:55
Methylene chloride	< 5.00	mg/m3		2/22/2016 18:55
o-Xylene	< 2.00	mg/m3		2/22/2016 18:55
Tetrachloroethene	**1.09**	mg/m3	J	2/22/2016 18:55
Toluene	< 2.00	mg/m3		2/22/2016 18:55
trans-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:55
Trichloroethene	< 2.00	mg/m3		2/22/2016 18:55
Vinyl chloride	< 2.00	mg/m3		2/22/2016 18:55

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**106**	80.6 - 125		2/22/2016 18:55
4-Bromofluorobenzene	**95.5**	86.6 - 111		2/22/2016 18:55
Pentafluorobenzene	**97.5**	90.9 - 107		2/22/2016 18:55
Toluene-D8	**95.7**	90.8 - 109		2/22/2016 18:55

Method Reference(s): EPA 8260C Modified
EPA 5030C modified
Data File: x29750.D

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160724

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

Project Reference: 21.0056546 Task 33

Sample Identifier:	Post-Carbon		
Lab Sample ID:	160724-04	**Date Sampled:**	2/18/2016
Matrix:	Air	**Date Received:**	2/19/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		2/22/2016 18:31
1,1-Dichloroethane	< 2.00	mg/m3		2/22/2016 18:31
1,1-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:31
1,2-Dichloropropane	< 2.00	mg/m3		2/22/2016 18:31
2-Butanone (MEK)	< 10.0	mg/m3		2/22/2016 18:31
Benzene	< 2.00	mg/m3		2/22/2016 18:31
Chlorobenzene	< 2.00	mg/m3		2/22/2016 18:31
Chloroform	< 2.00	mg/m3		2/22/2016 18:31
cis-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:31
Ethylbenzene	< 2.00	mg/m3		2/22/2016 18:31
m,p-Xylene	< 2.00	mg/m3		2/22/2016 18:31
Methyl tert-butyl Ether	< 2.00	mg/m3		2/22/2016 18:31
Methylene chloride	< 5.00	mg/m3		2/22/2016 18:31
o-Xylene	< 2.00	mg/m3		2/22/2016 18:31
Tetrachloroethene	**1.24**	mg/m3	J	2/22/2016 18:31
Toluene	< 2.00	mg/m3		2/22/2016 18:31
trans-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:31
Trichloroethene	< 2.00	mg/m3		2/22/2016 18:31
Vinyl chloride	< 2.00	mg/m3		2/22/2016 18:31

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**110**	80.6 - 125		2/22/2016 18:31
4-Bromofluorobenzene	**95.0**	86.6 - 111		2/22/2016 18:31
Pentafluorobenzene	**98.9**	90.9 - 107		2/22/2016 18:31
Toluene-D8	**96.6**	90.8 - 109		2/22/2016 18:31

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

Data File: x29749.D

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

Lab Project ID: 160724

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

Project Reference: 21.0056546 Task 33

Sample Identifier:	Duplicate		
Lab Sample ID:	160724-05	**Date Sampled:**	2/18/2016
Matrix:	Air	**Date Received:**	2/19/2016

Volatile Organics

Analyte	Result	Units	Qualifier	Date Analyzed
1,1,1-Trichloroethane	< 2.00	mg/m3		2/22/2016 18:07
1,1-Dichloroethane	< 2.00	mg/m3		2/22/2016 18:07
1,1-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:07
1,2-Dichloropropane	< 2.00	mg/m3		2/22/2016 18:07
2-Butanone (MEK)	< 10.0	mg/m3		2/22/2016 18:07
Benzene	< 2.00	mg/m3		2/22/2016 18:07
Chlorobenzene	< 2.00	mg/m3		2/22/2016 18:07
Chloroform	< 2.00	mg/m3		2/22/2016 18:07
cis-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:07
Ethylbenzene	< 2.00	mg/m3		2/22/2016 18:07
m,p-Xylene	< 2.00	mg/m3		2/22/2016 18:07
Methyl tert-butyl Ether	< 2.00	mg/m3		2/22/2016 18:07
Methylene chloride	< 5.00	mg/m3		2/22/2016 18:07
o-Xylene	< 2.00	mg/m3		2/22/2016 18:07
Tetrachloroethene	< 2.00	mg/m3		2/22/2016 18:07
Toluene	< 2.00	mg/m3		2/22/2016 18:07
trans-1,2-Dichloroethene	< 2.00	mg/m3		2/22/2016 18:07
Trichloroethene	< 2.00	mg/m3		2/22/2016 18:07
Vinyl chloride	< 2.00	mg/m3		2/22/2016 18:07

Surrogate	Percent Recovery	Limits	Outliers	Date Analyzed
1,2-Dichloroethane-d4	**105**	80.6 - 125		2/22/2016 18:07
4-Bromofluorobenzene	**98.9**	86.6 - 111		2/22/2016 18:07
Pentafluorobenzene	**98.3**	90.9 - 107		2/22/2016 18:07
Toluene-D8	**97.3**	90.8 - 109		2/22/2016 18:07

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

Data File: x29748.D

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

Analytical Report Appendix

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

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

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

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

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

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

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

GENERAL TERMS AND CONDITIONS
LABORATORY SERVICES

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

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

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

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

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

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

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

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

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

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

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

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

PARADIGM ENVIRONMENTAL SERVICES, INC.

CHAIN OF CUSTODY

REPORT TO:			INVOICE TO:			LAB PROJECT ID
CLIENT: GZA			CLIENT:			160724
ADDRESS: 535 WASHINGTON ST			ADDRESS:			Quotation #:
CITY: BUFFALO	STATE: NY	ZIP: 14203	CITY:	STATE:	ZIP:	
PHONE: 716-685-2300			PHONE:			Email: Thomas.Bohlen@GZA.com
ATTN: T. Bohlen			ATTN:			

PROJECT REFERENCE

21.0056546
TASK 33

Matrix Codes:

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

REQUESTED ANALYSIS

	DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRAB	SAMPLE IDENTIFIER	MATRIX CODES	NUMBER OF CONTAINERS	8260C VOC - see prev. work order	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	2-18-16	1030		X	1/3	AIR	1	X	* Please return tedlers to T. Bohlen GZA Buffalo office *	01
2	↓	1330		↓	Pre-carbon	↓	↓	↓		02
3		1335			Mid-carbon					03
4		1340			Post-carbon					04
5	↓	—		↓	DUPLICATE	↓	↓	↓		05
6										
7										
8										
9										
10										

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

P. Nyznyk	2/18/16 1030	Total Cost:
Sampled By	Date/Time	
Relinquished By	2/19/16 940	
	Date/Time	
Received By	2/19/16 9:40	P.I.F.
	Date/Time	
Received @ Lab By	2/19/16 16:09	
	Date/Time	

PARADIGM ENVIRONMENTAL SERVICES, INC.

Chain of Custody Supplement

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

Lab Project ID: 160724 **Date:** 2/19/16

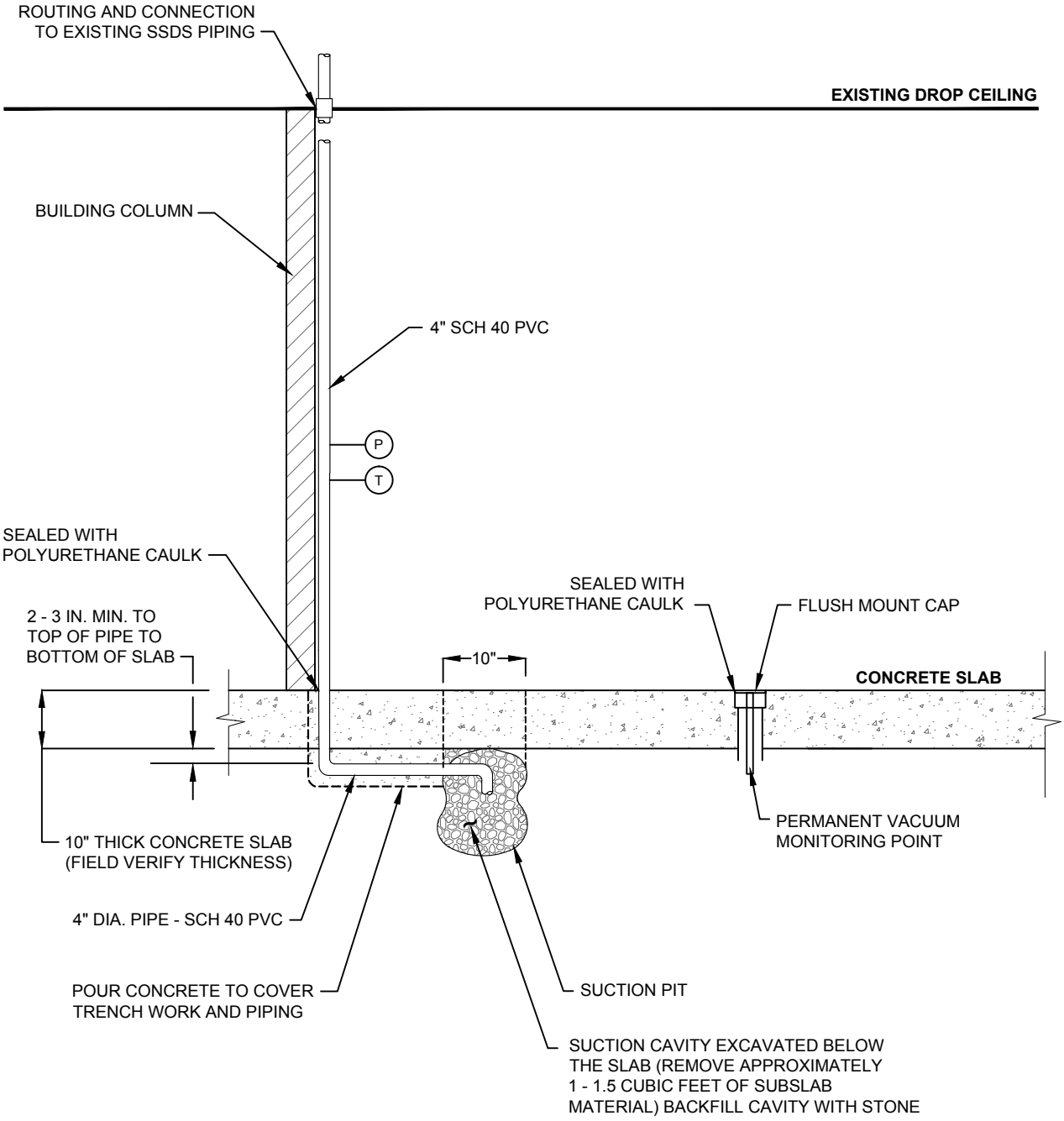
Sample Condition Requirements

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

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

APPENDIX C

Building 7A SSDS Extension Installation Details



KEY:

(T) TEMPERATURE GAUGE

(P) PRESSURE GAUGE

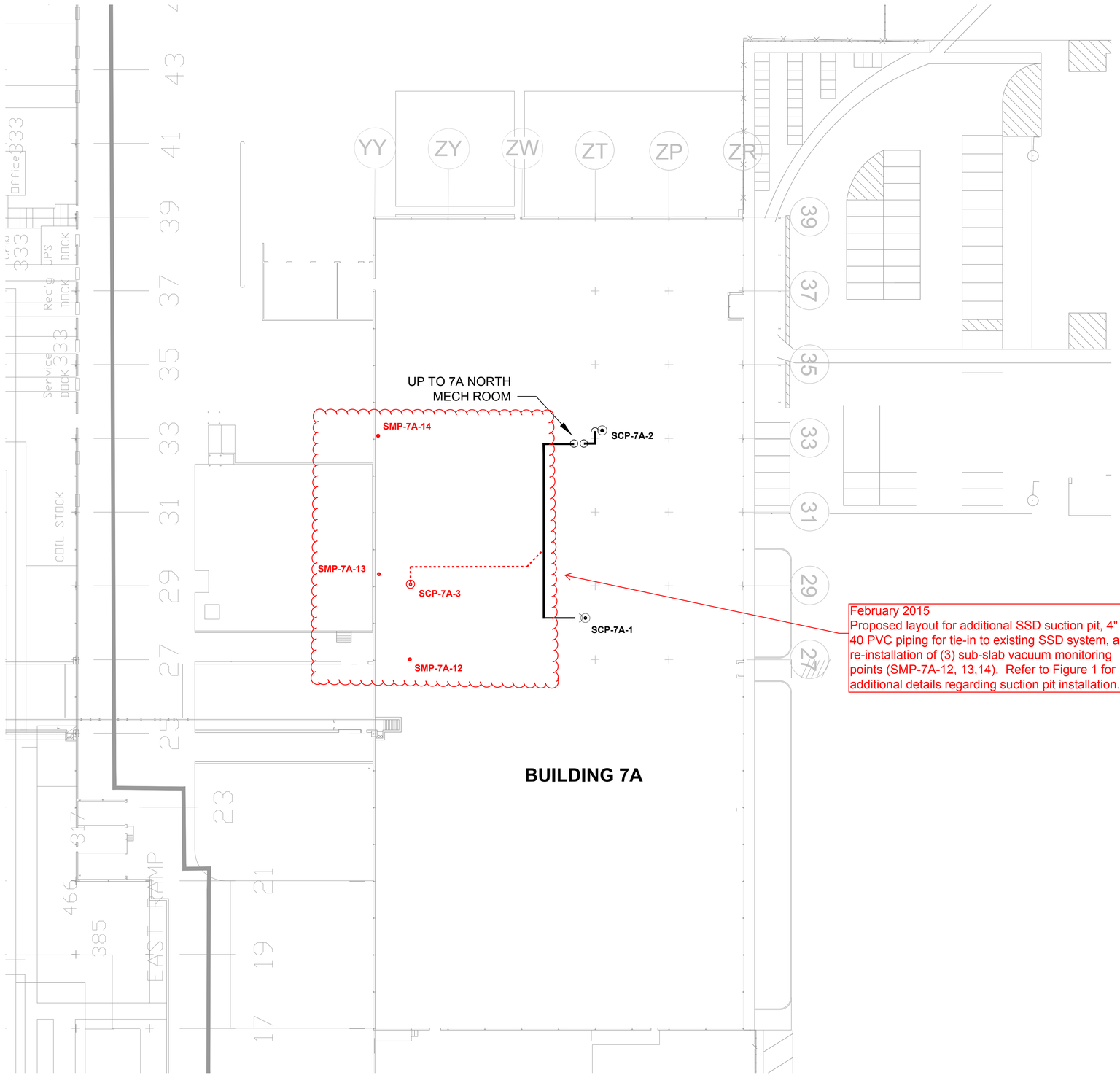
HALEY ALDRICH

GMCH LOCKPORT FACILITY
200 UPPER MOUNTAIN ROAD
LOCKPORT, NEW YORK

SUB SLAB DEPRESSURIZATION SYSTEM - SUCTION PIT INSTALLATION

SCALE: NOT TO SCALE
FEBRUARY 2015

FIGURE 1



LEGEND:

- SSDS SUCTION PIT
- DENOTES GENERAL ROUTING OF 4" SCH 40 SSDS PIPING FROM SUCTION PITS TO FANS
- PIPE TURNED DOWN
- PIPE - SIZE PER DETAIL ON DWG M-1
- PIPE TURNED UP

NOTES:

1. REFER TO PROJECT SPECIFICATIONS.
2. SITE PLAN INFORMATION TAKEN FROM EXISTING PLANT DRAWINGS AND CAD FILES.
3. CORE DRILL AND SEAL AS REQUIRED IN THE EXISTING MECHANICAL ROOM CONCRETE FLOOR TO ROUTE PIPING FROM EACH PIT INTO THE MECHANICAL ROOM.
4. ROUTE PIPING FROM LOCATION SCP-7A-1 IN THE SPACE ABOVE THE DROP CEILING AREA OF THE MAIN CORRIDOR JUST WEST OF THE STORAGE ROOM AREA TO THE MECHANICAL ROOM TO MINIMIZE DISRUPTION OF THE AREAS ABOVE THE OFFICES SPACES.

HALEY & ALDRICH

Haley & Aldrich of New York
200 Town Centre Dr., Suite 2
Rochester, NY 14623-4264
Tel: 585.359.9000
Fax: 585.359.4650
www.haleyaldrich.com

Project No.:	36795-027/029
Scale:	AS SHOWN
Date:	23 JANUARY 2013
Drawn By:	PGL
Designed By:	EJL
Checked By:	DJC
Approved By:	EJL
Status:	

Rev.	Description	By	Date
2	AS-BUILTS	HJA	09/30/13
1	ISSUE FOR CONSTRUCTION	HJA	03/25/13
B	100% CD - ISSUE FOR BID	HJA	02/11/13
A	95% CD - ISSUE FOR REVIEW	HJA	02/01/13

SUB-SLAB DEPRESSURIZATION SYSTEM
GMCH
LOCKPORT, NEW YORK

PIPING PLAN - BUILDING 7A

Sheet: 3 OF 6

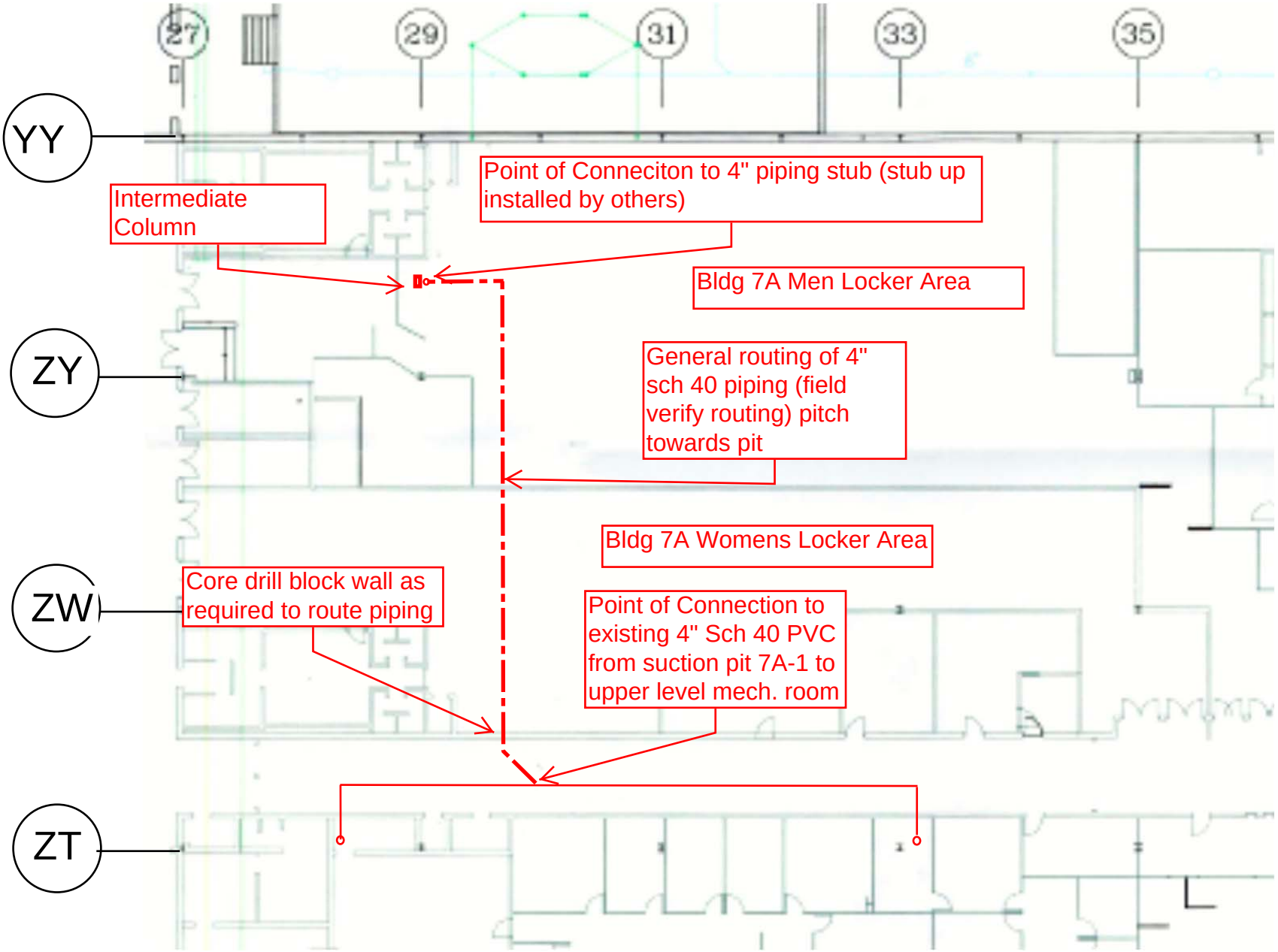
P-2 2

N
W
E
S

0 30 60 90 120
SCALE IN FEET

CADD File Data:
Drawing Name: \ROC\Project\36795 GM Lockport\CAD\2013-SSDS DESIGN\36795-SSDS-ASBLT 2013-0930.dwg
Operator Name: LIBBY, PAT
Layout: P-2

Sketch 1
GMCH Lockport - Suction Pit Piping Bldg 7A
1/16/15



HALEY& ALDRICH

CALCULATIONS

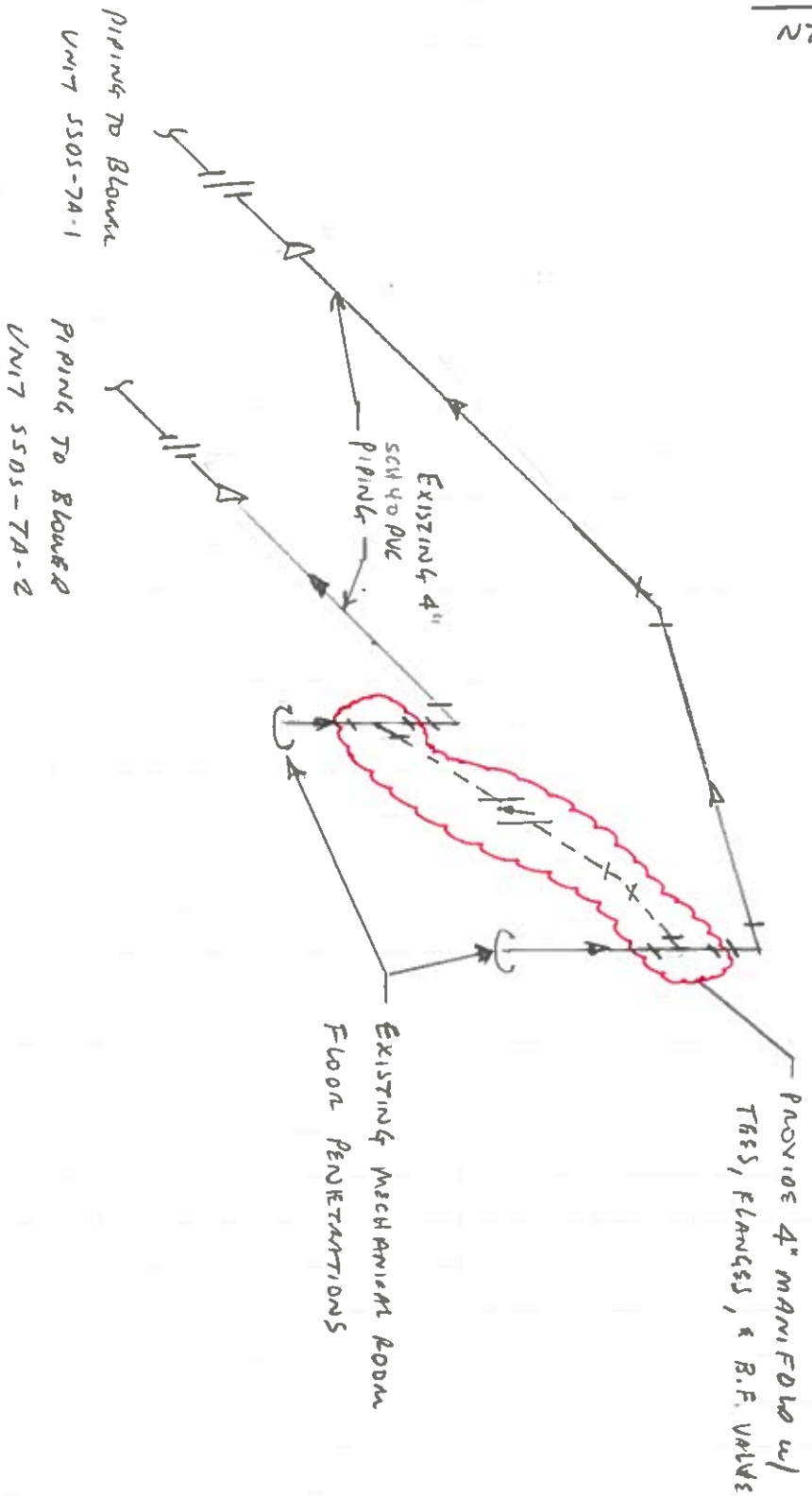
File No.	36795
Sheet	1 of 1
Date	1/16/15
Computed By	EQC
Checked By	

Client

Project

Subject GMCH LOCKDOWN BLDG 7A - MECHANICAL ROOM PIPING

SKETCH 2
NTS



After concrete coring at new suction pit location and cutting for placement for sub grade piping.

After concrete coring and plug removal, before sub base removal at new suction pit.

New sub grade SSD piping from suction pit to stub-up at column.

Finished installation.

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LETTER OF TRANSMITTAL

JOHN W. DANFORTH COMPANY
300 COLVIN WOODS PKWY • TONAWANDA, NEW YORK 14150 • 716-832-1940
930 OLD DUTCH ROAD • VICTOR, NEW YORK 14564 • 716-924-7030

To: Haley & Aldrich

Attn: Qlewis@haleyaldrich.com

Date April 15, 2015
Proj. Name GM SSDS Locker Room Pit
Cust. Proj. No.
JWD Job No. 4993 - 100

Gentlemen:

We are forwarding: X Herewith
____ Under separate cover via: ____

Submittal data/Shop Dwgs.:

elec Copies for approval. Return elec Copies minimum.
____ Copies approved.
____ Copies not approved. Resubmit ____ Copies minimum.
____ Copies for your files.
____ Copies approved as noted.
____ Copies for record only.

OPERATION AND MAINTENANCE MANUALS

Please forward ____ Copies minimum by: ____.

We are forwarding ____ Copies for your information and use.
Lost or missing copies may be furnished for an additional fee.

We/I acknowledge receipt of the above mentioned Operation and Maintenance Manuals.

Signed: ____ Date: ____

Submittal Data Covering the Following: As Built Drawing
Specification Section: (011) n/a

Copy: ____

Attn: ____

JOHN W. DANFORTH COMPANY

Signed *Craig Reagan, Project Manager/tlt*
Craig Reagan, Project Manager

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JOHN W. DANFORTH COMPANY

GENERAL CONTRACTORS FOR MECHANICAL SYSTEMS

Industrial Piping • Power Plants • Heating/Air Conditioning • Plumbing • Air and Water Pollution Control

Submittal Data Cover Form

Date Submitted for Approval: 4/15/15 Job Number: 4993 Extra #: 100

Project Title: GM SSDS Locker Room Pit

Project Manager: CRAIG REAGAN SM Proj Manager: MIKE BEMENT

Engineer:

Customer project number (or contract/po #):

Submittal # 4993-011 JWD PO #:

Subcontractor: Contact: Phone:

Supplier: John W. Danforth Co. Contact: Craig Reagan Phone: 716-832-1940

Manufacturer: JWD

Spec section:	Item submitted:
n/a	As Built Drawing

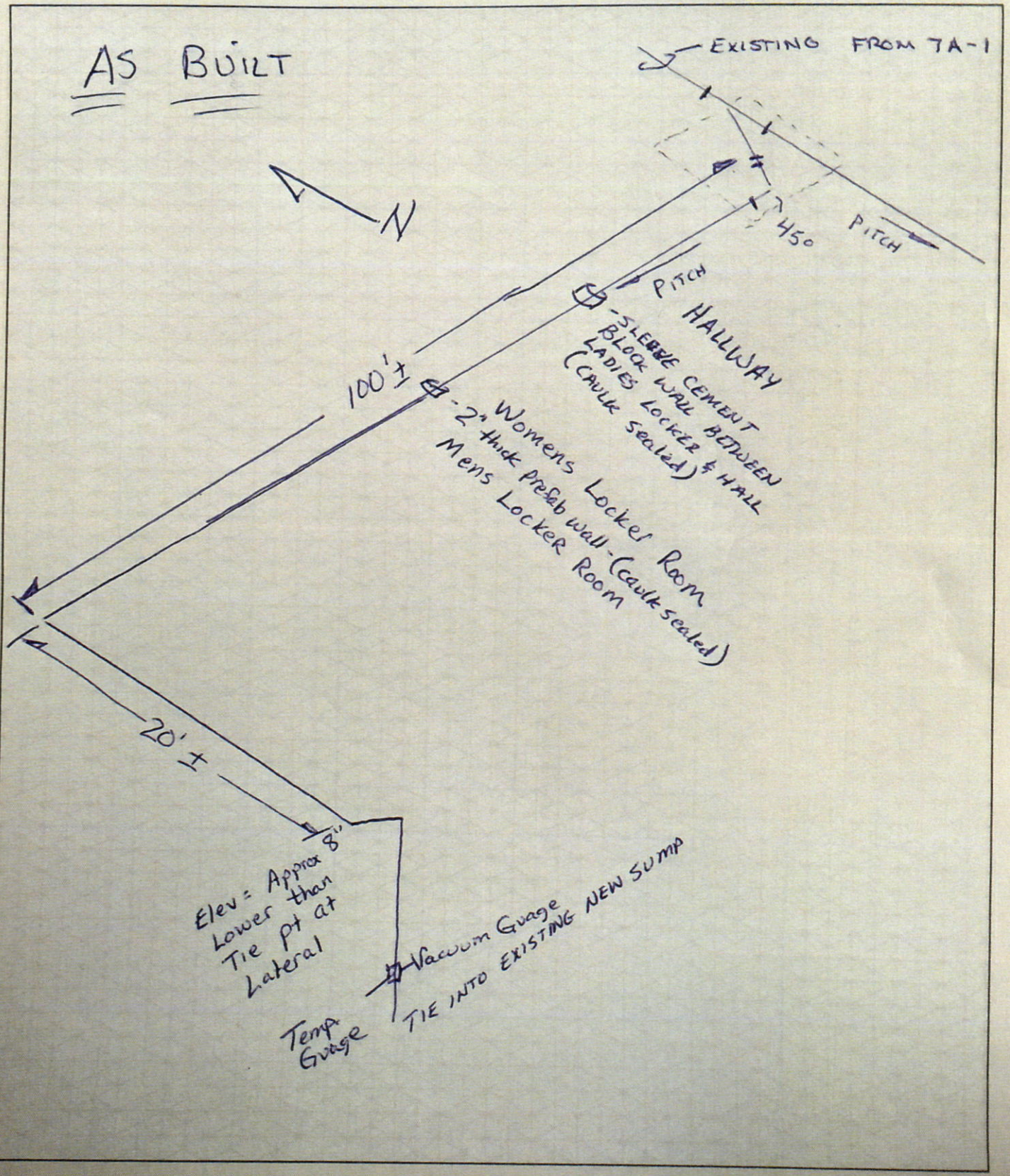
Notes:

Submittal Delivery By: ○ Mail ○ Project Manager (Hand Delivery)

rev.2 - 6/09

JOHN W. DANFORTH COMPANY
300 Colvin Woods Parkway
Tonawanda, New York 14150
(716) 832-1940 • FAX (716) 832-2388
Purchasing FAX (716) 829-1145
FAB SHOP FAX (716) 829-1371

JOB NAME GM LOCKPORT SSDS PIPING
JOB/EST. # 4993-100 DATE
LOCATION MENS, LADIES LOCKER ROOM, HALLWAY
DRAWN BY DAVE WINQUIST SCALE N.T.S.
SYSTEM SSDS 7-3 SKETCH NO. 7-3



REV. 1-1/05

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LETTER OF TRANSMITTAL

JOHN W. DANFORTH COMPANY
300 COLVIN WOODS PKWY • TONAWANDA, NEW YORK 14150 • 716-832-1940
930 OLD DUTCH ROAD • VICTOR, NEW YORK 14564 • 716-924-7030

To: Haley & Aldrich
Attn: Qlewis@haleyaldrich.com

Date April 15, 2015
Proj. Name GM SSDS Locker Room Pit
Cust. Proj. No.
JWD Job No. 4993 - 100

Gentlemen:

We are forwarding: X Herewith
_____ Under separate cover via: _____

Submittal data/Shop Dwgs.:

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OPERATION AND MAINTENANCE MANUALS

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We/I acknowledge receipt of the above mentioned Operation and Maintenance Manuals.

Signed: _____ Date: _____

Submittal Data Covering the Following: Piping Test Report
Specification Section: (012) n/a

Copy: _____

Attn: _____

JOHN W. DANFORTH COMPANY

Signed *Craig Reagan, Project Manager/tlt*
Craig Reagan, Project Manager

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JOHN W. DANFORTH COMPANY

GENERAL CONTRACTORS FOR MECHANICAL SYSTEMS

Industrial Piping • Power Plants • Heating/Air Conditioning • Plumbing • Air and Water Pollution Control

Submittal Data Cover Form

Date Submitted for Approval: 4/15/15 Job Number: 4993 Extra #: 100

Project Title: GM SSDS Locker Room Pit

Project Manager: CRAIG REAGAN SM Proj Manager: MIKE BEMENT

Engineer:

Customer project number (or contract/po #):

Submittal # 4993-012 JWD PO #:

Subcontractor: Contact: Phone:

Supplier: John W. Danforth Co. Contact: Craig Reagan Phone: 716-832-1940

Manufacturer: JWD

Spec section:	Item submitted:
n/a	Piping Test Report

Notes:

Submittal Delivery By: ○ Mail ○ Project Manager (Hand Delivery)

rev.2 - 6/09

TONAWANDA OFFICE
300 Colvin Woods Pkwy.
Tonawanda, NY 14150
Phone: (716) 832-1940
Fax: (716) 832-2388

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ROCHESTER OFFICE
930 Old Dutch Rd.
Victor, NY 14564
Phone: (585) 924-7030
Fax: (585) 924-7916

Piping Test Report

JOB NAME: GM - Lockport SSDS

JOB NUMBER: 4993 -100

OWNER
ARCHITECT/ENGINEER: GM / HALEY ALDRICH

DATE	TEST TYPE	TEST PRESSURE	DURATION (10 MINUTE MINIMUM)
4-15-15	Pneumatic	3.5 PSI	1/4 hour

GAUGE NO.	GAUGE CALIBRATION DUE DATE	TEST NUMBER	WATER TEMPERATURE AMBIENT, BUT NOT LESS THAN 70°F
		17-A-3	

SYSTEM TESTED/LIMITS OF TEST (DESCRIBE): Test consists of all new piping from test well in mens room to Blower isolation valve - test also includes re-test of 17-A-1 from riser as our tie point is in the middle of run in hallway

REMARKS:

10:45 AM Test Start 3.5 psi
11:00 Test End 3.25 psi
Reason: uncalibrated guage

THIS TEST MEETS CONTRACT SPECIFICATIONS. THE SYSTEM PASSED AND THERE ARE NO LEAKS.

JOB FOREMAN: David Wyant
SIGNATURE

INSPECTOR: Tom Tri
SIGNATURE

WHITE - OFFICE YELLOW - CUSTOMER

REV.2-04/09

APPENDIX D

SSDS Blower Maintenance & Inspection

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Photo #1: SSDS Blower 7A-1 - Impeller

Photo #2: SSDS Blower 7A-2 – Impeller (minor oxidation observed)

Photo #3: SSDS Blower 7E-1 – Impeller

Photo #4: SSDS Blower 7W-1 – Impeller

Photo #5: SSDS Blower 7W-2 – Impeller

Photo #6: SSDS Blower 7W-3 – Impeller

Photo #7: SSDS Blower 7W-4 – Impeller

Photo #8: SSDS Blower 7W-5 – Impeller

Photo #9: SSDS Blower 7W-6 – Impeller

Photo #10: SSDS Blower 7W-7 – Impeller

Photo #11: SSDS Blower B8-1 – Impeller

Photo #12: SSDS Blower B8-2 – Impeller

Photo #13: SSDS Blower B8-3 – Impeller

Photo #14: SSDS Blower B8-4 – Impeller

Photo #15: SSDS Blower B8-5 – Impeller

Photo #16: SSDS Blower B8-6 - Impeller

Photo #17: SSDS Blower B8-7 - Impeller

SSD System: Operations, Maintenance, Monitoring Tracking Sheet: January 2015 - March 2016
GMCH Lockport NY Facility - BCP Site #932138
Buildings 7, 7A, 8
Project No.: 36795-033

Date	Name / Company Completing Work	Associated Suction Pit/ Blower Unit	Photos or Sketches included with Event (Yes or No)	List of other Documents/ Forms / Receipts included with the Work	Summary of Activites/ Maintenance/ Adjustments
4/6/2015	CIR Electric	Blower 7W-3	No		Hour meter replacement at blower control panel (ENM part no. T50B212 with NEMA 4x12 gasket)
4/6/2015	CIR Electric	Blower 7W-5	No		Hour meter replacement at blower control panel (ENM part no. T50B212 with NEMA 4x12 gasket)
4/6/2015	CIR Electric	Blower 8-3	No		Hour meter replacement at blower control panel (ENM part no. T50B212 with NEMA 4x12 gasket)
4/20/2015	Danforth Mechanical / Kinequip	Blowers 7A-1/3 and 7A-2	Yes		Filter changeout and blower impeller visual inspection
4/27/2015	Danforth Mechanical / Kinequip	Blowers 7W-1 through 7W-7, 7E-1	Yes		Filter changeout and blower impeller visual inspection
4/27/2015	Danforth Mechanical / Kinequip	Blowers 8-1 through 8-7	Yes		Filter changeout and blower impeller visual inspection
4/27/2015	Danforth Mechanical	Suction Pit SCP-7A-1	No		Replaced the vaucum gauge at the suction pit
8/20/2015	CIR Electric	Blower 7A-1	No		Hour meter replacement at blower control panel (ENM part no. T50B212 with NEMA 4x12 gasket)

SSD System: Recommended Spare Part Inventory and Usage List **BLDG:** 7 **DATE:** 4/27/2015
BY: Danforth / Kinequip

Part, System, & Building no. Identification	Make / Model No.	Blower No.								Date part added to inventory/ bldg no.	Date part put into service at site/reason	Part Restock Req'd (Yes or No)
		7W-1	7W-2	7W-3	7W-4	7W-5	7W-6	7W-7	7E-1			
Recommended Spare Parts		Qty										
Regenerative Blower	Gast Model R5325A - 460V 3-phase											
Replacement Inlet Filter Element	Gast Part No AJ135F	1	1	1	1	1	1	1	1		Filter change out during blower inspection	N
Foam Filter Elements	Gast Part No AJ112ER	6	6	6	6	6	6	6	6			N
Filter Screen	Gast Part No AJ123EQ	1	1	1	1	1	1	1	1			N
Filter Spring	Gast Part No AJ113DQ	1	1	1	1	1	1	1	1			N
Vacuum Relief Valve	Gast Part No AG258											
Inlet Vacuum Filter	Gast Part No AJ151E	1	1	1	1	1	1	1	1			N
Vacuum Gauge	Gast Part No AJ497											
Part Usage / Tracking												

SSD System: Recommended Spare Part Inventory and Usage List **BLDG:** 7A **DATE:** 4/20/2015

BY: Danforth / Kinequip

Part, System, & Building no. Identification	Make / Model No.	Blower No.		Date part added to inventory/ bldg no.	Date part put into service at site/reason	Part Restock Req'd (Yes or No)
		7A-1/3	7A-2			
Recommended Spare Parts		Qty				
Regenerative Blower	Gast Model R5325A - 460V 3-phase					
Replacement Inlet Filter Element	Gast Part No AJ135F	1	1		Filter change out during blower inspection	N
Foam Filter Elements	Gast Part No AJ112ER	6	6			N
Filter Screen	Gast Part No AJ123EQ	1	1			N
Filter Spring	Gast Part No AJ113DQ	1	1			N
Vacuum Relief Valve	Gast Part No AG258					
Inlet Vacuum Filter	Gast Part No AJ151E	1	1			N
Vacuum Gauge	Gast Part No AJ497					
Part Usage / Tracking						

SSD System: Recommended Spare Part Inventory and Usage List **BLDG:** 8 **DATE:** 4/27/2015

BY: Danforth / Kinequip

Part, System, & Building no. Identification	Make / Model No.	Blower No.							Date part added to inventory/ bldg no.	Date part put into service at site/reason	Part Restock Req'd (Yes or No)
		8-1	8-2	8-3	8-4	8-5	8-6	8-7			
Recommended Spare Parts		Qty									
Regenerative Blower	Gast Model R5325A - 460V 3-phase										
Replacement Inlet Filter Element	Gast Part No AJ135F	1	1	1	1	1	1	1		Filter change out during blower inspection	N
Foam Filter Elements	Gast Part No AJ112ER	6	6	6	6	6	6	6			N
Filter Screen	Gast Part No AJ123EQ	1	1	1	1	1	1	1			N
Filter Spring	Gast Part No AJ113DQ	1	1	1	1	1	1	1			N
Vacuum Relief Valve	Gast Part No AG258										
Inlet Vacuum Filter	Gast Part No AJ151E	1	1	1	1	1	1	1			N
Vacuum Gauge	Gast Part No AJ497										
Part Usage / Tracking											