Construction Completion Report

For

Bridge Cleaners

39-26 30th Street

Long Island City, Queens County

New York

NYSDEC Site No. 241127

August 2021

Prepared for:

Alenat Properties, LLC and Zhong Chuang Properties LLC

39-26 30th St.

Long Island City, New York

Prepared by:

Environmental Engineering Compliance Control, D.P.C.

One Emery Ave.

Unit 2

Randolph, NJ, 07869

Table of Contents

1.0 Introduction 1
1.1 Site Location and Description 1
1.2 Report Organization 1
2.0 Background 2
3.0 AS System Modifications 3
3.1 Site-Specific Health and Safety Plan (HASP) 4
3.2 Utility Clearance and Site Reconnaissance 4
3.3 Air Sparge Well and Trench Installations 4
3.4 Air Sparge Manifold Installation and Modification 6
3.5 Generated Material Disposal 7
3.6 Air Monitoring 7
3.7 SVE System Operation and Inspection 7
4.0 AS/SVE System Restart, Optimization, Operations and Maintenance 7
4.1 System Restart 7
4.2 Post-Construction Operations, Monitoring, and Maintenance and Optimization 8
4.2.1 Weekly Monitoring 8
4.2.2 Bi-weekly Monitoring 9
5.0 System Testing and Effectiveness 10
5.1 Quarterly Sampling – December 2020/January 2021 10
5.2 Quarterly Sampling – April 2021 11
6.0 Institutional Controls 13
7.0 Conclusions 13
8.0 References 14

Figures

Figure 1	Site Location Topographic Map
Figure 2	Site Location Tax Map
Figure 3	First Floor Plan View - AS/SVE Layout
Figure 4	Soil Vapor Sampling Results
Figure 5	Groundwater Sampling Results
Figure 6	PCE Groundwater Concentration Trend Graph

Tables

Table 1	Water Quality
Table 2	Air Sparge Operations
Table 3	Soil Vapor Extraction Operations
Table 4	Vacuum Extension Monitoring
Table 5	Soil Vapor Analytical Data Summary
Table 6	Soil Vapor Extraction Exhaust Analytical Data Summary
Table 7	Groundwater Analytical Data Summary

Appendices

Appendix A	TechSolutions Supplemental IRM WP
Appendix B	Integral "Draft" Construction Completion Report (CCR)
Appendix C	Environmental Easement Order on Consent, March 4, 2019
Appendix D	As-Built Design Package
Appendix E	Disposal Manifest
Appendix F	CAMP Reports
Appendix G	Laboratory Data Packages
Appendix H	Low Flow Groundwater Sampling Logs
Appendix I	Data Usability Summary Reports

Engineering Certification:

I, Nicholas Krasnecky, P.E., certify that I am a New York State registered professional engineer, I had primary direct responsibility for the implementation of the subject construction program, and I certify that the Supplemental Interim Remedial Measure Work Plan was implemented and that all construction activities were completed in substantial conformance with the DER-approved Supplemental Interim Remedial Measure Work Plan.



Nicholas Krasnecky, P.E.
NYS PE License No. 100006

1.0 Introduction

Environmental Engineering Compliance Control, D.P.C. (EECC) has prepared this Construction Completion Report (CCR) on behalf of Alenat Properties, LLC. (Alenat), for the Bridge Cleaners Site located at 39-26 30th St., Long Island City, New York (Site) (**Figure 1**). Alenat also retained Sustainable Development, Inc. (SDI) to provide project management services related to the remedial activities. EEEC, in conjunction with SDI, oversaw the implementation of the approved Supplemental Interim Remedial Measure Work Plan (IRM WP) prepared by TechSolutions Engineering, P.C. (TechSolutions) (**Appendix A**), dated July 2020. The Supplemental IRM WP was prepared in response to the New York State Department of Environmental Conservation (NYSDEC) email communication from Ms. Ruth Curley, *Subject: 241127 – Bridge Cleaners 2020 Activities, dated January 8, 2020*. Proposed actions outlined in the Supplemental IRM WP were based on the NYSDEC *Dispute Resolution Decision, dated November 4, 2019,* and associated exhibits; including a Memorandum from Integral Engineering, P.C. (Integral), *Successful Former Bridge Cleaners AS/SVE System Performance*, *July 19, 2019*, and the initial *AS/SVE Interim Remedial Measure Design Drawing Package* prepared by Integral, which are included and referenced in the Supplemental IRM WP.

1.1 Site Location and Description

The Site is currently owned by Zhong Chuang Properties, LLC and operated by Spring Cutting Inc., and is identified by the NYSDEC as Site No. 241127. The Site consists of a one-story slab-on-grade masonry building, identified as Block 399, Lot 1 on the New York City Tax Map (**Figure 2**), and is currently utilized for fabric storage and cutting, and commercial laundry (**Figure 3**). Adjacent buildings to the north and west appear to contain residential units. To the south the adjacent lot is being redeveloped as a multi-story residential structure. To the east is 30th Street.

1.2 Report Organization

In addition to this introduction, this report is divided into seven sections as follows:

- *Section 2.0 – Site Background*: Presents information regarding the Site and its pertinent characteristics and history, including current Institutional Controls;
- *Section 3.0 – AS System Modifications*: Presents a detailed description of the completed Supplemental IRM and all associated implementation activities;
- *Section 4.0 – AS/SVE System Restart, Optimization, Operations, and Maintenance*: Presents the system restart data, air monitoring data, and modifications to the system based on periodic operations, monitoring, and maintenance (OM&M);
- *Section 5.0 – System Testing and Effectiveness*: Presents and compares analytical data from before system start-up and after;

- *Section 6.0 – Institutional Controls*: Presents the requirements for institutional controls at the Site;
- *Section 7.0 – Conclusions*: Presents a summary and conclusions based on the conducted Supplemental IRM activities;
- *Section 8.0 – References*: Presents the references utilized in preparation of this CCR.

This report has been prepared in accordance with DER-10 / *Technical Requirements for Site Investigation and Remediation, dated May 2010* (DER-10) and supporting guidance documents. The outlined report structure is in general conformance with *Section 5.8* of DER-10.

2.0 Background

The Site was previously occupied by a commercial laundry and dry cleaner, Bridge Cleaners, until 2011. Records indicate at least 10 years of use as a commercial dry cleaner. Site investigations were conducted at the Site and off-site properties from 2009 to 2016. The results of these investigations indicated the presence of dry-cleaning related compounds tetrachloroethene (PCE) and its breakdown products, including trichloroethene (TCE), in the soil, soil vapor, and groundwater, at concentrations which exceeded the relevant NYSDEC standards and guidelines.

Subsequent to the completion of the site investigation activities and the performance of a remediation pilot test, Integral prepared and submitted an IRM Design Document (Design Document), dated March 29, 2016. The Design Document proposed an air sparge /soil vapor extraction (AS/SVE) system to remediate Site soil, groundwater, and soil vapor, and to mitigate vapor intrusion in the onsite building. The Design Document was approved by NYSDEC and the proposed AS/SVE remediation system was installed in January 2018 and began continuous operation in March 2018. Integral submitted a "draft" CCR in December 2018 (**Appendix B**), to document the installation and start-up of the AS/SVE remediation system as set forth in the Design Document. Upon review of the CCR, the NYSDEC requested additional information and data to support the effectiveness of the installed AS/SVE remediation system.

In response to the NYSDEC's request, Integral summarized the results of the AS/SVE system performance, incorporating additional monitoring data, in a memorandum, *Successful Former Bridge Cleaners AS/SVE System Performance*, dated July 19, 2019, and submitted the memorandum to the NYSDEC on behalf of Alenat. Based on the data presented in the memorandum, the AS/SVE system has been successful in mitigating the VI pathway into the onsite building, reducing Site soil vapor concentrations, and reducing groundwater PCE concentrations in four of the five targeted groundwater monitoring wells (GW-1 through GW-5), with the exception being GW-2. NYSDEC's *Dispute Resolution Decision* required that the current AS/SVE system be enhanced with an additional air sparge well, or wells, to address the contamination in the vicinity of GW-2.

On January 8, 2020, Ms. Ruth Curley, NYSDEC Project Manager, requested the preparation of a Supplemental IRM WP to address the dispute resolution decision, within an email correspondence. In response to NYSDEC's request, Alenat retained TechSolutions, who prepared the Supplemental IRM WP, which was submitted on July 13, 2020 and subsequently approved by the NYSDEC on July 23, 2020 (**Appendix A**).

The objectives of the approved Supplemental IRM were to:

- Enhance the current AS/SVE system to address the presence of PCE, TCE, and associated chlorinated breakdown products in soil vapor and groundwater, including the installation of two additional air sparge wells to address contamination in the vicinity of GW-2; the system and its operations were designed to comply with the applicable Part 375 Remediation Program Regulations.
- Outline the AS/SVE system operations and monitoring plan to confirm the short-term (60-day) effectiveness of additional air sparging points.
- Develop and submit a Site Management Plan (SMP) for long-term continued effective operation of the AS/SVE system, as well as to collect groundwater monitoring and sub-slab pressure / vacuum data.

The Site currently has an environmental easement in place, dated March 4, 2019 (**Appendix C**). This environmental easement outlines the following control elements utilized as institutional controls/engineering controls (ICs/ECs) at the Site:

- Groundwater Use Restriction
- Cover System
- Monitoring Plan
- Site Management Plan (SMP)
- O&M Plan
- IC/EC Plan
- Air Sparging/Soil Vapor Extraction

The modifications to the AS/SVE system did not alter the overall ICs/ECs outlined in the environmental easement, and therefore an update to the environmental easement is not required. Additional details regarding the ICs/ECs at the Site are provided in *Section 6.0*.

3.0 AS System Modifications

Supplemental IRM activities completed at the Site were conducted in accordance with the NYSDEC-approved Supplemental IRM WP, submitted July 13, 2020 (**Appendix A**) and approved on July 23, 2020. The Supplemental IRM activities are detailed, and any deviations from the work plan noted, in the following sections. As-built drawings detailing the completed AS system modifications are presented in **Appendix D**.

3.1 Site-Specific Health and Safety Plan (HASP)

All remedial work performed under the Supplemental IRM complied with governmental requirements, including Site and worker safety requirements mandated by the U.S. Occupational Safety and Health Administration.

A *Site-Specific Health and Safety Plan* (HASP) was prepared and complied with for all remedial and invasive work performed at the Site.

3.2 Utility Clearance and Site Reconnaissance

Prior to starting the subgrade activities, Ground Penetrating Radar Services, Inc. (GPRS) was contracted to conduct a utility survey within the proposed drilling and trenching areas. During the site reconnaissance, vapor monitoring location VM-7 was unable to be located as concrete appeared to have been placed over the prior VM-7, thus the area of VM-7 was surveyed for sub-grade utilities for the reinstallation of VM-7, to be named VM-7R.

Based on observations from the reconnaissance, the proposed location of the AS-2 and AS-3 trench was shifted from the west of the AS-1 trench to the east of the AS-1 trench to avoid installed laundry machines. Additionally, the trench pathway was adjusted to reduce the linear feet of trenching to minimize the waste generated and disposed.

3.3 Air Sparge Well and Trench Installations

Compliance Field Services, Inc. (CFS) was contracted for the installation of the AS system upgrades. A licensed New York State well driller installed the proposed AS wells (AS-2 and AS-3) beginning on August 25, 2020. Prior to drilling, the concrete slab was saw cut and the boreholes were hand cleared via hand auger to five feet below ground surface (bgs). The air sparge well locations are shown on **Figure 3**.

The AS wells were installed using 6-inch inside diameter hollow stem augers and generally constructed in accordance with the well construction proposed in the Supplemental IRM WP. AS-1 and AS-2 were drilled to and set at a depth of 35 feet bgs and constructed as shown in **Appendix D**. A deviation in the proposed construction was utilized for AS-3 and was approved by the project manager and engineer of record. Due to upheaval of the native sand during installation, AS-3 was set at 32 feet bgs and the annular space of the borehole was filled to 4 feet above the well screen with the native sand material. Therefore, a sand pack was not installed around the screen of AS-3. The annular space above the native sand was backfilled with two feet of bentonite then grouted to two feet below the slab.

Soil cuttings from the well installations were placed in 55-gallon steel drums for characterization and off-site disposal.

Four days after the completion of the well installations, the wells were developed via whale pump with surging, to remove silt and sediment from the well and sand pack. The wells were developed until development water appeared clear. The well development involved removing 15 gallons of groundwater from AS-2 and 5 gallons from AS-3. The development water was placed in drums for disposal.

Prior to setting the flush mount vaults, the concrete floor slab was saw-cut via wet methods compliant with applicable respirable crystalline silica (RCS) rules along the adjusted trenching layout. The concrete was removed, and the subgrade material excavated to approximately 10 inches below the top of the slab. All concrete and excavated material were placed in 55-gallon steel drums for characterization and offsite disposal. This trench routed the 2-inch, Schedule 40 PVC subsurface piping from AS-2 and AS-3 to the wall adjacent to the AS-1 riser where the subsurface pipes stubbed up via 90-degree fittings. At the wells, the subsurface piping was affixed to tee fittings on the wellheads. The wellhead tees are finished with a bushing fitting with a pressure relief valve, which can be removed and replaced with a pressure gauge for monitoring purposes.

Upon verification of proper system operation and construction, the trenches were backfilled to a maximum of 4 inches below the top of the existing concrete slab with clean ¾" crushed stone fill. New concrete was poured atop the fill material to the same grade as the existing slab. Once the concrete cured, the seams were sealed with joint compound to eliminate potential short-circuit pathways for the AS/SVE system and to keep the cover system intact.

On September 1, 2020, during the trenching installation, CFS installed VM-7R using a permanent stainless steel VaporPin® pursuant to the manufacturer's installation instructions. The installation of the VaporPin® involved drilling of a 5/8" diameter hole through the slab to reach the subgrade material. The VaporPin® is then installed into the drilled hole and a seal is created via the silicon sleeve placed around the insert. The VaporPin® sits within the concrete slab and is designed to act as a sub-slab vacuum monitoring point. The VaporPin® is finished with a stainless steel secure threaded cover.

Upon review of the data associated with the continued operation of the SVE system, coupled with the length of time the system has run, EECC determined a sub-slab vacuum monitoring point would be a suitable replacement for the prior SVE soil column monitoring point. The substantial reductions in sub-slab vapor and SVE exhaust concentrations during system operation indicate the majority of the PCE, TCE, and associated chlorinated breakdown products in the soil have been removed by the system. Based on the monitoring point location in the eastern corner of the building, it's distance from the active AS wells, and the soil vapor data trends, a sub-slab vacuum monitoring point will provide the requisite monitoring to confirm the potential vapor intrusion (VI) pathway into the building is being mitigated by the SVE system.

3.4 Air Sparge Manifold Installation and Modification

As described in *Section 3.3*, the trenched air sparge piping stubs up through the concrete slab adjacent to the AS-1 riser. The sub-grade PVC piping to AS-2 and AS-3 transitions to 1 ½" black steel by way of a reducing adapter to the above-grade components for safety and code compliance. The PVC riser for AS-1 was cut at the concrete floor stub up and affixed with a 2" to 1 ½" reducing adapter and transitioned to black steel piping components for safety and code compliance. The risers for AS-1, AS-2, and AS-3 run vertically along the interior wall and contain a union, tee with pressure gauge, ball valve, a two-way normally open solenoid valve, and a second union. Each riser is then piped up to and connected to a single black steel riser which is piped along the ceiling and connects to the existing 2-inch, schedule 40 PVC roof penetration. The black steel piping is connected to the existing PVC roof penetration on the interior of the building by way of a 1 ½" to 2" reducing adapter. The system components on the roof were not modified during the IRM implementation activities.

The electric two-way normally open solenoid valves are wired to mechanical timers and originally set to run on a pulsed operation cycle of 16 hours on, and 8 hours off, with each point overlapping operation for 8 hours. The sparge points were operated at the following times:

	On (24:00)	Off (24:00)
AS-1	02:00	18:00
AS-2	10:00	02:00
AS-3	18:00	10:00

Due to a mechanical malfunction of the timers, beginning on December 2, 2020, all three of the sparge points were set to receive air flow at the same time and were not pulsed. The timers were replaced on January 21, 2020, though because of continued mechanical failure of the timers, they have not been used to pulse the operation of the AS system since that date. OM&M data collected throughout system operation has indicated minimal difference in pressure and flow in the AS manifold legs with respect to operation of two sparge points versus all three sparge points. The collected pressure and flow readings during the operation of all three sparge points at the same time are within the proposed AS design considerations and recommendations presented in the Supplement IRM WP. Therefore, similar remedial effectiveness to pulsed operation is expected, and the operation adjustments were approved by the project manager and engineer of record.

3.5 Generated Material Disposal

All material generated from the AS well installation and trenching activities was containerized in 55-gallon steel drums. Two separate media streams were identified and segregated: 1) concrete and fill material from trenching activities and 2) soil cuttings from the AS well installations. Both media streams were sampled and characterized for offsite disposal and the disposal manifest is provided in **Appendix E**.

3.6 Air Monitoring

Air monitoring was conducted during the AS/SVE modification activities in accordance with the approved Site-Specific HASP and the Community Air Monitoring Plan (CAMP), provided as part of the Supplemental IRM WP. The CAMP reports were provided as part of the September 2020 Monthly Progress Report submitted to NYSDEC and are included in this CCR as **Appendix F**.

3.7 SVE System Operation and Inspection

The SVE system was operated throughout the duration of the AS modification construction activities to ensure the VI pathway was continuously mitigated. During this period the SVE was inspected to ensure all piping, gauges, and equipment were functioning properly and no damage was present. During the inspection, EECC verified the SVE system, installed by Integral, is as shown in the as-built drawings provided in the Integral "draft" CCR provided as **Appendix B**. Sub-slab vacuum monitoring was conducted at all sub-slab ports to confirm the current SVE system operation was mitigating the potential VI pathway into the building.

Operating parameters of the SVE system and sub-slab vacuum extension monitoring readings were confirmed to be in accordance with the design values presented by Integral and within best practices associated with SVE system operations. Based on the data collected, it is of EECC's opinion that the SVE system is functioning as designed. The as-built drawings of the SVE system and associated specifications sheets are provided within **Appendix D.** Detailed observations and continued OM&M of the SVE system is presented in *Sections 4.0* and *5.0*.

4.0 AS/SVE System Restart, Optimization, Operations and Maintenance

4.1 System Restart

The air sparge system was restarted on September 2, 2020, upon completion of piping installation and prior to backfilling the trenches. All piping and fitting connections were checked for leaks and adjusted as needed. The groundwater level and dissolved oxygen (DO) concentration in GW-2 were measured before system start-up, and periodically during the initial system operation, to monitor system stabilization and to optimize the pulsed operation.

The system was tested while operating all combinations of AS-1, AS-2, and AS-3. Upon system start-up monitoring, influence was observed in GW-2 during the operation of both AS-2 and AS-3, as evidenced by increases in the groundwater level and DO concentration. Upon confirmation

of influence being observed in GW-2, the trenches were backfilled, and concrete poured, as outlined in *Section 3.3*. Comprehensive water quality data, including start-up monitoring data, is presented in **Table 1**.

Manifold and wellhead pressures were monitored and recorded during system start-up activities. When all three AS points were operating, the pressures in the manifolds and wellheads were measured at approximately 5 psi. (Note: AS-1 does not have a wellhead attachment compatible with a pressure gauge, therefore, wellhead pressure data was not collected from AS-1.) When one valve of the manifold was turned off and two AS points were on, the pressure increased to between 6.5 and 7.5 psi. **Table 2** contains the manifold and wellhead pressure readings.

4.2 Post-Construction Operations, Monitoring, and Maintenance and Optimization

4.2.1 Weekly Monitoring

Weekly OM&M activities were conducted during the first month of operation (September 8 through 28, 2020). As described in the IRM WP, monitoring activities included:

- Collection of water elevation and DO readings at GW-2;
- Collection of pressure, flows, and operation status at all AS/SVE system components to verify proper operation;
- Collection of photoionization detector (PID) readings at the SVE exhaust risers; and,
- Sub-slab vacuum extension monitoring to confirm continued mitigation of the potential VI pathway.

The data collected during the weekly monitoring events is recorded in **Tables 1 through 4**.

The groundwater depth in GW-2 stabilizes around 18.9 feet bgs when AS-2 and AS-3 points are operating. The DO concentration in GW-2 increased shortly after system start-up, then decreased and stabilized around 3.0-3.6 milligrams per liter (mg/L). The detailed water quality data readings are presented in **Table 1**.

Manifold pressures, wellhead pressures, and differential pressure at the pitot tube were collected. Pressures in the manifold and wellheads measured between 6 and 8 psi, and calculated air flow rates were between 11.5 and 20 cubic feet per minute (cfm). The detailed readings, including calculated air velocity and flow rates for the AS system are presented in **Table 2**.

The SVE discharge PID readings, vacuum measurements, differential pressure at the pitot tube, and calculated air velocity and flow rates are presented in **Table 3**. The vacuum at each of the SVE risers stabilized between 10.5 and 11.5 inches of water column (inWC), and the vacuum readings remained consistent throughout the AS modification and installation. The vacuum on each SVE riser is consistent with readings collected by Integral during prior system monitoring activities.

Vacuum extension monitoring showed vacuum extension below the slab to be consistent with prior monitoring performed by Integral (**Table 4**). Except in limited instances, the vacuum extension continues to meet the Integral Design Document criterion of -0.10 inWC; however, monitoring points where the Design Document criterion was not met still exhibited vacuum extension.

All SVE system data and vacuum extension monitoring data is consistent with post-AS/SVE system start-up operation data collected during the November 28, 2018, soil vapor sampling event conducted by Integral. The results of the soil vapor sampling event indicated a substantial reduction in COCs at all sampled soil vapor points, indicating the ongoing extraction of soil vapors by the SVE system. The current operation of the SVE system indicates it is functioning as designed and is mitigating the potential VI pathway, and the reduction in soil vapor concentrations sampled by Integral pre- and post- AS/SVE system installation and start-up would still be present. Vacuum extension monitoring data is presented in **Table 4** and historical soil vapor data is presented in **Table 5** and on **Figure 4**.

System monitoring parameters were observed to have stabilized after the first month of operation, therefore monitoring frequency was shifted to bi-weekly, as outlined in the Supplemental IRM WP.

4.2.2 Bi-weekly Monitoring

Bi-weekly OM&M activities were completed on October 12 and 26, 2020. The groundwater depth in GW-2 stabilized around 19.5 feet bgs when AS-2 and AS-3 points were operating, which is elevated above the baseline groundwater level. As indicated previously, the elevated groundwater level indicates continued influence of the AS system on GW-2. Manifold pressures, wellhead pressures, differential pressure at the pitot tube, and calculated air velocity and flow rates for the AS system are presented in **Table 2**. Pressures in the manifold and wellheads measured between 6.5 and 9 psi, and calculated air flow rates were between 11.5 and 20 cfm.

The SVE discharge PID readings, vacuum measurements, differential pressure at the pitot tube, and calculated air velocity and flow rates are recorded in **Table 3**. The vacuum at each of the SVE risers has stabilized between 10.5 and 11.5 inWC.

Vacuum extension monitoring data is presented in **Table 4**. Vacuum extension data has stabilized at all monitoring points and continues to indicate the SVE system is properly mitigating the potential VI pathway.

5.0 System Testing and Effectiveness

5.1 Quarterly Sampling – December 2020/January 2021

As detailed in the approved Supplemental IRM, 90 days after the AS/SVE system restart, OM&M, groundwater sampling, and SVE system exhaust sampling were initially scheduled for December 2, 2020. Due to a malfunction of the mechanical timers, which resulted in intermittent operation of the system in November 2020, the quarterly groundwater sampling was postponed until January 2021. The AS system was set to operate all three points (as outlined in *Section 3.4*) and allowed to operate for minimum of 30 days prior to conducting the proposed quarterly groundwater sampling.

On December 2, 2020, OM&M was conducted, and the quarterly SVE exhaust sample was collected, pursuant to the approved Supplemental IRM. All OM&M readings associated with the SVE system, including vacuum extension monitoring, were consistent with readings collected during the bi-weekly monitoring events and indicate that the SVE system is capturing vapors generated from the AS system and properly mitigating the potential VI pathway. The OM&M readings are presented in **Tables 1 through 4**. The SVE exhaust sample was collected in a 5-Liter Tedlar bag and submitted to Alpha Analytical (Alpha) (NY Certification #: 11627), for analysis following EPA Method TO-15.

The SVE exhaust data from December 2020 shows an increase in concentration of PCE and TCE from the June 2020 analytical results. The increase in exhaust concentration is likely indicative of contaminant mass removal from the subsurface media. The SVE exhaust rate of 0.000588 pounds per day (lb/day) is below the 0.1 lbs/day regulatory criteria for air discharge requiring treatment. A summary of the analytical data and emissions calculation is presented in **Table 6**, and the laboratory data package is included as **Appendix G**.

On January 21, 2021, groundwater samples were collected from GW-1 through GW-5, and MW-5 via low-flow methods in accordance with the United States Environmental Protection Agency (USEPA) Standard Operating Procedures (SOP) (USEPA, 1996). The samples were transported to Alpha under chain of custody and were analyzed for volatile organic compounds (VOCs) by EPA method 8260C. The laboratory report was issued as a Category B deliverable and was validated by Laboratory Data Consultants, Inc. (LDC) via the DER-10 Section 2.2 and Appendix 2B guidelines. Quality assurance and quality control (QA/QC) samples, including a trip blank and field blank, were submitted to the laboratory with the groundwater samples. The independent data validation determined all analytical results are usable as reported or with minor qualifications due to laboratory quality control outliers.

Results of the groundwater sampling event show a decrease in the concentrations of PCE and TCE in GW-2. The PCE concentration decreased from 300 ug/L in June 2020 to 18 ug/L in January 2021. The TCE concentration decreased from 11 ug/L in June 2020 to below detection limits in

January 2021. The correlation of decreasing concentrations of contaminants of concern (COCs) in the groundwater and the slight increase of COCs in the SVE exhaust confirms the effectiveness of the treatment system modifications.

The January 2021 analytical results from wells GW-1, GW-3, GW-4, and GW-5 are similar to the results from the June 2020 sampling event. The January 2021 analytical results from well MW-5 shows a reduction in the concentration of PCE from the sampling event conducted by Integral on May 17, 2019 from 14 ug/L to 5.8 ug/L, respectively. All other analytes in MW-5 were below the New York Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards (AWQS). The groundwater concentration trends appear to demonstrate that the plume is stable and/or shrinking.

A summary of the analytical results is presented in **Table 7** and comprehensive groundwater data is presented on **Figure 5**. The low-flow purge logs are included as **Appendix H**. The laboratory data package and Data Usability Summary Report (DUSR) are included as **Appendix G** and **Appendix I**, respectively.

5.2 Quarterly Sampling – April 2021

On April 28, 2021, quarterly OM&M and sampling were completed pursuant to the approved Supplemental IRM WP. All OM&M readings associated with the AS/SVE system, including vacuum extension monitoring, were consistent with readings collected during the prior quarterly monitoring event and indicate that the SVE system is capturing vapors generated from the AS system and properly mitigating the potential VI pathway. The OM&M readings are presented in **Tables 1 through 4**. The quarterly SVE exhaust sample was collected in a 5-Liter Tedlar® bag and submitted to Alpha for analysis following EPA Method TO-15.

The SVE exhaust data from April 2021 shows an increase in concentration of PCE and TCE from the December 2020 analytical results. The increase in exhaust concentration is likely indicative of contaminant mass removal from the subsurface media. The SVE exhaust rate of 0.00119 pounds per day (lb/day) is below the 0.1 lbs/day regulatory criteria for air discharge requiring treatment. A summary of the analytical data and emissions calculations is presented in **Table 6**, and the laboratory data package is included as **Appendix G**.

Groundwater samples were collected from GW-1 through GW-5, and MW-5 during the April 28, 2021, quarterly sampling event. The samples were transported to Alpha under chain of custody and were analyzed for VOCs by EPA method 8260C. The laboratory report was issued as a Category B deliverable and was validated by LDC via the DER-10 Section 2.2 and Appendix 2B guidelines. QA/QC samples, including a trip blank, a field blank, and a laboratory blind duplicate collected from GW-2, were submitted to the laboratory with the groundwater samples. The independent data validation determined all analytical results are usable as reported or with minor qualifications due to laboratory quality control outliers.

During well gauging, the total depth of well GW-4 was measured at 24.94 ft bgs. Reportedly, the well was installed to approximately 30 ft bgs. Prior to sampling, the well was developed with a weighted bailer and a peristaltic pump to remove native soils and sediment from the bottom of the well.

All wells were sampled via low-flow methods (USEPA, 1996), with the exception being GW-1. Due to unknown issues, both submersible and peristaltic pumps were unable to draw proper pressure/suction to purge GW-1 via low flow methods. Therefore, it was determined manual purging and sampling using a Teflon™ bailer was required. GW-1 was sampled by purging 3 well volumes of groundwater with a new, clean Teflon™ bailer, then sampled with a new, clean Teflon™ weighted bailer to collect the sample at a depth of 25 ft bgs.

Results from the laboratory analysis indicated a decrease in PCE concentration in GW-1 (19 µg/l to 9.1 µg/l), GW-2 (18 µg/l to 0.4 µg/l), and GW-4 (1.4 µg/l to below detection limits) from the January 2021 sampling event. The TCE concentration in GW-1, GW-2, and GW-4 was stable and below the AWQS.

The PCE concentration in GW-2, the focus of the Supplemental IRM WP, decreased from the pre-Supplemental IRM WP implementation concentration of 300 µg/l to 0.4 µg/l, demonstrating the success of the Supplemental IRM WP activities.

The laboratory analytical result of the GW-3 sample (23 µg/l of PCE, 0.77 µg/l of TCE) was similar to the results from the June 2020 (25 µg/l of PCE, 1.1 µg/l of TCE) and January 2021 (23 µg/l of PCE, 0.87 µg/l of TCE) analytical results for both PCE and TCE concentrations.

Analytical results from GW-5 and MW-5 indicated a slight increase in PCE concentration from the June 2020 and January 2021 sampling events. The PCE concentration in GW-5 slightly increased from 50 µg/l in June 2020, to 67 µg/l in January 2021, and contained a concentration of 72 µg/l in the April 2021 sample. The concentration of TCE was compliant with the AWQS in both wells. The increase in PCE concentration is suspected to be due to natural periodic fluctuations in the concentration based on historical groundwater analytical results from Integral's sampling activities.

The groundwater concentration trends demonstrate that the plume is stable and/or shrinking (particularly in the vicinity of GW-2). A summary of the analytical results is presented in **Table 7**, comprehensive groundwater data is presented on **Figure 5**, and the PCE groundwater concentration trend chart is presented as **Figure 6**. The low-flow purge logs are included as **Appendix H**. The laboratory data package and DUSR are included as **Appendix G** and **Appendix I**, respectively.

6.0 Institutional Controls

As presented in the above sections, the primary objectives of the Supplemental IRM are to enhance the remediation of soil vapor and groundwater in the vicinity of GW-2 and confirm the continued proper operation of the AS/SVE system with respect to continued remediation of Site soil, groundwater, and soil vapor, and to protect human health by mitigating the VI pathway into the onsite building. Contaminated soil, soil vapor, and groundwater may remain at the Site until the remedy is complete and the AS/SVE is discontinued.

As such, the Site remedy requires that an environmental easement be recorded for the Site to (1) implement, maintain, and monitor the ECs; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to non-residential uses only. An environmental easement was recorded for the Site, dated March 4, 2019. The implementation of this Supplemental IRM did not alter the overall ICs/ECs outlined in the environmental easement, and therefore an update to the environmental easement is not required. The environmental easement is included in this CCR as **Appendix C** and will be provided as part of the SMP.

7.0 Conclusions

The AS/SVE system is generally operating as designed and the groundwater analytical results from the January and April 2021 quarterly sampling events demonstrate that the AS system modifications have been effective in significantly decreasing the COC concentrations in GW-2. Vacuum extension monitoring below the slab indicates the SVE is effectively mitigating the VI pathway into the building. Flow and monitoring pressure of the AS/SVE system are consistent with the design values and indicate the system is generally functioning as designed.

COC concentrations in the remaining groundwater monitoring wells have been decreasing or have stabilized with respect to prior groundwater sampling events after the initial AS/SVE installation. COCs are being removed from the subsurface at an increased rate after continued operations of the modified AS/SVE system as indicated by the reduction in concentrations at GW-2 and the increase in COC concentrations in the SVE exhaust. The reductions in COCs achieved so far indicate continued operation of the modified AS/SVE system will likely result in further reduction in COCs at the site.

8.0 References

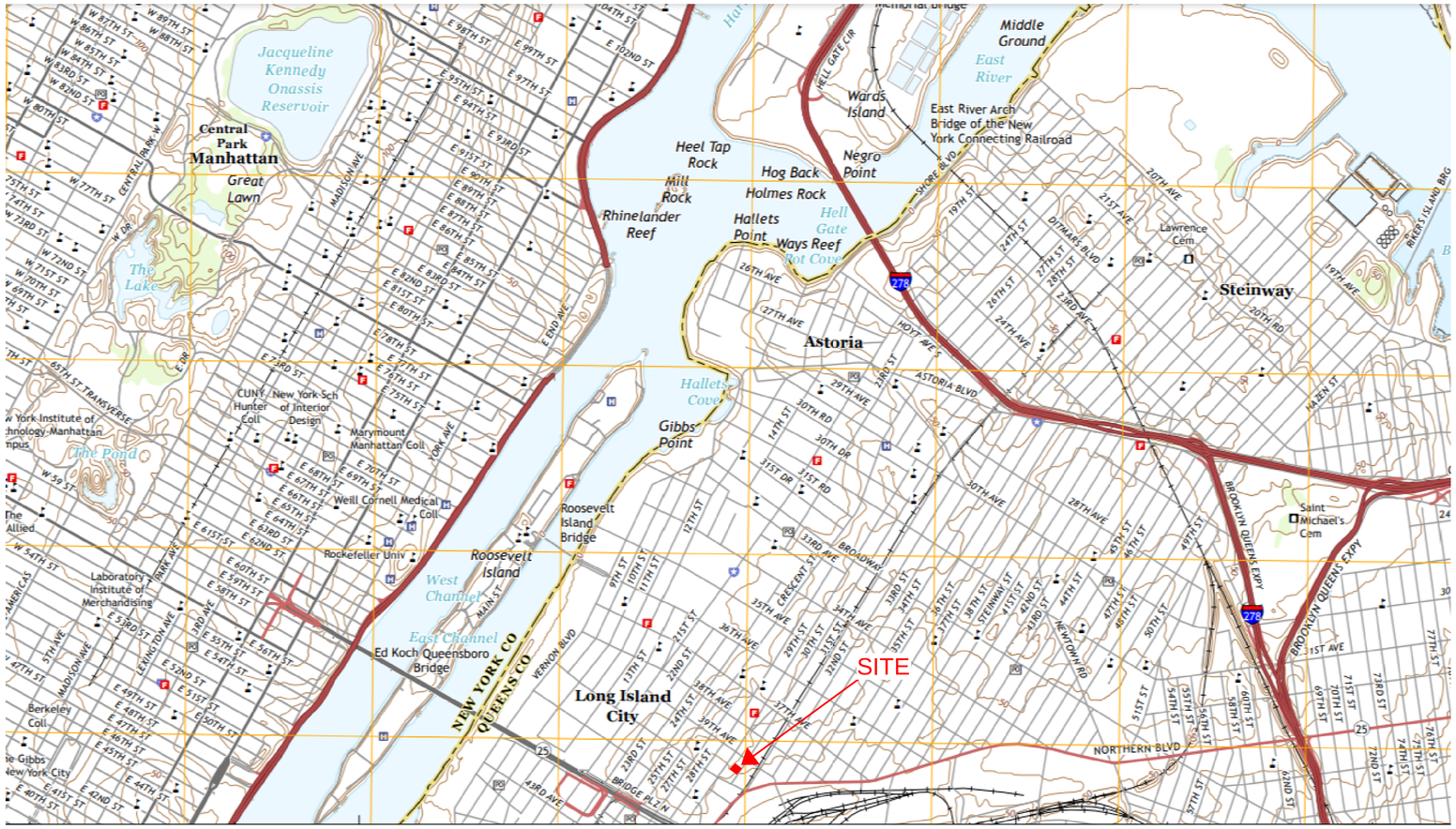
Integral Engineering, P.C. 2016. Interim Remedial Measure Design Document. Bridge Cleaners Site, BCP Site No C241127. March 29, 2016

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

TOGS 1.1.1. 1998. Division of Water Technical and Operation Guidance Series (1.1.1) – Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. New York Division of Water. June 1998.

USEPA. 1996. Region 1 Low-Stress (Low-Flow) Standard Operating Procedure. United States Environmental Protection Agency, Region 1. July 30, 1996, Revised, September 19, 2017

Figures



SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

1 0.5 0 MILES 1

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

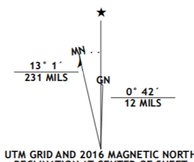
This map was produced to conform with the
National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 18T
10 000-foot ticks: New York Coordinate System of 1983 (long island zone), New Jersey Coordinate System of 1983

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, August 2013
Roads..... U.S. Census Bureau, 2015 - 2016
Names.....GNIS, 2016
Hydrography.....National Hydrography Dataset, 2013
Contours.....National Elevation Dataset, 2015
Boundaries.....Multiple sources; see metadata file 1972 - 2016

Wetlands.....FWS National Wetlands Inventory 1977 - 2014



UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
WL
Grid Zone Designation
18T



QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Hackensack
2 Yonkers
3 Mount Vernon
4 Weehawken
5 Flushing
6 Jersey City
7 Brooklyn
8 Jamaica

ADJOINING QUADRANGLES

ROAD CLASSIFICATION

Expressway — Local Connector
Secondary Hwy — Local Road
Ramp — 4WD

Interstate Route — US Route — State Route

CENTRAL PARK, NY-NJ
2016

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN	DATE
AN	8-19-2021
DES	DATE
NK	8-19-2021
CHK	DATE
NK	8-19-2021
SCALE	PROJECT NO.
AS NOTED	BRIDGE CLEANERS

SITE LOCATION
TOPOGRAPHIC MAP

FIGURE
1



Source: BRIDGE CLEANERS TAX MAP - Digital Tax Map - New York City Dept. of Finance (1/31/2020)

LEGEND

Borough Boundary	C50	Condo Flag/Condo Nunber	SUBJECT PROPERTY
Tax Block Boundary	A50	Air Right Flag/Lot Number	SITE AND PROPERTY BOUNDARY
50 Tax Block Number	S50	Subterranean Right Flag/Lot Number	
Tax Lot Boundary	R	REUC Flag	
50 Tax Lot Number		Under Water Tax Lot Boundary	
-50- Condo FKA Tax Lot Number		Other Boundary	
50.5 Tax Lot Dimension		Possession Hook	
+/-5.5 Approximate Tax Lot Dimension	Misc	Miscelaneous Text	
1100 - 1199 Condo Units Range Label		Small Tax Lot Dimension	
Building Footprint		Surface Water	

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

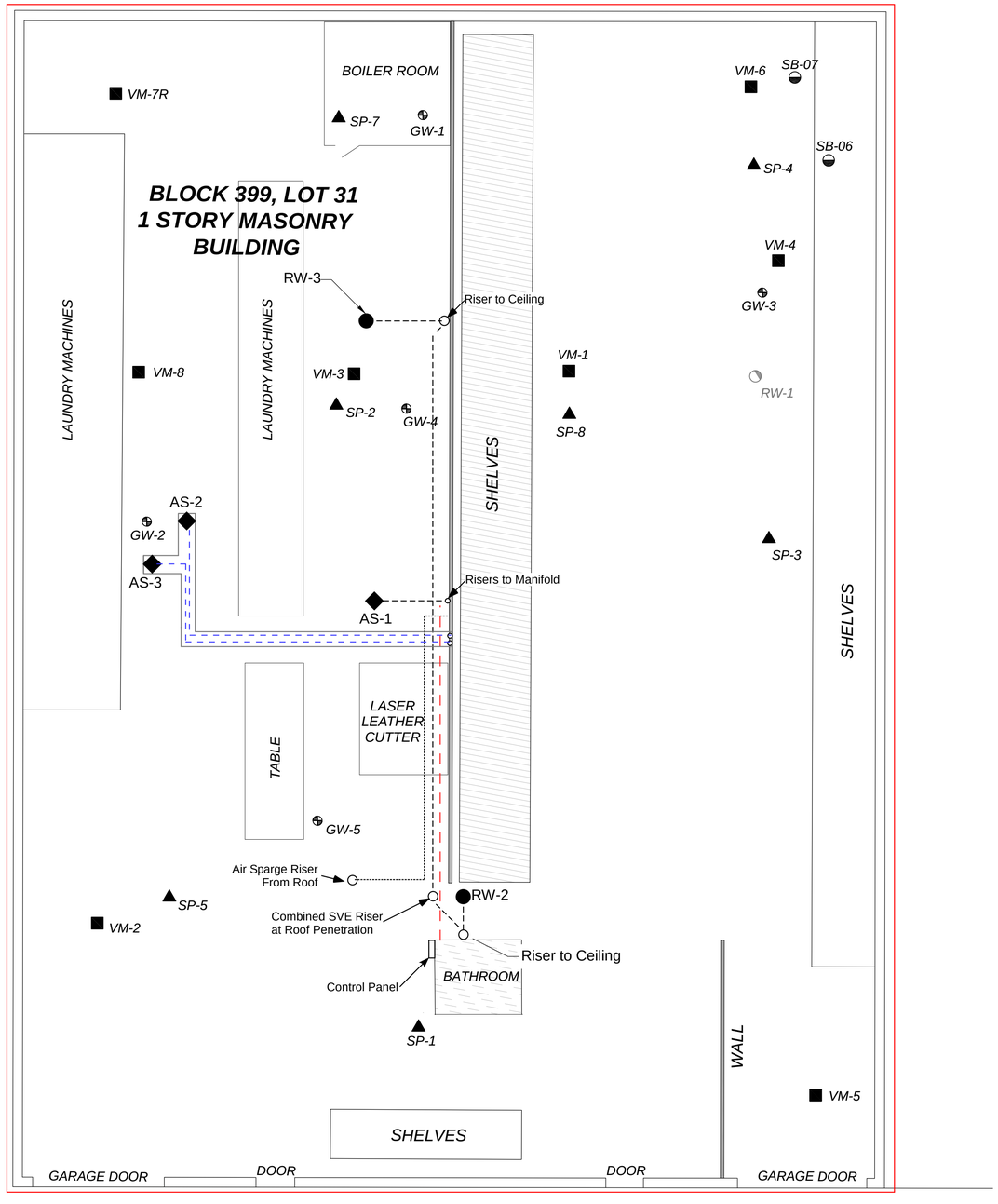
LONG ISLAND CITY NEW YORK

DRN	AN	DATE	8-19-2021
DES	NK	DATE	8-19-2021
CHK	NK	DATE	8-19-2021
SCALE	AS NOTED	PROJECT NO.	BRIDGE CLEANERS

SITE LOCATION
TAX MAP

FIGURE

2



0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

PVC PIPE

STEEL PIPE

AIR SPARGE WELL

VAPOR EXTRACTION WELL

GROUNDWATER MONITORING WELL/SOIL BORING

SOIL BORING

VACUUM MONITORING POINT

SOIL VAPOR POINT

ABANDONED

TRENCHING AND SUBGRADE PIPING

ELECTRIC RUN ALONG STRUTS ON CEILING TO SOLENOID VALVES

RISER LOCATION

CONCRETE CAP

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY EECC (SEPTEMBER 2020)

REV	DATE	DESCRIPTION	APP

eecc
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

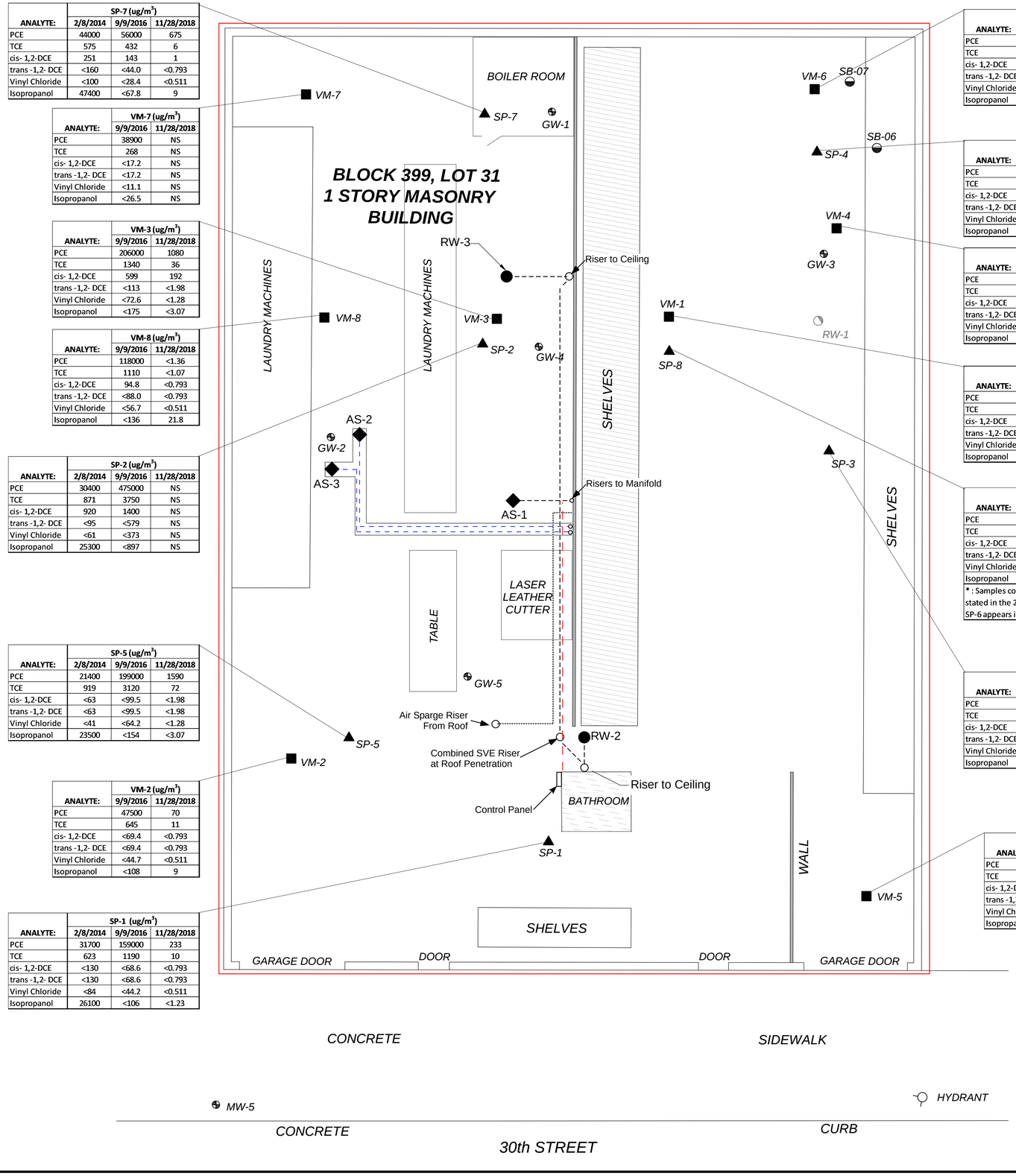
LONG ISLAND CITY NEW YORK

DRN AN	DATE 8-19-2021
DES NK	DATE 8-19-2021
CHK NK	DATE 8-19-2021
SCALE AS NOTED	PROJECT NO. BRIDGE CLEANERS

FIRST FLOOR PLAN VIEW
AS/SVE SYSTEM LAYOUT

FIGURE

3



ANALYTE:	SP-7 (ug/m³) 2/8/2014	9/9/2016	11/28/2018
PCE	44000	56000	675
TCE	575	432	6
cis- 1,2-DCE	251	143	1
trans -1,2- DCE	<160	<44.0	<0.793
Vinyl Chloride	<100	<28.4	<0.511
Isopropanol	47400	<67.8	9

ANALYTE:	VM-7 (ug/m³) 9/9/2016	11/28/2018
PCE	38900	NS
TCE	268	NS
cis- 1,2-DCE	<17.2	NS
trans -1,2- DCE	<17.2	NS
Vinyl Chloride	<11.1	NS
Isopropanol	<26.5	NS

ANALYTE:	VM-3 (ug/m³) 9/9/2016	11/28/2018
PCE	206000	1080
TCE	1340	36
cis- 1,2-DCE	599	192
trans -1,2- DCE	<113	<1.98
Vinyl Chloride	<72.6	<1.28
Isopropanol	<175	<3.07

ANALYTE:	VM-8 (ug/m³) 9/9/2016	11/28/2018
PCE	118000	<1.36
TCE	1110	<1.07
cis- 1,2-DCE	94.8	<0.793
trans -1,2- DCE	<88.0	<0.793
Vinyl Chloride	<56.7	<0.511
Isopropanol	<136	21.8

ANALYTE:	SP-2 (ug/m³) 2/8/2014	9/9/2016	11/28/2018
PCE	30400	475000	NS
TCE	871	3750	NS
cis- 1,2-DCE	920	1400	NS
trans -1,2- DCE	<95	<579	NS
Vinyl Chloride	<61	<373	NS
Isopropanol	25300	<897	NS

ANALYTE:	SP-5 (ug/m³) 2/8/2014	9/9/2016	11/28/2018
PCE	21400	199000	1590
TCE	919	3120	72
cis- 1,2-DCE	<63	<99.5	<1.98
trans -1,2- DCE	<63	<99.5	<1.98
Vinyl Chloride	<41	<64.2	<1.28
Isopropanol	23500	<154	<3.07

ANALYTE:	VM-2 (ug/m³) 9/9/2016	11/28/2018
PCE	47500	70
TCE	645	11
cis- 1,2-DCE	<69.4	<0.793
trans -1,2- DCE	<69.4	<0.793
Vinyl Chloride	<44.7	<0.511
Isopropanol	<108	9

ANALYTE:	SP-1 (ug/m³) 2/8/2014	9/9/2016	11/28/2018
PCE	31700	159000	233
TCE	623	1190	10
cis- 1,2-DCE	<130	<68.6	<0.793
trans -1,2- DCE	<130	<68.6	<0.793
Vinyl Chloride	<84	<44.2	<0.511
Isopropanol	26100	<106	<1.23

ANALYTE:	VM-6 (ug/m³) 9/9/2016	11/28/2018
PCE	24300	NS
TCE	53.1	NS
cis- 1,2-DCE	<17.0	NS
trans -1,2- DCE	<17.0	NS
Vinyl Chloride	<11.0	NS
Isopropanol	396	NS

ANALYTE:	SP-4 (ug/m³) 2/8/2014	9/9/2016	11/28/2018
PCE	668000	89500	1660
TCE	2140	195	7
cis- 1,2-DCE	1330	<69.4	<1.98
trans -1,2- DCE	<670	<69.4	<1.98
Vinyl Chloride	<430	<44.7	<1.28
Isopropanol	32400	<108	<3.07

ANALYTE:	VM-4 (ug/m³) 9/9/2016	11/28/2018
PCE	25600	NS
TCE	69.3	NS
cis- 1,2-DCE	30.5	NS
trans -1,2- DCE	<17.2	NS
Vinyl Chloride	<11.1	NS
Isopropanol	<26.5	NS

ANALYTE:	VM-1 (ug/m³) 9/9/2016	11/28/2018
PCE	259000	<1.36
TCE	962	<1.07
cis- 1,2-DCE	299	<0.793
trans -1,2- DCE	<135	<0.793
Vinyl Chloride	<86.9	<0.511
Isopropanol	<209	9

ANALYTE:	SP-8 (ug/m³) 2/8/2014*	9/9/2016	11/28/2018
PCE	246000	543000	1890
TCE	1930	2180	16
cis- 1,2-DCE	1590	<575	<3.96
trans -1,2- DCE	<1300	<575	<3.96
Vinyl Chloride	<870	<371	<2.56
Isopropanol	41500	<890	<6.15

* : Samples collected on 2/8/2014 from SP-6, as stated in the 2014 Remedial Investigation Report. SP-6 appears in the vicinity of SP-8.

ANALYTE:	SP-3 (ug/m³) 9/9/2016	11/28/2018
PCE	394000	NS
TCE	973	NS
cis- 1,2-DCE	<436	NS
trans -1,2- DCE	<436	NS
Vinyl Chloride	<281	NS
Isopropanol	<674	NS

ANALYTE:	VM-5 (ug/m³) 9/9/2016	11/28/2018
PCE	34900	128
TCE	74.2	3.14
cis- 1,2-DCE	<17.1	<0.793
trans -1,2- DCE	<17.1	<0.793
Vinyl Chloride	<11.0	<0.511
Isopropanol	<26.5	5.31

- PVC PIPE
- STEEL PIPE
- AIR SPARGE WELL
- VAPOR EXTRACTION WELL
- GROUNDWATER MONITORING WELL/SOIL BORING
- SOIL BORING
- VACUUM MONITORING POINT
- SOIL VAPOR POINT
- ABANDONED
- TRENCHING AND SUBGRADE PIPING
- ELECTRIC RUN ALONG STRUTS ON CEILING TO SOLENOID VALVES
- RISER LOCATION
- CONCRETE CAP

NOTES:
DCE = Dichloroethene
PCE = Tetrachloroethylene
TCE = Trichloroethylene
B = Analyte detected in the Trip Blank
J = Estimated value
<1.07 = Less than method detection limit (non-detect)
NS = Not Sampled

0 3 6 12 Feet
THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.
2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY EECC (SEPTEMBER 2020)

REV	DATE	DESCRIPTION	APP

eecc
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN	DATE
AN	8-19-2021
DES NK	DATE 8-19-2021
CHK NK	DATE 8-19-2021
SCALE AS NOTED	PROJECT NO. BRIDGE CLEANERS

SOIL VAPOR SAMPLING RESULTS

FIGURE

4

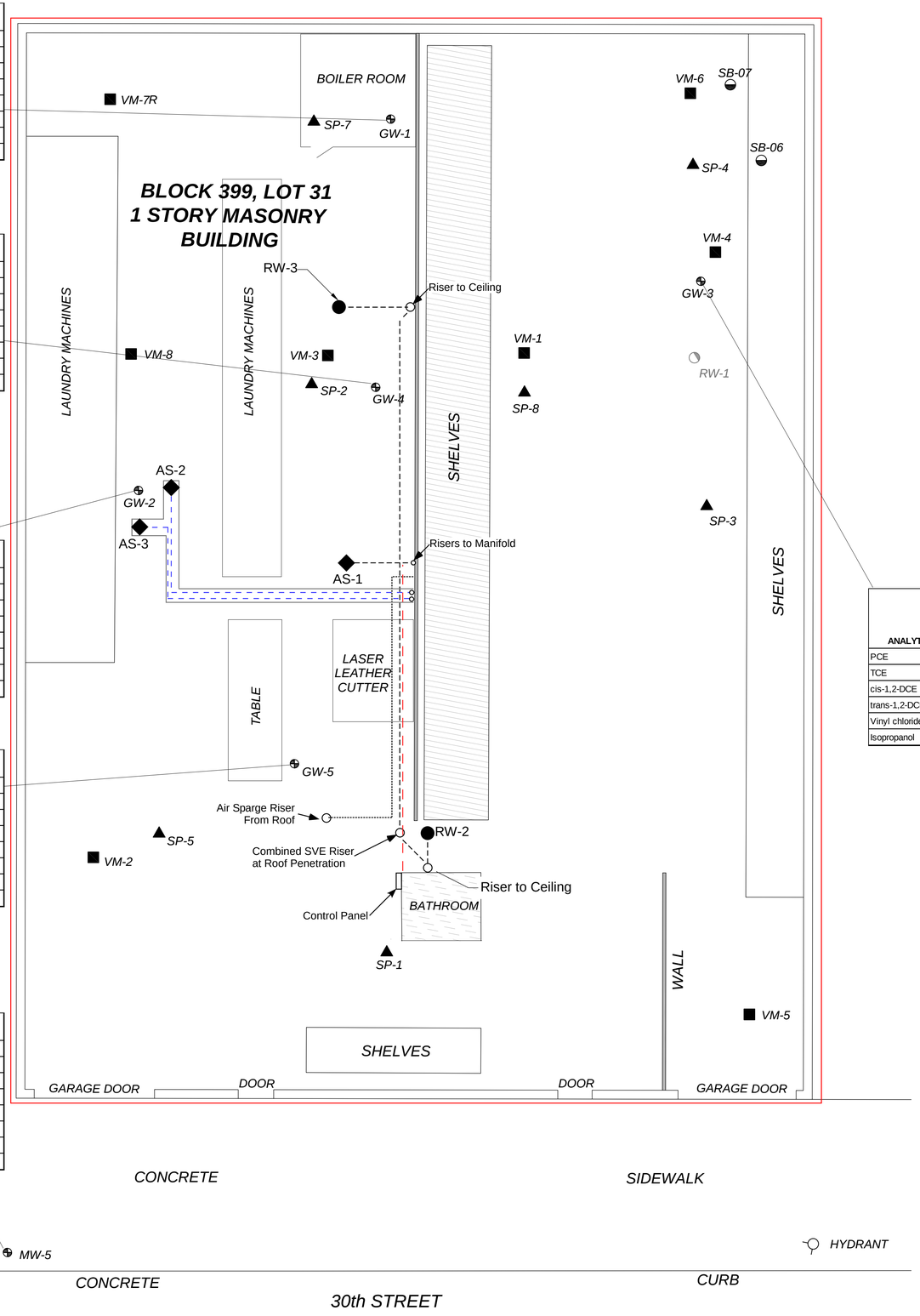
ANALYTE	GW-1 (µg/L)					
	Integral			EECC		
	09/09/16	11/18/18	05/17/19	06/15/20	01/25/21	04/28/21
PCE	**140**	**74**	**7.8**	**15**	**19**	**9.1**
TCE	**1.6**	**1.4**	**0.34 J**	**0.65**	**1.1**	**0.59**
cis-1,2-DCE	**0.43 J**	**0.30 J**	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Isopropanol	ND	**18 J**	**170 B**	ND	ND	ND

ANALYTE	GW-4 (µg/L)					
	Integral			EECC		
	09/09/16	11/18/18	05/17/19	06/15/20	01/25/21	04/28/21
PCE	**90**	**71**	**7**	**3.2**	**1.4**	ND
TCE	**1.5**	**1.3**	**0.44 J**	**0.26 J**	ND	ND
cis-1,2-DCE	**0.24 J**	**0.23 J**	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Isopropanol	ND	**16 J**	**160 B**	ND	ND	ND

ANALYTE	GW-2 (µg/L)					
	Integral			EECC		
	09/09/16	11/18/18	05/17/19	06/15/20	01/25/21	04/28/21
PCE	**200**	**240**	**210**	**300**	**18**	**0.4**
TCE	**14**	**5.6**	**4.1**	**11**	ND	ND
cis-1,2-DCE	**0.31 J**	ND	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Isopropanol	**13 J**	ND	**130 BJ**	ND	ND	ND

ANALYTE	GW-5 (µg/L)					
	Integral			EECC		
	09/09/16	11/18/18	05/17/19	06/15/20	01/25/21	04/28/21
PCE	**95**	**87**	**48**	**50**	**67**	**72**
TCE	**2.8**	**3.7**	**1.9**	**1.9**	**2**	**2.5**
cis-1,2-DCE	**0.39 J**	ND	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Isopropanol	ND	**21 J**	**190 B**	ND	ND	ND

ANALYTE	MW-5 (µg/L)					
	Integral			EECC		
	09/09/16	11/18/18	05/17/19	06/15/20	01/25/21	04/28/21
PCE	**22**	**31**	**14**	NS	**5.8**	**7.4**
TCE	**0.59**	**0.73**	**0.43 J**		**0.24**	**0.19 J**
cis-1,2-DCE	ND	**0.20 J**	ND		ND	ND
trans-1,2-DCE	ND	ND	ND		ND	ND
Vinyl chloride	ND	ND	ND		ND	ND
Isopropanol	ND	ND	**200 B**		ND	ND



ANALYTE	GW-3 (µg/L)					
	Integral			EECC		
	09/09/16	11/18/18	05/17/19	06/15/20	01/25/21	04/28/21
PCE	**44**	NS	**10**	**25**	**23**	**23**
TCE	**1.2**		**0.87**	**1.1**	**0.87**	**0.77**
cis-1,2-DCE	**0.25 J**		**0.23 J**	ND	ND	ND
trans-1,2-DCE	ND		ND	ND	ND	ND
Vinyl chloride	ND		ND	ND	ND	ND
Isopropanol	**8.5 J**		**160 B**	ND	ND	ND

- PVC PIPE
- STEEL PIPE
- AIR SPARGE WELL
- VAPOR EXTRACTION WELL
- GROUNDWATER MONITORING WELL/SOIL BORING
- SOIL BORING
- VACUUM MONITORING POINT
- SOIL VAPOR POINT
- ABANDONED
- TRENCHING AND SUBGRADE PIPING
- ELECTRIC RUN ALONG STRUTS ON CEILING TO SOLENOID VALVES
- RISER LOCATION
- CONCRETE CAP

NOTES:
DCE = Dichloroethene
PCE = Tetrachloroethylene
TCE = Trichloroethylene
B = Analyte detected in the Trip Blank
J = Estimated value
ND = Non-detect
NS = Not Sampled

0 3 6 12 Feet
THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY EECC (SEPTEMBER 2020)

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

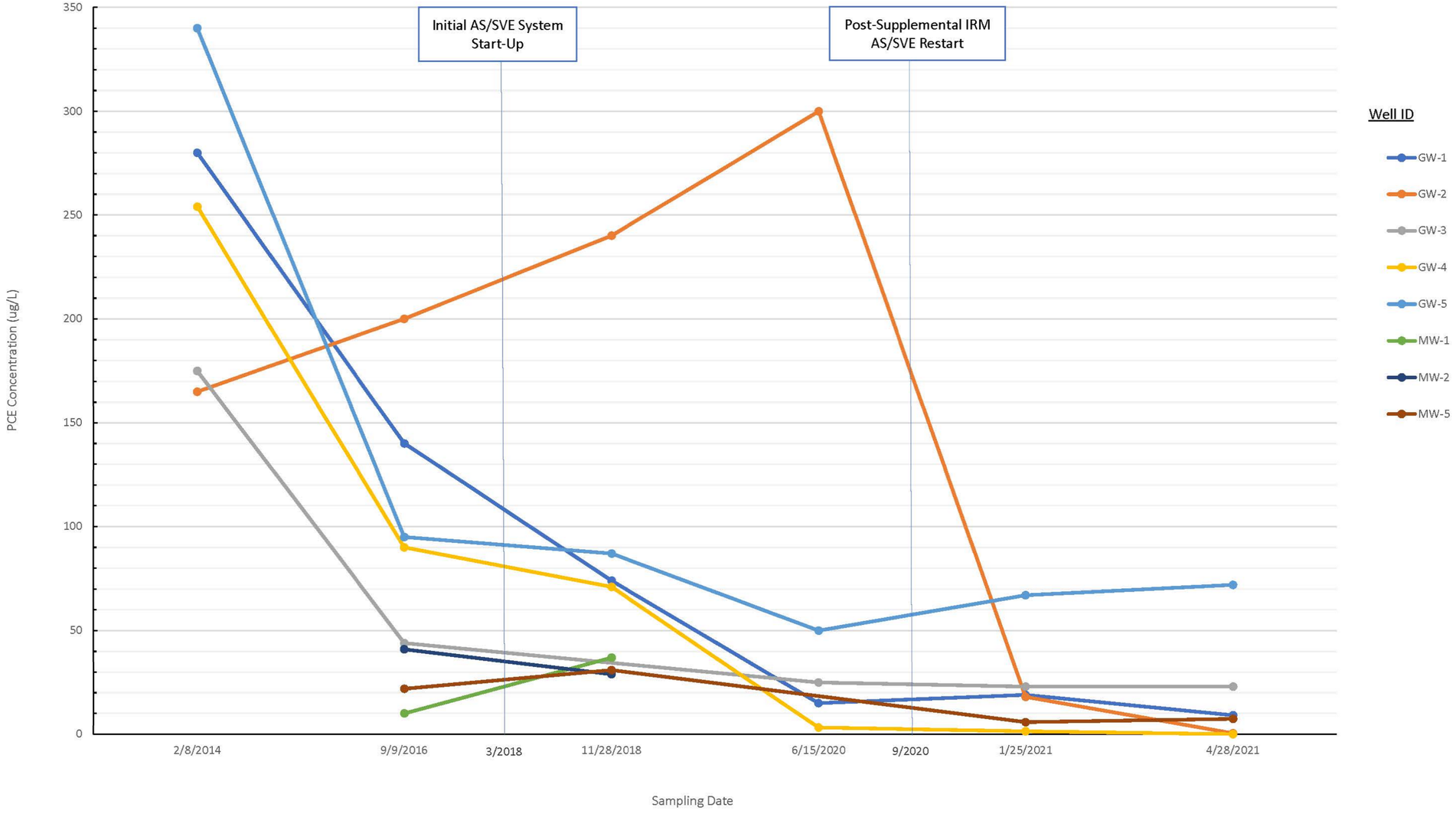
LONG ISLAND CITY NEW YORK

DRN	DATE
AN	8-19-2021
DES	DATE
NK	8-19-2021
CHK	DATE
NK	8-19-2021
SCALE	PROJECT NO.
AS NOTED	BRIDGE CLEANERS

GROUNDWATER SAMPLING RESULTS

FIGURE

5



REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: AS NOTED	PROJECT NO.: BRIDGE CLEANERS

PCE GROUNDWATER CONCENTRATION TREND GRAPH

FIGURE

6

Tables

Table 1 - Water Quality
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

Well	Date/Time	PID (ppm)	DTW (ft)	DO (%)	DO (mg/L)	Notes
GW-2	9/2/20 0830	0	19.37	85.4	8.06	Baseline
	9/2/20 0920	--	19.11	--	--	Upon system start-up
	9/2/20 0930	--	--	127	26	
	9/2/20 0940	--	18.6	76.2	7.22	System off to fix leaks
	9/2/20 1100	--	18.13	59.5	5.65	All AS points on
	9/2/20 1105	--	18.41	75.9	7.32	AS-3 OFF
	9/2/20 1110	--	18.86	79.3	7.55	AS-2 OFF
	9/2/20 1115	--	18.36	72.9	6.92	AS-1 OFF
	9/2/20 1200	0	18.31	44.7	4.34	
	9/2/20 1330	--	18.4	43.2-55.9	4.89-5.32	
	9/2/20 1415	--	18.42	47.3	4.61	DO fluctuating between 4 and 5 mg/L
	9/2/20 1445	--	18.45	53.1	5.07	
	9/3/20 0900	0	19.39	61	5.78	System off
	9/3/20 0915	0	17.95	64.1	6.19	AS-1 OFF
	9/3/20 0920	--	17.31	69.2	6.05	
	9/3/20 0930	--	17.2	69.2	6.05	
	9/3/20 0940	--	17.15	53	4.84	
	9/3/20 1010	--	17.15	37	3.53	
	9/3/20 1040	--	17.35	33.6	3.24	
	9/3/20 1110	--	17.55	34.1	3.22	
	9/3/20 1115	0	18	33.9	3.22	Only running AS-3 (P=7.5 psi)
	9/3/20 1130	--	18.91	33.4	3.17	
	9/3/20 1145	--	19.03	32.8	3.11	
	9/3/20 1200	--	19.14	32.7	3.09	
	9/3/20 1215	--	19.14	32.6	3.09	
	9/3/20 1215	0	19.37	32.6	3.09	Only running AS-2 (P=7)
	9/3/20 1230	--	18.14	34.7	3.3	
	9/3/20 1245	--	17.92	36.1	3.43	
	9/3/20 1300	--	17.91	36	3.4	
	9/3/20 1315	--	17.91	35.8	3.41	
	9/8/2020	0	18.9	--	3.57	AS-1 OFF
	9/14/2020	0	18.87	136.5	12.89	AS-1 OFF
	9/22/2020	23.8	18.72	58	5.49	AS-1 OFF
	9/28/2020	1.1*	19.11	37.9	3.56	AS-1 OFF
	10/12/2020	0	17.99	17.3	1.64	AS-1 OFF
	10/26/2020	0	19.5	83.1	7.86	AS-3 OFF
	12/2/2020	0	17.8	105.8	10.27	
	1/20/21 1435	0	18.22	--	9.99	
	3/9/2021	--	20.75	118	11.44	AS-1 ON, AS-2 and AS-3 OFF
	4/28/2021	0	21.70	--	24.29	System shut OFF for GW sampling and to collect readings
GW-4	9/14/2020	--	--	90.3	8.66	AS-2 and AS-3 ON
	9/22/2020	0	19.41	61	5.87	AS-2 and AS-3 ON
	9/28/2020	0.9*	18.71	36.6	3.55	
	10/12/2020	0	19.23	24	2.32	
	10/26/2020	0	19.7	46.7	4.47	
	12/2/2020	0	17.69	94.5	9.96	
	3/9/2021	0	18.02	126.8	12.3	AS-1 ON, AS-2 and AS-3 OFF
	4/28/2021	0.01	20.55	--	9.1	System shut OFF for GW sampling and to collect readings
GW-5	9/2/20 1230	0	19.31	30.9	2.99	AS-2 and AS-3 ON
	9/14/2020	--	--	56.4	5.44	AS-2 and AS-3 ON
	9/22/2020	0	19.33	36	3.47	AS-2 and AS-3 ON
	9/28/2020	0.9*	19.32	19.9	1.92	
	10/12/2020	0	19.5	27.4	2.65	
	10/26/2020	0	19.35	62.4	5.56	
	12/2/2020	0	19.2	74.2	7.42	
	1/20/2021 1240	0	19.1	--	8.37	
	3/9/2021	0	19.19	87.1	8.32	AS-1 ON, AS-2 and AS-3 OFF
	4/28/2021	0	19.33	--	13.85	System shut OFF for GW sampling and to collect readings

Notes
PID Photoionization Detector
ppm Parts per million
DTW Depth to water
ft feet
DO Dissolved Oxygen
mg/L Milligrams per liter
* PID reading 0.9-1.0 at ambient conditions
-- Not collected/recorded

Table 2 - Air Sparge Operations
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

	AS-1					AS-2					AS-3				
Date/Time	Manifold Pressure (psi)	Wellhead Pressure (psi)	ΔP (inWC)	Velocity (ft/s)	Flow Rate (cfm)	Manifold Pressure (psi)	Wellhead Pressure (psi)	ΔP (inWC)	Velocity (ft/s)	Flow Rate (cfm)	Manifold Pressure (psi)	Wellhead Pressure (psi)	ΔP (inWC)	Velocity (ft/s)	Flow Rate (cfm)
9/2/20 0920	5	--	--	--	--	5	4	--	--	--	5	5	--	--	--
9/2/20 1100	7	--	--	--	--	6.5	6	--	--	--	7.5	7	--	--	--
9/2/20 1105	7	--	--	--	--	7	7	--	--	--	OFF	OFF	--	--	--
9/2/20 1110	7.5	--	--	--	--	OFF	OFF	--	--	--	7.5	7	--	--	--
9/2/20 1115	OFF	--	--	--	--	7	6.5	--	--	--	7.25	6.5	--	--	--
9/2/20 1200	OFF	--	--	--	--	7	6	--	--	--	7	6.5	--	--	--
9/8/2020	OFF	--	--	--	--	6.5	--	--	--	--	7	--	--	--	--
	7	--	--	--	--	OFF	--	--	--	--	7.5	--	--	--	--
	7	--	--	--	--	6.5	--	--	--	--	OFF	--	--	--	--
9/14/2020	OFF	--	OFF	OFF	OFF	--	--	0.098	1273	15.62	--	--	0.094	1011	12.41
	6	--	0.097	1027	12.61	--	--	OFF	OFF	OFF	--	--	0.102	1054	12.93
	6.5	--	0.107	1079	13.24	--	--	0.101	1048	12.87	--	--	OFF	OFF	OFF
9/22/2020	6.75	--	2.361	5069	62.20	OFF	OFF	OFF	OFF	OFF	6.75	7	3.75	6388	78.40
	7.5	--	2.531	5248	64.41	8	7	2.682	5403	66.30	OFF	OFF	OFF	OFF	OFF
	OFF	--	OFF	OFF	OFF	7	7	2.251	4949	60.74	6	6	2.114	4796	58.86
	7.5	--	2.377	5086	62.42	8	7	2.5	5216	64.01	7.5	7	2.241	4938	60.60
9/28/2020	8	--	0.261	1685	20.68	OFF	OFF	OFF	OFF	OFF	8.5	8	0.21	1512	18.55
	8.25	--	0.164	1336	16.39	9	8.5	0.18	1400	17.18	OFF	OFF	OFF	OFF	OFF
	OFF	--	OFF	OFF	OFF	8	8	0.17	1360	16.69	8	8	0.291	1780	21.84
	7.75	--	0.111	1099	13.49	8.25	8	0.099	1038	12.74	8	7.75	0.081	939	11.52
10/12/2020	6.5	--	0.075	903	11.09	OFF	OFF	OFF	OFF	OFF	9	9	0.091	995	12.21
	9	--	0.596	2547	31.25	9.5	9.5	0.632	2623	32.18	OFF	OFF	OFF	OFF	OFF
	OFF	--	OFF	OFF	OFF	9	9	0.491	2312	28.37	9	9	0.405	2099	25.76
	8	--	0.259	1679	20.60	8.5	8	0.265	1698	20.84	8.5	8	0.187	1427	17.51
10/26/2020	9	--	0.955	3224	39.56	OFF	OFF	OFF	OFF	OFF	8.5	8.5	0.793	2938	36.05
	7.5	--	1.064	3403	41.76	8	8	1.69	4289	52.63	OFF	OFF	OFF	OFF	OFF
	OFF	OFF	OFF	OFF	OFF	8	8	1.067	3408	41.82	8	8	0.958	3229	39.62
	7.5		0.755	2866	35.18	8	8	0.924	3171	38.91	8	8	0.961	3234	39.69
12/2/2020	8.5	--	0.080	933	11.45	9	9.5	0.080	933	11.45	8.5	9.5	0.103	1059	12.99
	OFF	OFF	OFF	OFF	OFF	8.5	9	0.096	1022	12.54	8	9	0.124	1162	14.26
	9.5	--	0.084	956	11.73	OFF	OFF	OFF	OFF	OFF	10	--	0.128	1180	14.48
	8	--	0.085	962	11.80	8	8	0.099	1038	12.74	OFF	OFF	OFF	OFF	OFF
1/20/2021	9.0	--	0.088	978.6	12.01	9.0	9.0	0.084	956.1	11.73	8.5	8.0	0.083	950.4	11.66
	OFF	OFF	OFF	OFF	OFF	8.0	8.0	0.077	915.4	11.23	8.0	8.0	0.081	938.9	11.52
	8.5	--	0.086	967.4	11.87	8.5	8.5	0.083	950.4	11.66	OFF	OFF	OFF	OFF	OFF
	9.5	--	0.093	1006.0	12.35	OFF	OFF	OFF	OFF	OFF	9.0	9.0	0.095	1016.8	12.48
3/9/2021	OFF	OFF	OFF	OFF	OFF	8.0	8.0	0.073	891.3	10.94	10.5	10.0	0.084	956.1	11.73
	9.3	--	0.116	1123.6	13.79	9.5	9.5	0.083	950.4	11.66	OFF	OFF	OFF	OFF	OFF
	8.5	--	0.106	1074.0	13.18	9.0	9.0	0.075	903.4	11.09	8.5	8.5	0.078	921.3	11.31
	8.5	--	0.106	1074.0	13.18	OFF	OFF	OFF	OFF	OFF	11.5	11.0	0.084	956.1	11.73
4/28/2021	7.0	--	0.032	590.1	7.24	8.0	8.0	0.029	561.8	6.89	10.0	10.0	0.043	684.1	8.39
7/7/2021	8.5	—	0.030	571.4	7.01	8.5	—	0.027	542.1	6.65	11.0	—	0.040	659.8	8.10

Notes
psi : Pounds per square inch
inWC : Inches of water column
ft/s (feet per second)
cfm : cubic feet per miute
-- : Not collected
2.361: Indicates potential reading error in measurement device(s) due to malfunction

Table 3 - Soil Vapor Extraction Operations
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

	RW-2					RW-3				
Date	PID (ppm)	Vacuum (inWC)	ΔP (inWC)	Velocity (ft/s)	Flow Rate (cfm)	PID (ppm)	Vacuum (inWC)	ΔP (inWC)	Velocity (ft/s)	Flow Rate (cfm)
9/8/2020	0	-11.5	--	--	--	0	-11	--	--	--
9/14/2020	0	-11	0.074	1105.86	54.28	0	-11.5	0.075	1113.31	54.65
9/22/2020	4.2	-11.5	0.055	953.38	46.80	20.3	-10.5	0.045	862.36	42.33
9/28/2020	16.2*	-11	0.055	953.38	46.80	59.4*	-11	0.055	953.38	46.80
10/12/2020	6.3	-11.5	0.052	927.01	45.50	7	-10	0.045	862.36	42.33
10/26/2020	4.1	-11	0.058	979.03	48.06	5.7	-10.5	0.046	871.89	42.80
12/2/2020	4.4	-11.5	0.051	918.06	45.06	3.5	-11	0.047	881.32	43.26
1/20/2021	0.9	-9	0.055	953.38	46.80	0.3	-9	0.054	944.67	46.37
3/9/2021	0.2	-10.5	0.052	927.01	45.50	0	-9.5	0.047	881.32	43.26
4/28/2021	--	-11	0.051	918.06	45.06	--	-10	0.052	927.01	45.50
7/7/2021	--	-11	0.052	927.01	45.50	--	-10	0.04	813.04	39.91

Notes
PID : Photoionization Detector
ppm : Parts per million
inWC : Inches of water column
ft/s (feet per second)
cfm : cubic feet per miute
-- : Not collected
* Possible PID malfunction as readings did not stabilize

Table 4 - Vacuum Extension Monitoring
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

Point	Vacuum Influence by date (inWC)															
	Initial System Start up - March 2018					Post-IRM Modification System Start up - September 2020										
	3/14/2018	11/30/2018	12/4/2018	12/12/2018		9/8/2020	9/14/2020	9/22/2020	9/28/2020	10/12/2020	10/26/2020	12/2/2020	1/20/2021	3/9/2021	4/28/2021
GW-1	-0.857	-0.682	-0.969	-0.997		--	--	--	--	--	--	--	--	--	--
GW-2	-0.281	-0.278	-0.601	-0.679		--	--	--	--	--	--	--	--	--	--
GW-3	-0.146	-1.798	-1.709	-1.984		--	--	--	--	--	--	--	--	--	--
GW-4	-1.5	-1.467	-1.116	-1.362		--	--	--	--	--	--	--	--	--	--
VM-1	-0.682	-0.601	-0.730	-0.722		-0.042	-0.45	-0.736	-0.737	-0.691	-0.632	-0.618	-0.654	-0.507	-0.718
VM-2	-0.172	-0.073	-0.215	-0.202		-0.02	-0.032	--	-0.089	--	--	-0.072	--	--	--
VM-3	-2.503	-2.176	-2.714	-2.667		-0.901	-0.933	-2.532	-2.385	-2.348	-2.284	-2.253	-2.44	-2.124	-2.508
VM-4	--	--	--	--		-0.027	-0.055	-0.183	-0.196	-0.183	-0.154	-0.162	-0.154	-0.117	-0.168
VM-5	-0.082	-0.096	-0.093	-0.095		--	--	--	--	--	--	-0.103	--	--	--
VM-6	-0.104	--	--	--		-0.031	-0.024	-0.131	-0.163	-0.139	-0.131	-0.135	-0.105	-0.091	-0.121
VM-7	-0.197	--	--	--		-0.256	-0.174	-0.115	-0.165	-0.130	-0.101	-0.177	--	--	-0.424
VM-8	--	-0.542	-0.785	-0.683		-0.048	-0.038	-0.300	-0.320	-0.286	-0.251	-0.233	--	-0.276	-0.421
SP-1	-0.141	-0.133	-0.162	-0.159		-0.393	-0.368	-0.290	-0.329	-0.292	-0.289	-0.265	-0.273	-0.238	-0.360
SP-2	-0.844	-1.355	-1.112	-1.119		-1.129	-1.081	-0.980	-0.973	-0.92	-0.851	-0.831	-0.926	-0.821	-1.083
SP-3	-0.054	--	--	--		--	--	--	--	--	--	-0.060	-0.053	-0.050	-0.080
SP-4	-0.064	-0.118	-0.103	-0.091		-0.153	-0.144	-0.097	-0.113	-0.102	-0.098	-0.086	-0.062	-0.060	-0.102
SP-5	-0.101	-0.156	-0.151	-0.140		-0.135	-0.106	-0.064	-0.075	-0.053	-0.06	--	-0.039	-0.030	-0.055
SP-7	-0.480	-0.584	-0.713	-0.594		-0.777	-0.721	-0.596	-0.668	-0.589	-0.530	-0.514	-0.884	-0.434	-0.832
SP-8	-0.512	-0.611	-0.569			-0.701	-0.677	-0.620	-0.618	-0.573	-0.523	-0.481	-0.487	-0.396	-0.593

Notes
inWC : Inches of water column
-- : Not collected because point was inaccessible

Vacuum readings from the VM points on 9/8 and 9/14 are inaccurate because a tight seal around the 1" vacuum monitoring point was not achieved while collecting the measurements

Table 5 - Soil Vapor Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:	SP-1			SP-2			SP-3			SP-4			SP-5			SP-7			SP-8		
COLLECTION DATE:	2/8/2014	9/9/2016	11/28/2018	2/8/2014	9/9/2016	11/28/2018	2/8/2014	9/9/2016	11/28/2018	2/8/2014	9/9/2016	11/28/2018	2/8/2014	9/9/2016	11/28/2018	2/8/2014	9/9/2016	11/28/2018	2/8/2014*	9/9/2016	11/28/2018
ANALYTE:	Results (ug/m^3)			Results (ug/m^3)			Results (ug/m^3)			Results (ug/m^3)			Results (ug/m^3)			Results (ug/m^3)			Results (ug/m^3)		
Tetrachloroethylene	31700	159000	233	30400	475000	NS	170000	394000	NS	668000	89500	1660	21400	199000	1590	44000	56000	675	246000	543000	1890
Trichloroethylene	623	1190	10	871	3750	NS	554	973	NS	2140	195	7.2	919	3120	71.5	575	432	5.64	1930	2180	16
cis- 1,2-Dichloroethene	<130	<68.6	<0.793	920	1400	NS	<300	<436	NS	1330	<69.4	<1.98	<63	<99.5	<1.98	251	143	0.924	1590	<575	<3.96
trans -1,2- Dichloroethene	<130	<68.6	<0.793	<95	<579	NS	<300	<436	NS	<670	<69.4	<1.98	<63	<99.5	<1.98	<160	<44.0	<0.793	<1300	<575	<3.96
Vinyl Chloride	<84	<44.2	<0.511	<61	<373	NS	<190	<281	NS	<430	<44.7	<1.28	<41	<64.2	<1.28	<100	<28.4	<0.511	<870	<371	<2.56
Isopropanol	26100	<106	<1.23	25300	<897	NS	26100	<674	NS	32400	<108	<3.07	23500	<154	<3.07	47400	<67.8	8.97	41500	<890	<6.15

SAMPLE ID:	VM-1		VM-2		VM-3		VM-4		VM-5		VM-6		VM-7		VM-8	
COLLECTION DATE:	9/9/2016	11/28/2018	9/9/2016	11/28/2018	9/9/2016	11/28/2018	9/9/2016	11/28/2018	9/9/2016	11/28/2018	9/9/2016	11/28/2018	9/9/2016	11/28/2018	9/9/2016	11/28/2018
ANALYTE:	Results (ug/m^3)		Results (ug/m^3)		Results (ug/m^3)		Results (ug/m^3)		Results (ug/m^3)		Results (ug/m^3)		Results (ug/m^3)		Results (ug/m^3)	
Tetrachloroethylene	259000	<1.36	47500	69.8	206000	1080	25600	NS	34900	128	24300	NS	38900	NS	118000	<1.36
Trichloroethylene	962	<1.07	645	10.8	1340	35.7	69.3	NS	74.2	3.14	53.1	NS	268	NS	1110	<1.07
cis- 1,2-Dichloroethene	299	<0.793	<69.4	<0.793	599	192	30.5	NS	<17.1	<0.793	<17.0	NS	<17.2	NS	94.8	<0.793
trans -1,2- Dichloroethene	<135	<0.793	<69.4	<0.793	<113	<1.98	<17.2	NS	<17.1	<0.793	<17.0	NS	<17.2	NS	<88.0	<0.793
Vinyl Chloride	<86.9	<0.511	<44.7	<0.511	<72.6	<1.28	<11.1	NS	<11.0	<0.511	<11.0	NS	<11.1	NS	<56.7	<0.511
Isopropanol	<209	9	<108	9	<175	<3.07	<26.5	NS	<26.5	5.31	396	NS	<26.5	NS	<136	21.8

Notes

$\mu g/m^3$: micrograms per cubic meter

NS: not sampled as location was inaccessible

< : non-detect

* : Samples collected on 2/8/2014 were from SP-6, as stated in the 2014 Remedial Investigation Report. SP-6 appears to be in the same vicinity of the current location of SP-8 and therefore have been included with the SP-8 data.

Table 6 - SVE Exhaust Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

Vapor Phase COCs	Jun-20				Dec-20				Apr-21			
	Exhaust Concentration		Emission Rate @ 170[a] cfm		Exhaust Concentration		Emission Rate @ 170[a] cfm		Exhaust Concentration		Emission Rate @ 99.6[b] cfm	
	µg/m^3	lb/ft^3	lb/hr	lb/day	µg/m^3	lb/ft^3	lb/hr	lb/day	µg/m^3	lb/ft^3	lb/hr	lb/day
cis-1,2-Dichloroethene	7.93*	4.95E-10	5.05E-06	1.21E-04	0.793*	4.95E-11	5.05E-07	1.21E-05	0.793*	4.95E-11	2.96E-07	7.10E-06
Trichloroethene	10.7*	6.68E-10	6.81E-06	1.64E-04	1.28	7.99E-11	8.15E-07	1.96E-05	2.16	1.35E-10	8.06E-07	1.93E-05
Tetrachloroethene	13.6*	8.49E-10	8.66E-06	2.08E-04	35.9	2.24E-09	2.29E-05	5.49E-04	130	8.12E-09	4.85E-05	1.16E-03
Vinyl chloride	5.11*	3.19E-10	3.25E-06	7.81E-05	0.511*	3.19E-11	3.25E-07	7.81E-06	0.511*	3.19E-11	1.91E-07	4.58E-06
Total	**37.34**	**2.33E-09**	**2.38E-05**	**5.71E-04**	**38.484**	**2.40E-09**	**2.45E-05**	**5.88E-04**	**133.464**	**8.33E-09**	**4.98E-05**	**1.19E-03**

Notes
*COCs were Non-Detect at the Reporting Limit. Therefore the Reporting Limit was utilized to conservatively calculate total emissions.
µg/m^3 : micrograms per cubic meter
lb/ft^3 : pounds per cubic foot
lb/hr : pounds per hour
lb/day : pounds per day
cfm : fubic feet per minute
[a] : Estimated air flow rate from SVE emission
[b] : Calculated air flow rate from SVE emission. Differential pressure measured 0.249 in WC.

Table 7 - Groundwater Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:		GW-1																					
LAB ID:		JB59477-5				L1628504-06					L1848820-07				L2025069-01					L2103234-01				L2122042-01			
COLLECTION DATE:		2/8/2014				9/9/2016					11/28/2018				6/15/2020					1/25/2021				4/28/2021			
SAMPLER:		TechSolutions				Integral					Integral				EECC					EECC				EECC			
SAMPLE MATRIX:		WATER				WATER					WATER				WATER					WATER				WATER			
	NY-AWQS																										
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Initial System Start up - March 2018	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Post-IRM Modification System Start up - September 2020	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																											
Chloroform	7	**0.99**	J	1	0.25	--		--	--		--		--	--	ND		2.5	0.7		**0.78**		2.5	0.7	**0.8**	J	2.5	0.7
Tetrachloroethene	5	**280**		10	2.5	**140**		0.5	0.18		**74**		0.5	0.18	**15**		0.5	0.18		**19**		0.5	0.18	**9.1**		0.5	0.18
Vinyl chloride	2	ND		1	0.41	ND		1	0.07		ND		1	0.07	ND		1	0.07		ND		1	0.07	ND		1	0.07
trans-1,2-Dichloroethene	5	ND		1	0.38	ND		0.75	0.16		ND		0.75	0.16	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Trichloroethene	5	**5.4**		1	0.5	**1.6**		0.5	0.18		**1.4**		0.5	0.18	**0.65**		0.5	0.18		**1.1**		0.5	0.18	**0.59**		0.5	0.18
cis-1,2-Dichloroethene	5	**0.34**	J	1	0.24	**0.43**	J	0.5	0.19		**0.3**	J	0.5	0.19	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloroethene, Total		--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Acetone	50	ND		10	3.3	--		--	--		--		--	--	ND		5	1.5		ND		5	1.5	ND		5	1.5
1,2,4-Trimethylbenzene	5	--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Isopropanol		--		--	--	ND		100	8.5		**18**	J	100	3.5	--		--	--		--		--	--	--		--	--

Notes

Table only includes contaminants of concern and hits

NY-AWQS: NY - New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

ug/l - Micrograms per liter

Conc - concentration in ug/L

Q - qualifier

RL - Reporting Limit

MDL - Method Detection Limit

ND - Non-detect

J - Estimated value

-- - Not sampled

Bold Highlighted - Exceeds AWQS

Bold Grey - Detection below AWQS

Table 7 - Groundwater Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:		GW-2																				DUP (GW-2)			
LAB ID:		JB59477-6				L1628504-04				Initial System Start up - March 2018	L1848820-05			L2025069-02				Post-IRM Modification System Start up - September 2020	L2103234-02				L2122042-02				L2122042-07			
COLLECTION DATE:		2/8/2014				9/9/2016					11/28/2018			6/15/2020					1/25/2021				4/28/2021				4/28/2021			
SAMPLER:		TechSolutions				Integral					Integral			EECC					EECC				EECC				EECC			
SAMPLE MATRIX:		WATER				WATER					WATER			WATER					WATER				WATER				WATER			
	NY-AWQS																													
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																														
Chloroform	7	**4.2**		1	0.25	--		--	--		--		--	--	ND		6.2	1.8	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Tetrachloroethene	5	**165**		10	2.5	**200**		0.5	0.18		**240**		1.2	0.45	**300**		1.2	0.45	**18**		0.5	0.18	**0.4**	J	0.5	0.18	**0.37**	J	0.5	0.18
Vinyl chloride	2	ND		1	0.41	ND		1	0.07		ND		2.5	0.18	ND		2.5	0.18	ND		1	0.07	ND		1	0.07	ND		1	0.07
trans-1,2-Dichloroethene	5	ND		1	0.38	ND		0.75	0.16		ND		1.9	0.41	ND		6.2	1.8	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Trichloroethene	5	**2.4**		1	0.5	**14**		0.5	0.18		**5.6**		1.2	0.44	**11**		1.2	0.44	ND		0.5	0.18	ND		0.5	0.18	ND		0.5	0.18
cis-1,2-Dichloroethene	5	**0.81**	J	1	0.24	**0.31**	J	0.5	0.19		ND		1.2	0.47	ND		6.2	1.8	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloroethene, Total		--		--	--	--		--	--		--		--	--	ND		6.2	1.8	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Acetone	50	ND		10	3.3	--		--	--		--		--	--	ND		12	3.6	ND		5	1.5	ND		5	1.5	ND		5	1.5
1,2,4-Trimethylbenzene	5	--		--	--	**--**		--	--		**--**		--	--	**4.4**	J	6.2	1.8	ND	J	2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Isopropanol		--		--	--	**13**	J	100	8.5		ND		250	8.8	--		--	--	--		--	--	--		--	--	--		--	--

Notes

Table only includes contaminants of concern and hits

NY-AWQS: NY - New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

ug/l - Micrograms per liter

Conc - concentration in ug/L

Q - qualifier

RL - Reporting Limit

MDL - Method Detection Limit

ND - Non-detect

J - Estimated value

-- - Not sampled

Bold Highlighted - Exceeds AWQS

Bold Grey - Detection below AWQS

Table 7 - Groundwater Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:		GW-3																							
LAB ID:		JB59477-3				L1628504-05				Initial System Start up - March 2018	--				L2025069-03				Post-IRM Modification System Start up - September 2020	L2103234-03				L2122042-03			
COLLECTION DATE:		2/8/2014				9/9/2016					11/28/2018				6/15/2020					1/25/2021				4/28/2021			
SAMPLER:		TechSolutions				Integral					Integral				EECC					EECC				EECC			
SAMPLE MATRIX:		WATER				WATER					WATER				WATER					WATER				WATER			
ANALYTE	NY-AWQS (ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																											
Chloroform	7	**2.6**		1	0.25	--		--	--		--		--	--	**1.9**	J	2.5	0.7		**1.5**		2.5	0.7	1.8	J	2.5	0.7
Tetrachloroethene	5	**175**		10	2.5	**44**		0.5	0.18		--		--	--	**25**		0.5	0.18		**23**		0.5	0.18	**23**		0.5	0.18
Vinyl chloride	2	ND		1	0.41	ND		1	0.07		--		--	--	ND		1	0.07		ND		1	0.07	ND		1	0.07
trans-1,2-Dichloroethene	5	ND		1	0.38	ND		0.75	0.16		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Trichloroethene	5	**2**		1	0.5	**1.2**		0.5	0.18		--		--	--	**1.1**		0.5	0.18		**0.87**		0.5	0.18	**0.77**		0.5	0.18
cis-1,2-Dichloroethene	5	**0.39**	J	1	0.24	**0.25**	J	0.5	0.19		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloroethene, Total		--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Acetone	50	ND		10	3.3	--		--	--		--		--	--	**1.7**	J	5	1.5		ND		5	1.5	ND		5	1.5
1,2,4-Trimethylbenzene	5	--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Isopropanol		--		--	--	**8.5**	J	100	8.5		--		--	--	--		--	--		--		--	--	--		--	--

Notes

Table only includes contaminants of concern and hits

NY-AWQS: NY - New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

ug/l - Micrograms per liter

Conc - concentration in ug/L

Q - qualifier

RL - Reporting Limit

MDL - Method Detection Limit

ND - Non-detect

J - Estimated value

-- - Not sampled

Bold Highlighted - Exceeds AWQS

Bold Grey - Detection below AWQS

Table 7 - Groundwater Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:		GW-4																							
LAB ID:		JB59477-4				L1628504-08					L1848820-09				L2025069-04					L2103234-004				L2122042-04			
COLLECTION DATE:		2/8/2014				9/9/2016					11/28/2018				6/15/2020					1/24/2021				4/28/2021			
SAMPLER:		TechSolutions				Integral					Integral				EECC					EECC				EECC			
SAMPLE MATRIX:		WATER				WATER					WATER				WATER					WATER				WATER			
	NY-AWQS																										
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																											
Chloroform	7	**2.4**		1	0.25	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Tetrachloroethene	5	**254**		10	2.5	**90**		0.5	0.18		**71**		0.5	0.18	**3.2**		0.5	0.18		**1.4**		0.5	0.18	ND		0.5	0.18
Vinyl chloride	2	ND		1	0.41	ND		1	0.07		ND		1	0.07	ND		1	0.07		ND		1	0.07	ND		1	0.07
trans-1,2-Dichloroethene	5	ND		1	0.38	ND		0.75	0.16		ND		0.75	0.16	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Trichloroethene	5	**2.6**		1	0.5	**1.5**		0.5	0.18		**1.3**		0.5	0.18	**0.26**	J	0.5	0.18		ND		0.5	0.18	ND		0.5	0.18
cis-1,2-Dichloroethene	5	**1.1**		1	0.24	**0.24**	J	0.5	0.19		**0.23**	J	0.5	0.19	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloroethene, Total		--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Acetone	50	ND		10	3.3	--		--	--		--		--	--	ND		5	1.5		ND		5	1.5	ND		5	1.5
1,2,4-Trimethylbenzene	5	--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Isopropanol		--		--	--	ND		100	8.5		**16**	J	100	3.5	--		--	--		--		--	--	--		--	--

Initial System Start up - March 2018

Post-IRM Modification System Start up - September 2020

Notes

Table only includes contaminants of concern and hits

NY-AWQS: NY - New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

ug/l - Micrograms per liter

Conc - concentration in ug/L

Q - qualifier

RL - Reporting Limit

MDL - Method Detection Limit

ND - Non-detect

J - Estimated value

-- - Not sampled

Bold Highlighted - Exceeds AWQS

Bold Grey - Detection below AWQS

Table 7 - Groundwater Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:		GW-5																							
LAB ID:		JB59477-3				L1628504-09				Initial System Start up - March 2018	L1848820-06				L2025069-05				Post-IRM Modification System Start up - September 2020	L2103234-05				L2122042-05			
COLLECTION DATE:		2/8/2014				9/9/2016					11/28/2018				6/15/2020					1/24/2021				4/28/2021			
SAMPLER:		TechSolutions				Integral					Integral				EECC					EECC				EECC			
SAMPLE MATRIX:		WATER				WATER					WATER				WATER					WATER				WATER			
ANALYTE	NY-AWQS (ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																											
Chloroform	7	ND		1	0.25	--		--	--		--		--	--	**1.1**	J	2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Tetrachloroethene	5	**340**		10	2.5	**95**		0.5	0.18		**87**		0.5	0.18	**50**		0.5	0.18		**67**		0.5	0.18	**72**		0.5	0.18
Vinyl chloride	2	ND		1	0.41	ND		1	0.07		ND		1	0.07	ND		1	0.07		ND		1	0.07	ND		1	0.07
trans-1,2-Dichloroethene	5	ND		1	0.38	ND		0.75	0.16		ND		0.75	0.16	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Trichloroethene	5	**6.9**		1	0.5	**2.8**		0.5	0.18		**3.7**		0.5	0.18	**1.9**		0.5	0.18		**2**		0.5	0.18	**2.5**		0.5	0.18
cis-1,2-Dichloroethene	5	ND		1	0.24	**0.39**	J	0.5	0.19		ND		0.5	0.19	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloroethene, Total		--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Acetone	50	ND		10	3.3	--		--	--		--		--	--	ND		5	1.5		ND		5	1.5	ND		5	1.5
1,2,4-Trimethylbenzene	5	--		--	--	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7	ND		2.5	0.7
Isopropanol		--		--	--	ND		100	8.5		**21**	J	100	3.5	--		--	--		--		--	--	--		--	--

Notes

Table only includes contaminants of concern and hits

NY-AWQS: NY - New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

ug/l - Micrograms per liter

Conc - concentration in ug/L

Q - qualifier

RL - Reporting Limit

MDL - Method Detection Limit

ND - Non-detect

J - Estimated value

-- - Not sampled

Bold Highlighted - Exceeds AWQS

Bold Grey - Detection below AWQS

Table 7 - Groundwater Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:		MW-1					MW-2					
LAB ID:		L1628504-03				Initial System Start up - March 2018	L1848820-08				L1628504-02				Initial System Start up - March 2018	L1848820-02			
COLLECTION DATE:		9/9/2016					11/28/2018				9/9/2016					11/28/2018			
SAMPLER:		Integral					Integral				Integral					Integral			
SAMPLE MATRIX:		WATER					WATER				WATER					WATER			
	NY-AWQS																		
ANALYTE	(ug/l)	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																			
Chloroform	7	--		--	--		--		--	--	--		--	--		--		--	--
Tetrachloroethene	5	**10**		0.5	0.18		**37**		0.5	0.18	**41**		0.5	0.18		**29**		0.5	0.18
Vinyl chloride	2	ND		1	0.07		ND		1	0.07	ND		1	0.07		ND		1	0.07
trans-1,2-Dichloroethene	5	ND		0.75	0.16		ND		0.75	0.16	ND		0.75	0.16		ND		0.75	0.16
Trichloroethene	5	**0.69**		0.5	0.18		**0.62**		0.5	0.18	**1.8**		0.5	0.18		**1.2**		0.5	0.18
cis-1,2-Dichloroethene	5	**0.19**	J	0.5	0.19		**0.2**	J	0.5	0.19	ND		0.5	0.19		ND		0.5	0.19
1,2-Dichloroethene, Total		--		--	--		--		--	--	--		--	--		--		--	--
Acetone	50	--		--	--		--		--	--	--		--	--		--		--	--
1,2,4-Trimethylbenzene	5	--		--	--		--		--	--	--		--	--		--		--	--
Isopropanol		ND		100	8.5		**23**	J	100	3.5	ND		100	8.5		ND		100	3.5

Notes

Table only includes contaminants of concern and hits

NY-AWQS: NY - New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

ug/l - Micrograms per liter

Conc - concentration in ug/L

Q - qualifier

RL - Reporting Limit

MDL - Method Detection Limit

ND - Non-detect

J - Estimated value

-- - Not sampled

Bold Highlighted - Exceeds AWQS

Bold Grey - Detection below AWQS

Table 7 - Groundwater Analytical Data Summary
Bridge Cleaners
39-26 30th Street, Long Island City, NY
NYSDEC Site No. C241127

SAMPLE ID:		MW-5															
LAB ID:		L1628504-01				Initial System Start up - March 2018	L1848820-01				L2103234-06				Post-IRM Modification System Start up - September 2020	L2122042-06			
COLLECTION DATE:		9/9/2016					11/28/2018				1/24/2021					4/28/2021			
SAMPLER:		Integral					Integral				EECC					EECC			
SAMPLE MATRIX:		WATER					WATER				WATER					WATER			
	NY-AWQS																		
ANALYTE	(ug/l)	Conc	Q	RL	MDL		Conc	Q	RL	MDL	Conc	Q	RL	MDL		Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																			
Chloroform	7	--		--	--		--		--	--	**1.6**		2.5	0.7		**0.86**	J	2.5	0.7
Tetrachloroethene	5	**22**		0.5	0.18		**31**		0.5	0.18	**5.8**		0.5	0.18		**7.4**		0.5	0.18
Vinyl chloride	2	ND		1	0.07		ND		1	0.07	ND		1	0.07		ND		1	0.07
trans-1,2-Dichloroethene	5	ND		0.75	0.16		ND		0.75	0.16	ND		2.5	0.7		ND		2.5	0.7
Trichloroethene	5	**0.59**		0.5	0.18		**0.73**		0.5	0.18	**0.24**		0.5	0.18		**0.19**	J	0.5	0.18
cis-1,2-Dichloroethene	5	ND		0.5	0.19		**0.2**	J	0.5	0.19	ND		2.5	0.7		ND		2.5	0.7
1,2-Dichloroethene, Total		--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7
Acetone	50	--		--	--		--		--	--	ND		5	1.5		ND		5	1.5
1,2,4-Trimethylbenzene	5	--		--	--		--		--	--	ND		2.5	0.7		ND		2.5	0.7
Isopropanol		ND		100	8.5		ND		100	3.5	--		--	--		--		--	--

Notes

Table only includes contaminants of concern and hits

NY-AWQS: NY - New York TOGS 111 Ambient Water Quality Standards criteria reflects all addendum to criteria through June 2004.

ug/l - Micrograms per liter

Conc - concentration in ug/L

Q - qualifier

RL - Reporting Limit

MDL - Method Detection Limit

ND - Non-detect

J - Estimated value

-- - Not sampled

Bold Highlighted - Exceeds AWQS

Bold Grey - Detection below AWQS

Appendix A

TechSolutions Supplemental IRM WP

Supplemental Interim Remedial Measure Work Plan

For

Bridge Cleaners

39-26 30th Street, Long Island City, NY
Long Island City, Queens County
New York

NYSDEC No. 241127

July 2020

Prepared for:

Alenat Properties, LLC and Zhong Chuang Properties LLC

39-26 30th St.

Long Island City, New York

TechSolutions Engineering, P.C
52 Oceanview Boulevard
Manorville, New York 11949

Table of Contents

1.0 Introduction 1
1.1 Site Location and Description 1
1.2 Report Organization 1
2.0 Background 2
3.0 Interim Remedial Measures 2
3.1 Objectives 2
3.2 Scope of Work 3
3.2.1 Utility Clearance 3
3.2.2 Permitting 3
3.2.3 June 2020 Baseline Data Collection 3
3.2.4 Site Recon and Preparation 4
3.2.5 Air Sparge Well Installations 4
3.2.6 Air Sparge Manifold Installation and Modification 5
3.2.7 AS/SVE System Restart and Optimization 6
3.2.8 Air Monitoring 7
3.2.9 Impacted Groundwater and Soil Disposal 7
4.0 Post Construction Plan 7
4.1 Institutional and Engineering Controls (ICs/ECs) 7
4.2 Post-Construction Effectiveness Monitoring 7
4.3 Site Management Plan 8
5.0 Reporting 8
6.0 Schedule 9
7.0 References 9

Figures

Figure 1	Site Location Tax Map
Figure 2	First Floor Plan View - Proposed AS Locations
Figure 3	As-Built Process and Instrumentation Diagram
Figure 4	System Construction Details
Figure 5	Proposed Piping and Instrumentation Diagram

Tables

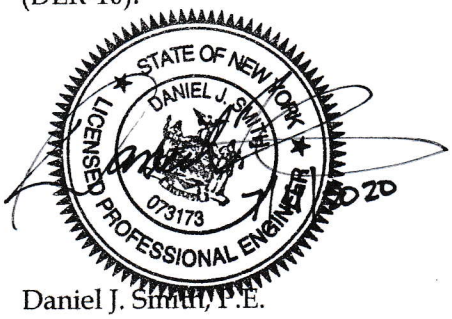
Table 1	Groundwater VOC Data – June 2020
Table 2	SVE Exhaust VOC Data – June 2020
Table 3	Air Sparge/SVE System Differential Pressure Measurements

Appendices

Appendix A	*Dispute Resolution Decision, November 4, 2019*
Appendix B	NYSDEC IRM Request Correspondence
Appendix C	Health and Safety Plan
Appendix D	Community Air Monitoring Program
Appendix E	Proposed Supplemental IRM Schedule

Engineering Certification:

I, Daniel J. Smith, P.E., certify that I am a New York State registered Professional Engineer and that this Interim Remedial Measures Work Plan (IRM WP) was prepared in accordance with applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10).



Daniel J. Smith, P.E.
NYS PE License No. 073173

1.0 Introduction

Alenat Properties, Inc., retained TechSolutions Engineering, P.C. to prepare this work plan for the implementation of a Supplemental Interim Remedial Measure (IRM) at the Bridge Cleaners Site located at 39-26 30th St., Long Island City, New York (***Figure 1 and Figure 2***). Alenat Properties also retained Sustainable Development, Inc. (SDI) to provide project management services related to the site investigation and remediation activities. TechSolutions prepared the Supplemental IRM work plan (WP) in response to the New York State Department of Environmental Conservation (NYSDEC) email communication from Ruth Curley, *Subject: 241127 – Bridge Cleaners 2020 Activities, dated January 8, 2020*. Proposed actions outlined in this work plan are based on the NYSDEC *Dispute Resolution Decision, dated November 4, 2019* and associated exhibits; including a Memorandum from Integral Engineering, P.C. (Integral), *Successful Former Bridge Cleaners AS/SVE System Performance, July 19, 2019*, and the initial AS/SVE *Interim Remedial Measure Design Drawing Package* prepared by Integral.

1.1 Site Location and Description

The subject property is owned by Zhong Chaung Properties, LLC and operated by Spring Cutting Inc., and is identified by the NYSDEC as Site No. 241127. The Site consists of a one-story slab-on-grade masonry building, located on Block 399, Lot 31, and currently utilized for fabric storage and cutting. Adjacent buildings to the north and west appear to contain residential units. To the south is a paved driveway used by the neighboring commercial structure. To the east is 30th Street.

This report has been prepared in accordance with the DER-10 / *Technical Requirements for Site Investigation and Remediation, dated May 2010* (DER-10) and supporting guidance documents. The report structure is in general conformance with *Section 5.3* of the DER-10 and is outlined in *Section 1.1*.

1.2 Report Organization

In addition to this introduction, this report is divided into six sections as follows:

- ***Section 2.0 – Site Background:*** Presents information regarding the Site and its pertinent characteristics and history
- ***Section 3.0 – Interim Remedial Measures:*** Presents a detailed description of the proposed IRM and all associated implementation activities
- ***Section 4.0 – Post Construction Plan:*** Outlines any modifications to the Site Management Plan (SMP) or Institutional Controls/Engineer Controls (ICs/ECs) based on the implementation of the IRM
- ***Section 5.0 – Reporting:*** Outlines the reporting and permit requirements prior to, and during, the implementation of the IRM
- ***Section 6.0 – Schedule:*** Presents the proposed schedule

- ***Section 7.0 – References:*** Presents references utilized in the IRM WP

2.0 Background

The Site was previously occupied by a commercial laundry and dry cleaner, Bridge Cleaners, until 2011. Records indicate at least 10 years of use as a commercial dry-cleaner. A site investigation was conducted at the Subject Property and off-site properties from 2009 to 2016. The results of these investigations indicated the presence of dry-cleaning related compounds tetrachloroethene (PCE) and its breakdown products, including trichloroethene (TCE) in the soil, soil vapor, and groundwater, at concentrations which exceeded the relevant NYSDEC standards and guidelines.

Subsequent to the completion of site investigation activities, an IRM Design, dated March 29, 2016, was prepared and submitted by Integral Engineering, P.C. (Integral). The IRM design consisted of an air sparge /soil vapor extraction (AS/SVE) system to remediate soil, groundwater, and soil vapor impacts, and to mitigate vapor intrusion in the onsite building. The IRM Design was approved by NYSDEC and subsequently installed in January 2018 and began continuous operation in March 2018.

Integral summarized the results of the AS/SVE system performance in a memorandum, *Successful Former Bridge Cleaners AS/SVE System Performance*, dated July 19, 2019, and submitted the memorandum to the NYSDEC on behalf of Alenat Properties. Based on the data presented in the memorandum, the AS/SVE system has been successful in reducing groundwater PCE concentrations in four of the five groundwater monitoring wells, with the exception being GW-2. NYSDEC's *Dispute Resolution Decision* requires that the current AS/SVE system be enhanced with an additional sparge well, or wells, to address the contamination in the vicinity of GW-2.

On January 8, 2020, Ruth Curley, NYSDEC Project Manager, requested the preparation of a Supplemental IRM WP to address the dispute resolution decision, within an email correspondence. In response to NYSDEC's request, TechSolutions prepared the Supplemental IRM WP, dated February 2020. The NYSDEC subsequently provided comments on the Supplemental IRM WP in email correspondence, dated June 2, 2020. This revised Supplemental IRM WP addresses the NYSDEC's June 2, 2020 comments.

3.0 Interim Remedial Measures

3.1 Objectives

The objectives of this Supplemental IRM are to:

- Enhance the current AS/SVE system to address the ongoing source of PCE, TCE, and associated chlorinated breakdown products to soil vapor and groundwater, including the installation of two additional air sparge wells to address contamination in the vicinity of GW-2; the system and its operations will comply with the applicable Part 375 Remediation Program Regulations.

- Outline the AS/SVE system operations and monitoring plan to confirm the short-term (60-day) effectiveness of additional air sparging points and SVE system restart.
- Develop and submit a Site Management Plan (SMP) for long-term continued effective operation of the AS/SVE system, as well as to collect groundwater monitoring and subslab pressure / vacuum data.

3.2 Scope of Work

3.2.1 Utility Clearance

Before mobilizing, the current owner of the Subject Property will be contacted to request as-built drawings of the building, which may identify locations of potential underground utilities. Prior to the initiation of project activities associated with subsurface disturbance, the remediation subcontractor will contact New York One-Call system to markout utilities. In addition, SDI will retain an independent utility locating service to conduct a subgrade utility survey within the designated drilling and trenching areas.

3.2.2 Permitting

The remediation contractor will be responsible for acquiring any necessary permits associated with the project, as applicable.

3.2.3 June 2020 Baseline Data Collection

Bridge Cleaners retained ECC Horizon (ECC) to collect a round of groundwater quality data from the site wells on June 15, 2020 using low flow sampling techniques.[1] In addition, ECC collected a sample of the SVE system exhaust and measured the sub-slab differential pressure at the site sub-slab monitoring points. The groundwater samples were analyzed by Alpha Analytical, a New York State-accredited laboratory, for volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260C. The air sample from the SVE system exhaust was analyzed for VOCs by EPA Method TO-15. The analytical data, the exhaust data, and the field pressure measurements are provided in Tables 1 through 3. Bridge Cleaners will submit a report summarizing the groundwater sampling event under separate cover when the data validation is completed.

The vacuum data (Table 3), which show consistent vacuums across the building footprint, demonstrate that the SVE system is performing as designed. This is supported by the absence of any chlorinated VOC detections in the SVE exhaust.

---

[1] The low flow sampling techniques used during the sample collection can be accessed at: https://www.epa.gov/quality/low-stress-low-flow-purging-and-sampling-procedure-collection-groundwater-samples-monitoring

3.2.4 Site Recon and Preparation

Prior to initiating air sparge well installation and proposed AS/SVE system modifications, a site visit will be conducted to confirm the Site layout, AS/SVE system as-builts (the as-built process and instrumentation diagram is included as ***Figure 3***), and selected air sparge well locations and pipe routing. A subgrade utility survey will be completed during this site visit to confirm that underground utilities do not interfere with the selected air sparge well locations. Any modifications to be made to the final construction, relative to what is outlined in this IRM WP, will be documented and described in a Construction Completion Report, which will include as-built drawings.

3.2.5 Air Sparge Well Installations

A licensed New York State well driller will be contracted to install the proposed AS wells (AS-2 and AS-3). Prior to drilling, the concrete slab at the proposed well locations will be cored and the locations hand cleared via hand auger or air knife to five feet below ground surface (bgs). The proposed air sparge well locations are shown on ***Figure 1***. The AS wells will be constructed in accordance with the design specification used for AS-1; the well construction design is shown on **Figure 4** and described below.

The AS wells will be drilled using a hollow stem auger (minimum 4.5-inch inner diameter) to approximately 35 feet below grade surface (bgs). The wells will be constructed with 34 feet of 2-inch, schedule 40 PVC well riser and one-foot of 2-inch, schedule 40 PVC 0.010 slot well screen. The boring anulus will be filled with #2 Morie sand to two feet above the well screen, bentonite to the top of the water table, and grout to the building floor surface. The wells will be finished with a flush mount vault of appropriate size and load rating. Soil cuttings generated by the AS well installation will be continuously screened with a PID and the data recorded. The soil cuttings will be containerized and disposed of as outlined in ***Section 3.2.9***.

After the grout has set (minimum of 24 hours), the AS wells will be developed to remove any silt and sediment from the well and the sand pack. Development water will be collected in 55-gallon steel drums and the drums will be disposed of as outlined in ***Section 3.2.9***.

The proposed placement of AS-2 and AS-3 was determined to improve the radius of influence of the existing system and to better target the PCE and TCE present in the subsurface in the vicinity of monitoring well GW-2. The upgraded AS well layout will generally result in the placement of AS-2 and AS-3 as close to GW-2 as possible, thereby maximizing effectiveness in the targeted area. AS-2 and AS-3 were located between three to five feet from GW-2 to be as close to the pilot test projected radius of influence (ROI) of two feet, while not compromising the integrity of GW-2. The proposed locations of AS-2 and AS-3 also keep the farthest extents of the ROI within the vapor extraction ROI of the SVE recovery wells.

Prior to setting of the flush mount vaults, the concrete slab will be saw-cut via wet methods compliant with applicable respirable crystalline silica (RCS) rules along the proposed trenching layout shown on **Figure 4** and the concrete will subsequently be removed and properly disposed

of offsite. The subgrade material will then be excavated to the specified depth to provide the trench to route the 2-inch, schedule 40 PVC subsurface piping from AS-2 and AS-3 to the wall where the AS-1 riser is located. Appropriately rated, PVC piping may be used for below grade piping systems only. All above grade pressure piping shall be appropriately rated, steel for safety and code compliance. PVC shall not be used for aboveground, interior piping.

Excavated material will be screened with a PID and temporarily staged for reuse as backfill in the piping trench. The material will be sampled appropriately for either disposal or on-site re-use per DER-10 Section 5.4(e)(4) & (10), depending on a determination of use. The subsurface routing pipe will stub up via 90-degree fittings at the locations designated on ***Figure 4***.

Prior to backfilling the trenches, the subsurface routing piping will be connected to the air compressor via an air sparge manifold as described in *Section 3.2.6* and the subsurface connections, pressures, and flows tested and the influence on GW-2 monitored, as outlined in ***Section 3.2.7***.

The trenches will then be backfilled to the existing base of the concrete slab with the excavated material and compacted as necessary to properly support concrete slab restoration. Additional excavated material, if any, will be properly disposed of offsite. Concrete will then be placed in the trenches to the same grade as the existing slab. After the concrete has sufficiently cured (a minimum of 7 days), an inspection of the seams will be conducted and sealed with joint compound to eliminate potential short-circuit pathways for the SVE system.

3.2.6 Air Sparge Manifold Installation and Modification

As described in ***Section 3.2.5*** and shown in ***Figures 1 and 4***, the trenched air sparge piping is to stub up through the concrete slab directly adjacent to the AS-1 riser. The risers for AS-2 and AS-3 are to run vertically along the interior wall and contain a union, gate valve, pressure gauge, and pitot tube port, as shown on ***Figure 4***. As part of a safety upgrade, the existing PVC pressure piping, and all new pressure piping that is aboveground (installed by others) within the building structure (i.e., interior piping) will be upgraded to steel piping. Each riser will then be piped and connected at a single point to the existing piping running from the air compressor.

The air compressor currently in use is providing an estimated 37 standard cubic feet per minute (scfm) at 11.2 pounds per square inch (psi) to AS-1. This flow rate is higher than per well flow rates recommended for standard AS system designs. Per the U.S. Army Corps of Engineers, *In-Situ Air Sparging Engineer Manual (USACE)*, dated December 31, 2013, the USEPA recommends airflow rates from 3 to 25 scfm and the U.S. Navy's *Air Sparging Design Guidance,* dated August 31, 2001, recommends airflow rates from 5 to 20 scfm. While AS-1 appears to be accepting the provided flow rate, AS design guidance indicates the installed compressor has enough capacity to provide sufficient pressure and flow to provide air to two AS wells simultaneously.

In order to facilitate the operation of only two of the three wells at one time, a two-way electric solenoid valve will be installed on each individual riser above the gate valve, as shown in **Figures 4 and 5**. The solenoid valves will provide a way to control the flow to each of the AS

points via either an analog timer or wired into the current control panel (to be determined during the Site Recon and Preparation task). This design will allow the AS system to operate in pulsed mode in which two of the three AS points are operated at one time and are subsequently cycled through. Pulsed operation provides the ability to operate the system with the currently installed air compressor and studies have also suggested that overall efficiency and subsurface air distribution can be increased via pulsed operation (USACE, 2013).

The air exhaust had a total VOC concentration of 312.3 µg/m^3 (Table 2). Based on the SVE exhaust air flow of 152 scfm, the daily mass of VOCs discharged is anticipated at 1.178 x 10^{-4} lbs/day. Therefore, no vapor phase treatment is warranted at the anticipated flow rates because the mass total VOC discharge is orders of magnitude below the 0.1 lb/day threshold.

3.2.7 AS/SVE System Restart and Optimization

The AS/SVE System Restart and Optimization activities will be conducted in three parts as outlined below.

After the AS/SVE system has been shut down to begin the proposed modifications, an assessment of routine operations and maintenance (O&M) items (i.e., oil changes), with respect to the AS compressor and SVE blower will be conducted. Any maintenance required will be conducted while the system is shut down for modifications.

After completion of the installation activities associated with the AS system modifications, but prior to backfilling of the trenches, the AS system will be restarted. During the restart, all connections, pressures, and flows will be checked on the newly installed piping and components to ensure no leakage or faulty operations. Each solenoid will be tested to ensure proper function and complete valve closure. The AS system will be operated for a minimum of 24 hours, with a focus on operation at AS-2 and AS-3. During this time dissolved oxygen levels and groundwater elevation will be monitored in GW-2 to show that the newly installed AS wells are effectively impacting GW-2.

After backfilling the trenches and placing of concrete and allowing it to cure for a minimum of 24 hours, the SVE system will be restarted. Upon restart sub-slab points will be monitored for vacuum / pressure response to ensure proper operation of the overall AS/SVE system. Seams along the newly placed concrete will also be checked and noted for sealing as needed, as outlined in ***Section 3.2.5***.

It is anticipated that pulsed operation will have each AS point operate on a cycle of 16 hours ON and 8 hours OFF. Each AS point will overlap to share operation with one another for 8 hours at a time. During restart-up of the system, pressures and flow rates on each manifold will be measured, and groundwater levels measured at nearby monitoring wells to determine if the pulse operation on/off cycle needs to be adjusted to optimize the system.

Post-construction effectiveness monitoring beyond the initial restart, to ensure continued proper function, is outlined in ***Section 4.2***.

3.2.8 Air Monitoring

Air monitoring will be conducted during the remedial activities in accordance with the site-specific Health and Safety Plan (HASP) and the Community Air Monitoring Plan (CAMP) provided as **Appendix C** and **D**, respectively.

3.2.9 Impacted Groundwater and Soil Disposal

Generated soil and groundwater from the AS well installation and development activities and soil from floor trenching designated for disposal will be properly containerized in 55-gallon steel drums. The generated waste will be characterized and properly disposed of offsite in accordance with applicable state and federal regulations.

4.0 Post Construction Plan

4.1 Institutional and Engineering Controls (ICs/ECs)

The Site currently has an environmental easement in place, with the most recent version dated March 4, 2019. This environmental easement outlines the following control elements utilized as ICs/ECs at the Site:

- Groundwater Use Restriction
- Cover System
- Monitoring Plan
- Site Management Plan (SMP)
- O&M Plan
- IC/EC Plan
- Air Sparging/Soil Vapor Extraction

The proposed modifications to the AS/SVE system will not alter the overall ICs/ECs outlined in the environmental easement, and therefore an update to the environmental easement will not be required.

4.2 Post-Construction Effectiveness Monitoring

Upon completion of the AS/SVE System Restart and Optimization activities outlined in *Section 3.2.7*, post-construction effectiveness monitoring will be conducted for 60 days on the following schedule:

- Weekly for the first month;
- Bi-weekly for the second month.

Monitoring activities to be conducted during each visit are as follows:

- Collect PID readings on SVE exhaust risers;
- Sub-slab vacuum extension monitoring;
- Record pressure, flows, and operation at all system components; and,
- Collect water elevation and DO readings at GW-2.

If all monitoring readings have stabilized and are within the requisite parameters after 60 days, the monitoring activities will be conducted quarterly moving forward until the SMP is submitted, reviewed, and approved by the NYSDEC. Monitoring activities after the SMP approval will be conducted as outlined in ***Section 4.3***.

4.3 Site Management Plan

After completion of the interim remedial activities, an SMP will be developed the describes the proposed longer-term monitoring activities associated with the Site and proper operation, monitoring, and maintenance (OM&M) of the AS/SVE system. It is anticipated the following monitoring activities will be incorporated in the SMP:

- Quarterly groundwater monitoring at GW-1 thru GW-5 to assess the performance of the installed AS/SVE system. The first groundwater sampling event is anticipated to be performed within 90 days of the system restart. Groundwater samples will be analyzed for VOCs by a New York State-accredited laboratory following EPA Method 8260C.
- Quarterly SVE exhaust sample collection and flow rate and PID monitoring to assess emission rate; the exhaust sample will be collected during the same event as the groundwater monitoring event. The air sample will be collected in a Tedlar bag and analyzed for VOCs by a New York State-accredited laboratory following EPA Method TO-15.
- Quarterly sub-slab vacuum extension monitoring and AS/SVE system O&M, to coincide with quarterly groundwater monitoring.
- Modification to the as-built AS/SVE drawings and associated O&M plan to incorporate the changes to the AS/SVE system.

The SMP will be submitted to the NYSDEC for review and approval within 60 days after the completion of post-construction effectiveness monitoring, so as to incorporate any requisite monitoring items into the SMP (120 days after system startup).

5.0 Reporting

Interim remedial activities will be documented through collection of daily field notes and photo logs. At the conclusion of work, a Construction Completion Report (CCR) meeting the requirements outlined with Section 5.8 of DER-10 will be prepared to document the completion of remedial activities. The CCR will contain as-built drawings of the AS/SVE system modifications, results from the AS/SVE system re-start monitoring, and all data associated with

the air monitoring conducted during the remedial activities. It is anticipated the CCR will be submitted to the NYSDEC within 120 days after the AS/SVE system re-start monitoring commences.

6.0 Schedule

A proposed schedule to conduct the proposed interim remedial activities and any associated monitoring through the 2020 calendar year is provided as **Appendix E**.

7.0 References

Integral Engineering P.C. (Integral). *(2016, March 29). Interim Remedial Measure Design, 39-26 30th St., Long Island City, NY*. Integral: New York, NY

New York State Department of Environmental Conservation (NYSWDEC). *(2010, May). DER-10 Technical Guidance for Site Investigation and Remediation.* NYSDEC: Albany, NY.

U.S. Army Corps of Engineers (USACE*) (2013, December 31). In-Situ Air Sparging Engineer Manual.* U.S. Army Corp of Engineers: Washington, DC.

Naval Facilities Engineering Command (2001, August 31). *Air Sparging Design Guidance.* U.S. Naval Facilities Engineering Service Center: Washington, DC.

Figures



Source: BRIDGE CLEANERS TAX MAP - Digital Tax Map - New York City Dept. of Finance (1/31/2020)

LEGEND

Borough Boundary	C50	Condo Flag/Condo Nunber	SUBJECT PROPERTY
Tax Block Boundary	A50	Air Right Flag/Lot Number	
50 Tax Block Number	S50	Subterranean Right Flag/Lot Number	
Tax Lot Boundary	R	REUC Flag	
50 Tax Lot Number		Under Water Tax Lot Boundary	
~~50~~ Condo FKA Tax Lot Number		Other Boundary	
50.5 Tax Lot Dimension		Possession Hook	
+/-5.5 Approximate Tax Lot Dimension	Misc	Miscelaneous Text	
1500 - 1550 Condo Units Range Label		Small Tax Lot Dimension	
Building Footprint		Surface Water	

REV	DATE	DESCRIPTION	APP

CERTIFIED BY DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

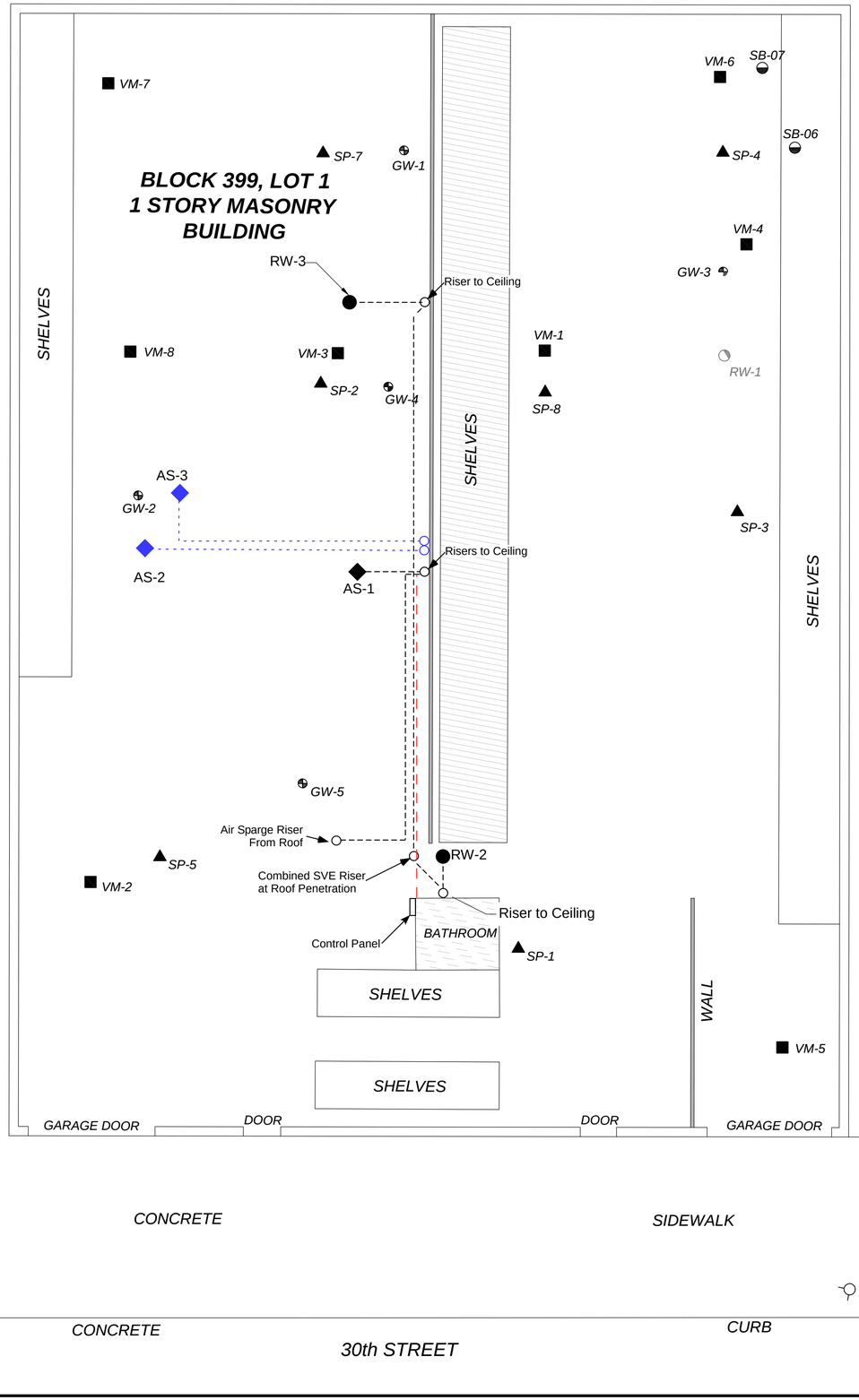
BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN AN	DATE 2-13-2020
DES NK	DATE 2-13-2020
CHK DJS	DATE 2-2020
SCALE	PROJECT NO. BRIDGE CLEANERS

SITE LOCATION
TAX MAP

FIGURE
1
REV 0



PVC PIPE

AIR SPARGE WELL

VAPOR EXTRACTION WELL

GROUNDWATER MONITORING WELL/SOIL BORING

SOIL BORING

VACUUM MONITORING POINT

SOIL VAPOR POINT

ABANDONED

PROPOSED AIR SPARGE WELL

PROPOSED TRENCHING

PROPOSED ELECTRIC TO RUN ALONG STRUTS ON CEILING

PROPOSED RISER LOCATION

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018)

0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

REV	DATE	DESCRIPTION	APP

CERTIFIED BY DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

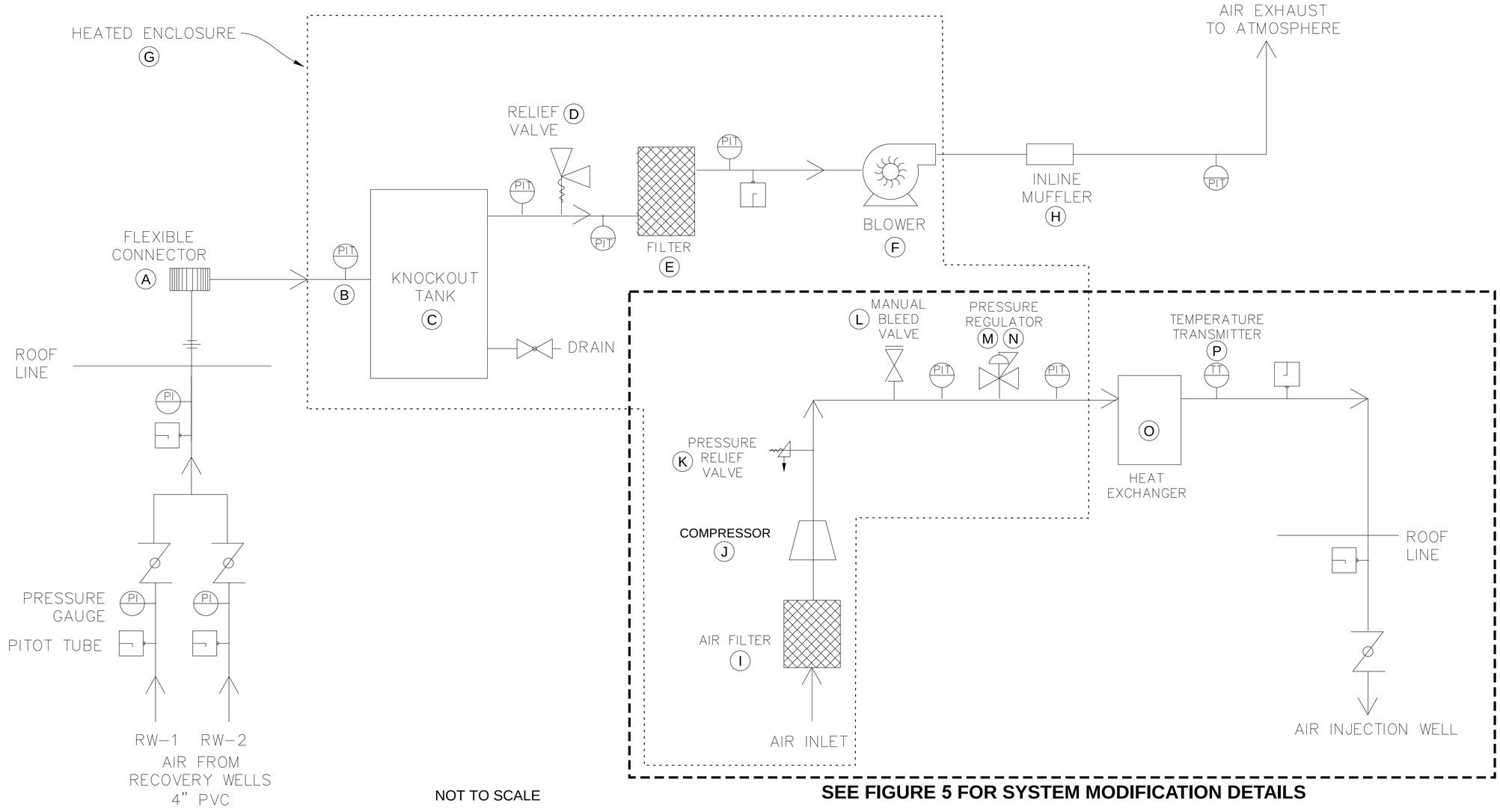
DRN AN	DATE 2-13-2020
DES NK	DATE 2-13-2020
CHK DJS	DATE 2-2020
SCALE AS NOTED	PROJECT NO. BRIDGE CLEANERS

FIRST FLOOR PLAN VIEW
PROPOSED AS LOCATIONS

FIGURE

2

REV **1**



NOT TO SCALE

SEE FIGURE 5 FOR SYSTEM MODIFICATION DETAILS

LEGEND

- PIT — PRESSURE INDICATING TRANSMITTER
- PI — PRESSURE INDICATOR
- PITOT TUBE/ PITOT TUBE PORT
- DRAIN VALVE
- BUTTERFLY VALVE
- VACUUM RELIEF VALVE
- TT — TEMPERATURE TRANSMITTER
- BLOWER
- S — SOLENOID VALVE
- PRESSURE REGULATOR
- MANUAL BLEED VALVE
- PRESSURE RELIEF VALVE
- SP — SAMPLE PORT

Soil Vapor Extraction System			
Label	**Description**	**Supplier**	**Vendor Part Number**
A	Reducing Flex Coupling	Pipeline	1059-22
B	Pressure Gauge	Precision Instrument Co.	LP4-254-60" H_2OP
C	Moisture Separator	Ametek Rotron	Ia
D	Vacuum Relief Valve	Fisher	289H-41
E	2" Inline Filter	Solberg Mfg.	CSL-851-200HC
F	Regenerative Blower	Ametek Rotron	EN505AX72ML
G	Sound Enclosure, outdoor	ARTUSA	71.5" x 42.75 x 48.5"
H	Inline Muffler	Universal Silencer	U5-1.25/11-121-AA

Air Sparge System			
Label	**Description**	**Supplier**	**Vendor Part Number**
I	Inlet Filter with paper element	Universal Silencer	CCS-2
J	Roatary Claw Compressor	Reitschle	DLR60 5 HP, 230/460/3/60 TEFC
K	Relief Valve	Fisher	289H-41
L	1" Bleed Valve Assembly	Universal Silencer	U5-1"
M	Liquid Filled Pressure Gauge	Precision Instrument Co.	204L-404C, LF, 4" FM, 0-30 PSIG
N	1/4" Isolation Valve	SMC Specialties	VA BRS 4F4M-BT
O	Air to Air Heat Exchanger	XChanger	AA-250, 1 HP, TEFC, 230/460/3/60
P	Discharge Temp Gauge/Switch	Jumo	608523

REV	DATE	DESCRIPTION	APP

CERTIFIED BY DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

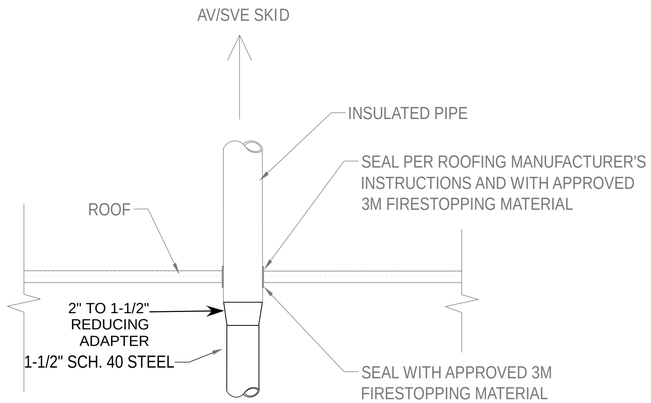
DRN AN	DATE 2-13-2020
DES NK	DATE 2-13-2020
CHK NK	DATE 2-2020
SCALE NOT TO SCALE	PROJECT NO. BRIDGE CLEANERS

AS-BUILT PROCESS AND INSTRUMENTATION DIAGRAM

FIGURE

3

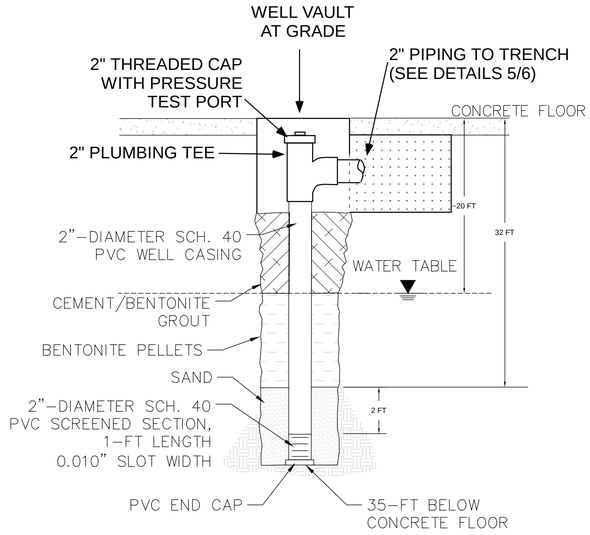
REV **0**



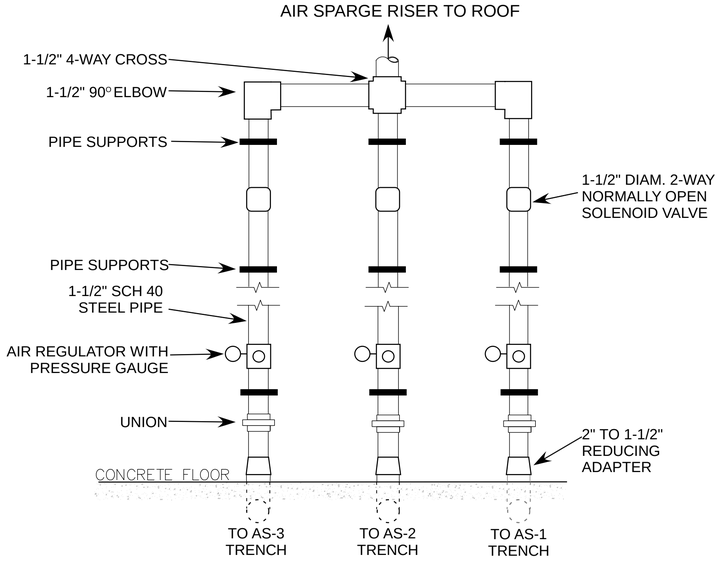
1 TYPICAL PIPE PENETRATION DETAIL
NTS

NOTES:

1. ROOF PENETRATION CURRENTLY INSTALLED SHOWN IN GRAY. MODIFICATIONS ARE SHOWN IN BLACK.
2. SVE EXHAUST IS LOCATED AT LEAST 25 FT AWAY FROM ANY OPERABLE OPENINGS OR AIR INTAKES (ON ANY PROPERTY/BUILDING).
3. SVE EXHAUST DISCHARGE SHALL BE SET AT 3 FT ABOVE ROOFLINE.
4. NO DUNNAGE PLANNED.



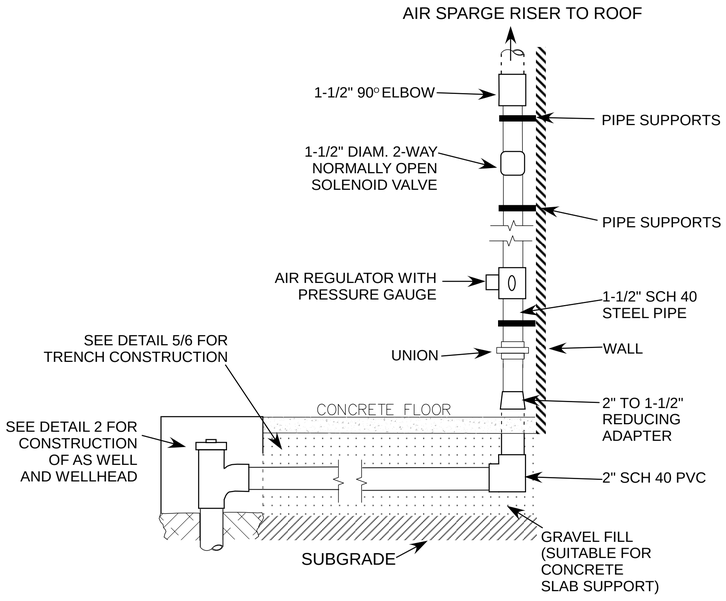
2 TYPICAL AIR SPARGE WELL DETAIL
NTS



3 AIR SPARGE MANIFOLD
NTS

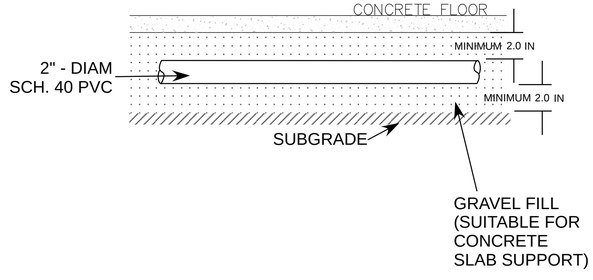
NOTES:

1. AS-1 COMPONENTS SHOWN IN GREY ARE CURRENTLY INSTALLED. COMPONENTS SHOWN IN BLACK ARE PROPOSED ADDITIONS AND MODIFICATIONS FOR THE IRM.
2. ALL ABOVE-GRADE AIR SPARGE COMPONENTS TO BE MADE OF STEEL OR EQUIVALENT PRESSURE RATED METAL PIPE AND FITTINGS.

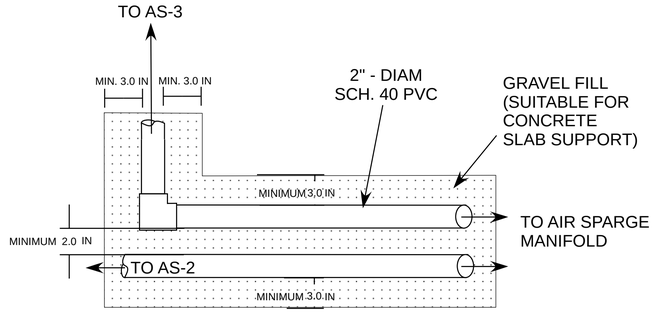


4 AIR SPARGE MANIFOLD AND TRENCHING PROFILE
NTS

NOTE: ALL ABOVE-GRADE AIR SPARGE COMPONENTS TO BE MADE OF STEEL OR EQUIVALENT PRESSURE RATED METAL PIPE AND FITTINGS.



5 AIR SPARGE PIPING TRENCH ELEVATION
NTS



6 AIR SPARGE PIPING TRENCH PLAN
NTS

REV	DATE	DESCRIPTION	APP

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

CERTIFIED BY DATE

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 2-19-2020
DES: NK	DATE: 2-19-2020
CHK: DJS	DATE: 2-19-2020
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

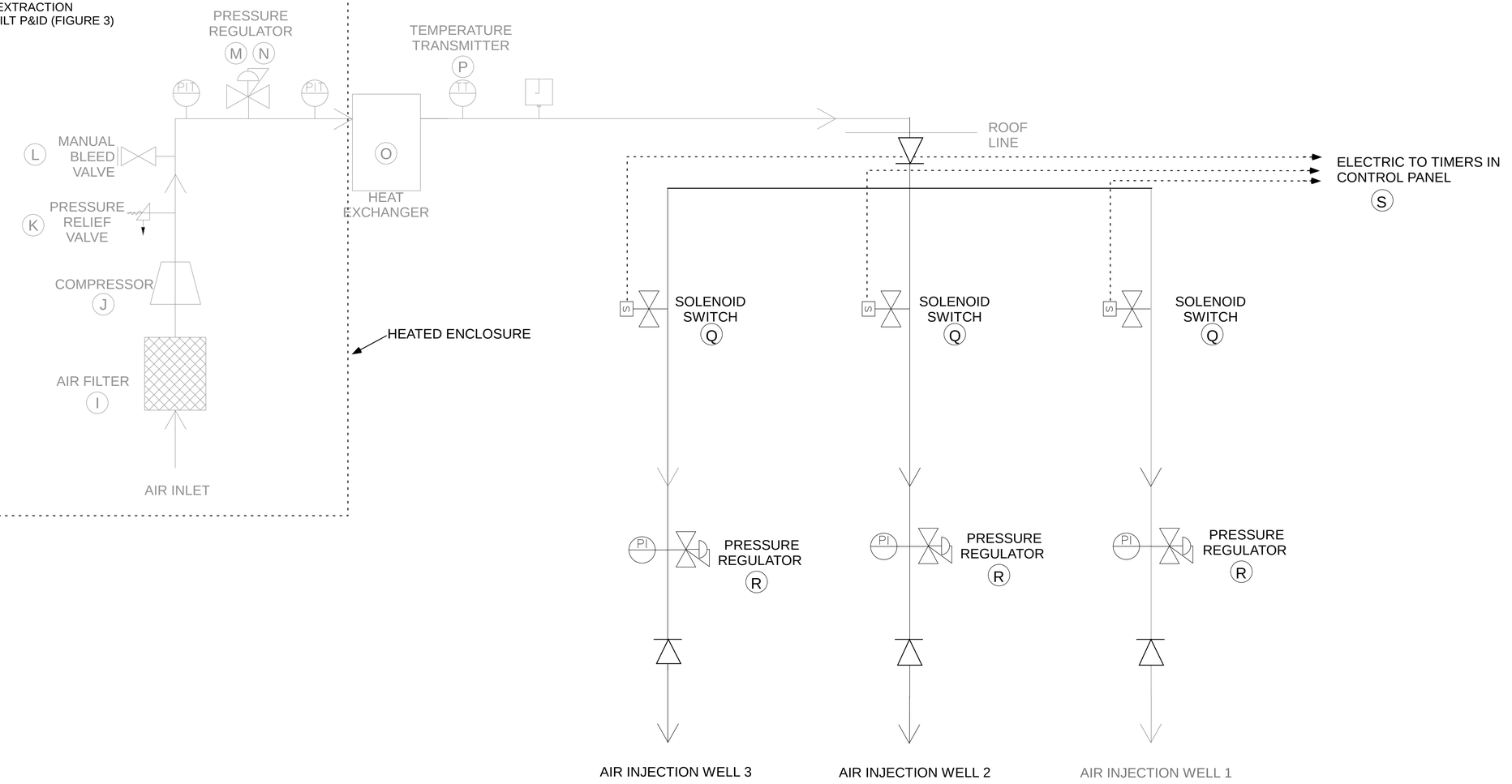
SYSTEM CONSTRUCTION DETAILS

FIGURE

4

REV 1

NOTE:
HEATED ENCLOSURE ALSO CONTAINS EQUIPMENT FOR SOIL VAPOR EXTRACTION (SVE) SYSTEM. SEE THE AS-BUILT P&ID (FIGURE 3) FOR DETAILS.



NOT TO SCALE

LEGEND

- PIT — PRESSURE INDICATING TRANSMITTER
- PI — PRESSURE INDICATOR
- PITOT TUBE
- DRAIN VALVE
- BUTTERFLY VALVE
- VACUUM RELIEF VALVE
- REDUCING ADAPTER
- TT — TEMPERATURE TRANSMITTER
- BLOWER
- S — SOLENOID VALVE
- PRESSURE REGULATOR
- MANUAL BLEED VALVE
- PRESSURE RELIEF VALVE
- SP — SAMPLE PORT

NOTES:
1. PROCESS FLOW COMPONENTS SHOWN IN GREY ARE CURRENTLY INSTALLED. PROCESS FLOW COMPONENTS SHOWN IN BLACK ARE PROPOSED ADDITIONS AND MODIFICATIONS AS NOTED IN THE IRM WP.
2. ALL ABOVE-GRADE AIR SPARGE COMPONENTS TO BE MADE OF STEEL OR EQUIVALENT PRESSURE RATED METAL PIPE AND FITTINGS.

Air Sparge System			
Label	**Description**	**Supplier**	**Vendor Part Number**
I	Inlet Filter with paper element	Universal Silencer	CCS-2
J	Roatary Claw Compressor	Reitschle	DLR60 5 HP, 230/460/3/60 TEFC
K	Relief Valve	Fisher	289H-41
L	1" Bleed Valve Assembly	Universal Silencer	U5-1"
M	Liquid Filled Pressure Gauge	Precision Instrument Co.	204L-404C, LF, 4" FM, 0-30 PSIG
N	1/4" Isolation Valve	SMC Specialties	VA BRS 4F4M-BT
O	Air to Air Heat Exchanger	XChanger	AA-250, 1 HP, TEFC, 230/460/3/60
P	Discharge Temp Gauge/Switch	Jumo	608523
Q	1-1/2" Normally opened 120 VAC Electric Two-way solenoid valve	Grainger	RedHat Model #8210G032
R	1-1/2" General Purpose Air Regulator	Grainger	Speedaire Model 4ZM11
S	24-hour electrical timer	TBD	TBD

REV	DATE	DESCRIPTION	APP

CERTIFIED BY DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN AN	DATE 2-19-2020
DES NK	DATE 2-19-2020
CHK DJS	DATE 2-19-2020
SCALE NOT TO SCALE	PROJECT NO. BRIDGE CLEANERS

PROPOSED PIPING AND INSTRUMENTATION DIAGRAM

FIGURE
5
REV 1

Tables

Table 1
Bridge Cleaners
Groundwater - VOC Data

		SAMPLE ID:	GW-1				GW-2				GW-3				GW-4			
		LAB ID:	L2025069-01				L2025069-02				L2025069-03				L2025069-04			
		COLLECTION DATE:	6/15/2020				6/15/2020				6/15/2020				6/15/2020			
		SAMPLE DEPTH:																
		SAMPLE MATRIX:	WATER				WATER				WATER				WATER			
		NY-AWQS																
ANALYTE	**CAS**	**(ug/l)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS																		
Chloroform	67-66-3	7	ND		2.5	0.7	ND		6.2	1.8	1.9	J	2.5	0.7	ND		2.5	0.7
Tetrachloroethene	127-18-4	5	15		0.5	0.18	300		1.2	0.45	25		0.5	0.18	3.2		0.5	0.18
Trichloroethene	79-01-6	5	0.65		0.5	0.18	11		1.2	0.44	1.1		0.5	0.18	0.26	J	0.5	0.18
Acetone	67-64-1	50	ND		5	1.5	ND		12	3.6	1.7	J	5	1.5	ND		5	1.5
1,2,4-Trimethylbenzene	95-63-6	5	ND		2.5	0.7	4.4	J	6.2	1.8	ND		2.5	0.7	ND		2.5	0.7
p-Ethyltoluene	622-96-8		ND		2	0.7	2	J	5	1.8	ND		2	0.7	ND		2	0.7
Total VOCs			15.65	-	-	-	317.4	-	-	-	29.7	-	-	-	3.46	-	-	-

Note: only detections are reported in this table.

Table 1
Bridge Cleaners
Groundwater - VOC Data

		SAMPLE ID:	GW-5				FB				TB			
		LAB ID:	L2025069-05				L2025069-06				L2025069-07			
		COLLECTION DATE:	6/15/2020				6/15/2020				6/12/2020			
		SAMPLE DEPTH:												
		SAMPLE MATRIX:	WATER				WATER				WATER			
		NY-AWQS												
ANALYTE	**CAS**	**(ug/l)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS BY GC/MS														
Chloroform	67-66-3	7	1.1	J	2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Tetrachloroethene	127-18-4	5	50		0.5	0.18	ND		0.5	0.18	ND		0.5	0.18
Trichloroethene	79-01-6	5	1.9		0.5	0.18	ND		0.5	0.18	ND		0.5	0.18
Acetone	67-64-1	50	ND		5	1.5	1.6	J	5	1.5	ND		5	1.5
1,2,4-Trimethylbenzene	95-63-6	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
p-Ethyltoluene	622-96-8		ND		2	0.7	ND		2	0.7	ND		2	0.7
Total VOCs			53	-	-	-	1.6	-	-	-	-	-	-	-

Note: only detections are reported in this table.

Table 2
Bridge Cleaners
SVE Exhaust - VOC Data

		SAMPLE ID:	SVE-EXHAUST			
		LAB ID:	L2024933-01			
		COLLECTION DATE:	6/15/2020			
		SAMPLE DEPTH:				
		SAMPLE MATRIX:	SOIL_VAPOR			
ANALYTE	**CAS**	**(ug/m3)**	**Conc**	**Q**	**RL**	**MDL**
VOLATILE ORGANICS IN AIR						
Ethanol	64-17-5		266		94.2	-
Acetone	67-64-1		32.1		23.8	-
Isopropanol	67-63-0		14.2		12.3	-

Note: only detections are reported in this table.

Table 3
Bridge Cleaners
Air Sparge/SVE System Differential Pressure Measurements

Monitoring Point	Monitoring Date						
	1/15/2018	3/14/2018	11/30/2018	12/4/2018	12/12/2018	5/17/2019	6/15/2020
VM-1	-0.632	-0.682	-0.601	-0.730	-0.722	-0.722	-0.83
VM-2	-0.135	-0.172	-0.073	-0.215	-0.202	-0.097	-0.12
VM-3	-2.213	-2.503	-2.176	-2.714	-2.667	-2.728	-2.59
VM-4	-0.102	NA	NA	NA	NA	-0.112	-0.22
VM-5	-0.077	-0.082	-0.096	-0.093	-0.095	-0.105	-0.13
VM-6	-0.091	-0.104	NA	NA	NA	NA	NA
VM-7	-0.159	-0.197	NA	NA	NA	NA	NA
VM-8	-0.415	NA	-0.542	-0.785	-0.683	-0.544	-0.53
SP-1	NA	-0.141	-0.133	-0.162	-0.159	-0.303	-0.33
SP-2	-0.706	-0.844	-1.355	-1.112	-1.119	-1.066	-1.04
SP-3	-0.049	-0.054	NA	NA	NA	-0.064	-0.12
SP-4	NA	-0.064	-0.118	-0.103	-0.091	NA	NA
SP-5	-0.077	-0.101	-0.156	-0.151	-0.140	-0.248	-0.298
SP-7	-0.333	-0.480	-0.584	-0.713	-0.594	-1.208	-0.92
SP-8	-0.440	-0.512	-0.611	-0.569	-0.523	-0.722	-0.67

Units in inches of water

Appendix A

Dispute Resolution Decision, November 4, 2019

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau A
625 Broadway, 12th Floor, Albany, NY 12233-7015
P: (518) 402-9625 I F: (518) 402-9627
www.dec.ny.gov

November 4, 2019

Michael Bogin, Esq.
Sive, Paget & Riesel, P.C.
560 Lexington Avenue
New York, New York 10022

Patrick Foster, Esq.
Regional Attorney
Office of General Counsel, Region 2
NYS Department of Environmental Conservation
47-40 21st Street, Long Island City, NY 11101

RE: Bridge Cleaners Site, Long Island City, Queens Site No. 241127
Consent Order CO2-20170509-174
DISPUTE RESOLUTION DECISION

Dear Mr. Bogin,

This letter is in response to your transmittal dated June 27, 2019 invoking the dispute resolution process for the referenced site. The decision relates only to the technical issues and does not address legal issues raised in your letter. As such, this decision will not address whether there has been a violation of the August 2018 Consent Order.

> **The technical issue raised in this dispute, as described by Alenat Properties, LLC and Zhong Chuang Properties LLC (the "Respondents") is as follows: "We disagree with your [DEC's] conclusion that the air sparge system is not functioning and not addressing groundwater contamination . . . and that we must install additional air sparge points."**

Groundwater data submitted by the Respondents from September 2016 (200 parts per billion (ppb)), November 2018 (240 ppb) and May 2019 (210 ppb) indicate there has been very little change in in PCE groundwater concentrations of PCE in GW-2, while the other four wells at a similar distance or further away from the air sparge well have shown decreases between 49-94 %. The air sparge system has been operational for approximately eighteen months and if the single sparge well was adequate, concentrations in the vicinity of GW-2 would see similar reductions. Based upon this data, the current air sparge well AS-1 has had little impact on the groundwater quality in the vicinity of GW-2.

In addition, as noted in design documents and Department correspondence there were concerns over the practicability of air sparge as an effective remedial alternative for groundwater contamination. The November 30, 2015 document entitled Interim Remedial Measure Design Document IRM (IRM Design Document), Bridge Cleaners Site, on page 4-15 states "[i]n summary, the nature of the soils and thinness of the groundwater zone is not conducive to the application of air sparging." The test results indicate that air sparging had limited effect on removal of VOCs from the saturated zone given the slight increase and then decline in PID readings during the air sparge/soil vapor extraction testing noted in Figure 10, page 4-14 of the IRM Design Document. The Department's comment letter dated January 21, 2016, recommends that Respondent develop and evaluate on-site contaminated groundwater, in light of the conclusions stated in the IRM Design Document that air sparging would be impracticable. While it is unclear why the Department ultimately approved the air sparge system at this site, the Respondent had a full understanding that a single air sparge well may not have been an effective remedy.

Finally, in a memorandum submitted to Michael Bogin dated July 19, 2019, the Respondent's consultant states, without any evidence, that the groundwater, in the vicinity of GW-2, may be coming into contact with source material in the vadose zone as a result of the mounding of the groundwater caused by air sparge system operation. Based upon the RI data, the highest concentrations of PCE and TCE were in the northern corner of the building suggesting the location where disposal occurred. As such, it is highly unlikely that groundwater near GW-2 is coming into contact with source material.

Based upon the review of the site file and groundwater quality data during the operation of the system, I conclude that the current system will need to be enhanced to comply with standards and address ongoing source to soil vapor, with an additional sparge well or wells, to address the contamination in the vicinity of GW-2.

Sincerely,

Eric R Obrecht

Eric Obrecht
Director, Remedial Bureau A

Enc:
Exhibit A – Bogin Letter Initiating Dispute dated 6/27/2019
Exhibit B - Saba email dated 07/19/2019 and attachments
Exhibit C - DER Bureau B Memo response to Bogin letter - dated 07/17/2019

Ec: M. Ryan
J. Andaloro
D. Desnoyers
G. Burke\M. Komoroske\R. Curley

Exhibit A

SIVE, PAGET & RIESEL P.C.

Michael Bogin
Direct: 646-378-7210
mbogin@sprlaw.com

June 27, 2019

VIA EMAIL
Patrick Foster
NYSDEC, Region 2
47-40 21st Street
Long Island City, NY 11101

RE: Bridge Cleaners Site, Long Island City, Queens (No. 241127)

Dear Patrick:

This letter responds to your June 12, 2019 letter regarding compliance with the August 6, 2018 consent order ("Order," CO2-20170509-174) for the Bridge Cleaners site ("Site") in Long Island City, Queens. We represent Alenat Properties, LLC ("Alenat"), the former owner of the Site and a party to the Order. We submit this letter on behalf of Alenat and with the consent and concurrence of Dale Desnoyers, Esq. and his client, Zhong Chuang Properties LLC ("Zhong Chuang"), the current owner of the Site and a party to the Order.

We disagree with your conclusion that the air sparge system is not functioning and not addressing groundwater contamination, that we are in violation of the Order, and that we must install additional air sparge points. Therefore, we elect to invoke dispute resolution pursuant to 6 NYCRR § 375-1.6(d)(3).

Sincerely,

/s/ Michael Bogin

Michael Bogin

cc: Ruth Curley
Jeffrey Cohan
Keith Brodock
Dale Desnoyers

Exhibit B

Obrecht, Eric R (DEC)

From: Alexis Saba <asaba@sprlaw.com>
Sent: Friday, July 19, 2019 5:24 PM
To: Obrecht, Eric R (DEC)
Cc: Curley, Ruth E (DEC); Komoroske, Michael (DEC); Michael Bogin; jlcohan@aol.com; Dale@allendesnoyers.com; classiccutting11@yahoo.com; kbrodock@integral-corp.com; Burke, Gerard (DEC); Foster, Patrick E (DEC)
Subject: RE: Bridge Cleaners Site (241127) Dispute Notification
Attachments: BridgeCleaners_DataSummary_2019.07.19.pdf; Email_2019.06.03 _Integral_NYSDEC_GroundwaterData.pdf; Attachments_Email_2019.06.03.pdf; Email_2019.06.19 _Integral_NYSDEC_GroundwaterElevation.pdf; Attachment_Email_2019.06.19.pdf

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Mr. Obrecht:

On behalf of Michael Bogin, attached please find the following documents for evaluation in resolution of this dispute:

1. Memorandum from Integral Engineering, P.C. to Michael Bogin regarding the successful performance of the AS/SVE system
2. June 3, 2019 email from Sara Barbuto (Integral) to Ruth Curley (DEC) regarding May 2019 groundwater sampling
3. Attachments to the June 3, 2019 email
4. June 19, 2019 email from Sara Barbuto (Integral) to Ruth Curley (DEC) regarding groundwater elevation data
5. Attachments to the June 19, 2019 email

Thank you,
Alexis

Alexis Saba
SIVE, PAGET & RIESEL P.C.
Direct: (646) 378-7217
Cell: (607) 435-6842
asaba@sprlaw.com

From: Obrecht, Eric R (DEC) <eric.obrecht@dec.ny.gov>
Sent: Wednesday, July 10, 2019 8:02 AM
To: Curley, Ruth E (DEC) <ruth.curley@dec.ny.gov>; Komoroske, Michael (DEC) <michael.komoroske@dec.ny.gov>; Michael Bogin <mbogin@sprlaw.com>; jlcohan@aol.com; Dale@allendesnoyers.com; classiccutting11@yahoo.com; kbrodock@integral-corp.com
Cc: Burke, Gerard (DEC) <gerard.burke@dec.ny.gov>; Foster, Patrick E (DEC) <patrick.foster@dec.ny.gov>
Subject: Bridge Cleaners Site (241127) Dispute Notification

On behalf of his client, Michael Bogin has submitted the attached letter invoking dispute resolution. I am the designated individual that will hear and render a written decision on this dispute. The site is in region 2 and the DEC project manager is in Remedial Bureau B.

From:	Sara Barbuto
To:	"Curley, Ruth E (DEC)"
Cc:	"Komoroske, Michael (DEC)"; Keith Brodock
Subject:	RE: 241127 - Bridge Cleaners - CCR/SMP
Date:	Wednesday, June 19, 2019 11:27:13 AM
Attachments:	FormerBridgeCleaners_Water Elevations_2019.06.19.pdf

Hi Ruth,
Please find attached the water level data and calculated groundwater elevations from the pre-construction, post-construction, and May 2019 groundwater monitoring events.
Thank you,
Sara

From: Sara Barbuto
Sent: Monday, June 03, 2019 2:05 PM
To: 'Curley, Ruth E (DEC)' <ruth.curley@dec.ny.gov>
Cc: Komoroske, Michael (DEC) <michael.komoroske@dec.ny.gov>; Keith Brodock <kbrodock@integral-corp.com>
Subject: RE: 241127 - Bridge Cleaners - CCR/SMP

Hi Ruth,
Integral collected groundwater samples from the former Bridge Cleaners site on May 17, 2019, and the results show that the air sparge has been effective in reducing groundwater contaminant levels. Please see attached for the laboratory report and a data summary ("2019.06.03 Bridge Cleaners GW Data Comparison.xlsx"). I've included the site layout figure from the SMP for your reference.

The system (both the SVE and the air sparge) has been active and running continuously since our last round of post-construction sampling in November 2018.

With the incorporation of these groundwater data, we believe that the CCR can be approved. Please let Keith and I know if you would like to discuss.

Thank you,
Sara

From: Curley, Ruth E (DEC) [mailto:ruth.curley@dec.ny.gov]
Sent: Friday, March 15, 2019 1:23 PM
To: Keith Brodock <kbrodock@integral-corp.com>; Sara Barbuto <sbarbuto@integral-corp.com>
Cc: Komoroske, Michael (DEC) <michael.komoroske@dec.ny.gov>; Curley, Ruth E (DEC) <ruth.curley@dec.ny.gov>
Subject: 241127 - Bridge Cleaners - CCR/SMP

[EXTERNAL EMAIL]

Sara/Keith

The following summarizes the Department's review of the CCR (Dec 2018) and SMP (Oct 2018), which we briefly talked about this morning.

CCR :
The CCR for Bridge Cleaners indicate that the air sparge has not been effective in reducing groundwater contaminant levels.
As a result, NYSDEC will not approve the CCR report. Additional sparge points will be necessary.

Quarterly monitoring, in accordance with the approved IRM design document, should continue.

The Consent Order indicates progress monthly reports should be submitted: (Appendix A. XIII). To ensure that the system is continuing to operate, NYSDEC requires a monthly update on system status and performance as a progress report.

SMP:
The SMP is supposed to be stand-alone document for use by the owner/operator of the system. There are several sections that were modified that will need to be revised, and some additional figures or appendices will be needed. The building slab is acting as a cover system and will need to be incorporated as an engineering control.

If you have questions, let me know. I am preparing written comment letters that should be issued shortly.

Ruth Curley
Professional Engineer 1 (Environmental)
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 12th Floor Albany, NY 12233-7016
P: 518-402-9480 | F: 518-402-9773 | ruth.curley@dec.ny.gov
www.dec.ny.gov | |

From: Sara Barbuto
To: "Curley, Ruth E (DEC)"
Cc: Komoroske, Michael (DEC); Keith Brodock
Subject: RE: 241127 - Bridge Cleaners - CCR/SMP
Date: Monday, June 03, 2019 2:05:28 PM
Attachments: Bridge Cleaners - Groundwater Data 2019.05.17.pdf
2019.06.03 Bridge Cleaners GW Data Comparison.xlsx
Figure 3 - Site Layout.pdf

Hi Ruth,
Integral collected groundwater samples from the former Bridge Cleaners site on May 17, 2019, and the results show that the air sparge has been effective in reducing groundwater contaminant levels. Please see attached for the laboratory report and a data summary ("2019.06.03 Bridge Cleaners GW Data Comparison.xlsx"). I've included the site layout figure from the SMP for your reference.

The system (both the SVE and the air sparge) has been active and running continuously since our last round of post-construction sampling in November 2018.

With the incorporation of these groundwater data, we believe that the CCR can be approved. Please let Keith and I know if you would like to discuss.

Thank you,
Sara

From: Curley, Ruth E (DEC) [mailto:ruth.curley@dec.ny.gov]
Sent: Friday, March 15, 2019 1:23 PM
To: Keith Brodock <kbrodock@integral-corp.com>; Sara Barbuto <sbarbuto@integral-corp.com>
Cc: Komoroske, Michael (DEC) <michael.komoroske@dec.ny.gov>; Curley, Ruth E (DEC) <ruth.curley@dec.ny.gov>
Subject: 241127 - Bridge Cleaners - CCR/SMP

[EXTERNAL EMAIL]

Sara/Keith

The following summarizes the Department's review of the CCR (Dec 2018) and SMP (Oct 2018), which we briefly talked about this morning.

CCR :
The CCR for Bridge Cleaners indicate that the air sparge has not been effective in reducing groundwater contaminant levels.
As a result, NYSDEC will not approve the CCR report. Additional sparge points will be necessary.

Quarterly monitoring, in accordance with the approved IRM design document, should continue.

The Consent Order indicates progress monthly reports should be submitted: (Appendix A. XIII). To ensure that the system is continuing to operate, NYSDEC requires a monthly update on system status and performance as a progress report.

SMP:
The SMP is supposed to be stand-alone document for use by the owner/operator of the system. There are several sections that were modified that will need to be revised, and some additional figures or appendices will be needed. The building slab is acting as a cover system and will need to be incorporated as an engineering control.

If you have questions, let me know. I am preparing written comment letters that should be issued shortly.

Ruth Curley
Professional Engineer 1 (Environmental)
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 12th Floor Albany, NY 12233-7016
P: 518-402-9480 | F: 518-402-9773 | ruth.curley@dec.ny.gov
www.dec.ny.gov | |

Integral Engineering, P.C.
1001 6th Avenue
11th Floor
New York, NY 10018

telephone: 212.962.4303
www.integral-corp.com

MEMORANDUM

To:	Michael Bogin, Sive, Paget & Riesel P.C.
From:	Keith P. Brodock, P.E. and Sara Barbuto, Integral Engineering, P.C.
Date:	July 19, 2019
Subject:	Successful Former Bridge Cleaners AS/SVE System Performance
Project No.:	E148

Integral Engineering, P.C. (Integral) has prepared this memorandum summarizing air sparge/soil vapor extraction (AS/SVE) system monitoring results and demonstrating that the AS/SVE system is functioning as designed for the former Bridge Cleaners property located at 39-26 30th Street, Long Island City, NY (Site). The AS/SVE system was designed to remediate Site soil, groundwater, and soil vapor, and to mitigate vapor intrusion in the onsite building, and it is currently performing these functions. This memorandum presents available AS/SVE system monitoring data from pre- and post-construction sampling events and demonstrates that the system is functioning as designed and that Site groundwater and soil vapor concentrations have significantly decreased.

SYSTEM FUNCTION

The Site AS/SVE system uses a blower to induce airflow through the subsurface (unsaturated zone) to volatilize contaminants for exhaust to the atmosphere, in addition to the introduction of air into the saturated zone to allow for mass transfer of dissolved contaminants into the vapor phase (for collection by the SVE). As discussed below, monitoring data for the air sparge and soil vapor extraction components of the system indicate that the system is functioning as designed and approved.

Table 1 compares air sparge design criteria and operating flow and pressure measurements that were collected during several post-construction monitoring events. The flow and pressure monitoring data are consistent with the design values and indicate the air sparge is functioning as designed and is effectively distributing air into the subsurface.

Differential pressure measurements were collected prior to construction and during each post-construction monitoring event and are presented in Table 2. In limited instances[1], the differential pressure did not meet the design criterion of -0.10 iwc, which may indicate additional runtime of the AS/SVE system will be necessary to fully remediate soil and groundwater (however, as presented below, significant reductions in contaminants have already been achieved). The differential pressure in all monitoring locations indicates lower pressure (vacuum) below the slab for effective mitigation of soil vapor intrusion to the building. Accordingly, the AS/SVE system is functioning as designed.

REDUCTIONS IN CONTAMINATION

AS/SVE system operation at the Former Bridge Cleaners Site has achieved the following results:

- Target compound concentration reductions in groundwater,
- Target compound concentration reductions in sub-slab soil vapor, and
- Target compound mass removal via SVE exhaust.

Primary target compounds at the Site are tetrachloroethylene (PCE) and its degradation byproducts, trichloroethylene (TCE), cis-1,2-dichloroethene (1,2-DCE), and vinyl chloride. Isopropanol was added as a secondary target compound after it was detected in groundwater during the remedial investigation. Groundwater and soil vapor data and mass removal calculations are discussed further below.

Groundwater Concentration Reductions

On average, groundwater PCE concentrations per monitoring well decreased by 56 percent since startup of the AS/SVE system with most concentrations now in the low double-digits or single digits (concentrations in µg/L)[2]. Figure 1 shows the locations of the groundwater sampling points and Table 3 provides a summary of the groundwater sample results from pre-construction and post-construction data. Table 4 presents the concentration decrease calculations. Groundwater concentration reductions were observed for PCE in all[1] but one well, GW-2, which despite showing a small increase from the pre-construction sampling,

[1] In most instances, only one point of the measured monitoring points did not meet design criterion. During one other instance, two points did not meet design criterion; and in one other instance, three points did not meet design criterion.
[2] Sidewalk monitoring well MW-1 is upgradient of the Site and was not included in the concentration reduction analyses.

has shown a decrease between the two post-construction sampling events[3]. With the higher groundwater elevations observed in the post-construction monitoring events, PCE concentrations at GW-2 may not show as much of a decrease in concentrations as other wells if the higher groundwater is accessing source material in the vicinity of GW-2. Groundwater TCE concentration reductions were observed in all monitoring wells with an average 51 percent decrease. Continued operation of the AS/SVE system will continue to facilitate the removal of target compounds.

Soil Vapor Concentration Reductions

Soil vapor PCE and TCE concentrations have decreased by several orders of magnitude since the AS/SVE system was installed. Figure 1 shows the locations of the soil vapor sampling points and Table 5 provides a summary of the soil vapor sample results from the pre- and post-construction sampling events. Table 6 presents comparison calculations: soil vapor PCE and TCE concentration reductions were observed at all sampling locations and decreases ranged from 95.8 to 99.9 percent. Given the significant reductions in target compounds, the AS/SVE system is working as designed to reduce soil vapor concentrations in the vadose zone beneath the building.

Mass Removal

The AS/SVE system has been removing contaminants since startup and continues to do so. SVE flow rate and exhaust concentration data from May 17, 2019, about 16 months after startup, were used to estimate the 1.93 kg total target compound mass removed by the AS/SVE system. Target compound (PCE, TCE, 1,2-DCE, vinyl chloride, and isopropanol) concentration results for this sample are presented in Table 7. The total target compound mass removed was calculated by multiplying the SVE exhaust concentration data (656 µg/m^3) by the measured flow for the SVE system on May 17, 2019 (160 ft^3/min), and the number of hours that the system has run since May 17, 2019 (10,804 hours):

$$656\ \frac{\mu g}{m^3} \times \frac{1\ kg}{10^9\ \mu g} \times \frac{160\ ft^3}{\text{MIN}} \times \frac{m^3}{35.3\ ft^3} \times\ 10{,}804\ \text{HRS} \times \frac{60\ \text{MIN}}{\text{HR}} \times = 1.93\ kg$$

However, the total target compound mass removed is likely greater than 1.93 kg because AS/SVE systems remove larger amounts of contaminants shortly after startup. Regardless

[3] Integral proposed continued monitoring of well GW-2 in the draft Site Management Plan, submitted to NYSDEC. As is typical for continuously running groundwater remediation systems, if contaminant concentrations (e.g., PCE in the case of GW-2) are not approaching remedial goals, additional remedial measures will be evaluated.

of the total amount of mass removed, the AS/SVE system is removing contaminant mass and functioning as designed.

SUMMARY

The AS/SVE system is generally operating as designed and Site groundwater and soil vapor concentrations have significantly decreased. Lower pressure (i.e., greater vacuum) below the slab is effectively mitigating soil vapor intrusion to the building. Flow and pressure monitoring data for the AS/SVE system are consistent with the design values and indicate the system is generally functioning as designed. Target compounds are being removed from the subsurface in significant quantities. The reductions in contamination achieved so far indicate that continued operation of the AS/SVE system will likely result in further decreases in groundwater and soil vapor concentrations of target compounds.



N:\GIS\Projects\E148_BridgeCleaners_AP\Production_MXDs\CCR_Oct2018\Figure_3_SiteLayout.mxd 10/15/2018 5:37:10 PM

integral engineering p.c.

Figure 1.
Site Layout and AS/SVE Plan
39-26 30th Street
Long Island City, NY

Table 1. Air Sparge Design Parameters and Operating Data

Parameter (units)	Design Value	Monitoring Event Operating Data			Notes
		3/14/2018	12/12/2018	5/17/2019	
Air Sparge Flow (SCFM)	Minimum: 0 Maximum: 40	37.0	37.5	37.8	Flows are estimated from the compressor curve and are approximate.
Air Sparge Pressure (PSI)	Minimum: 6.5 Maximum: 30	11.1	10.5	8.0	

Notes:
PSI = pounds per square inch
SCFM = standard cubic feet per minute

Table 2. AS/SVE System Differential Pressure Measurements

Monitoring Point	Pressure (iwc)					
	1/15/2018	3/14/2018	11/30/2018	12/4/2018	12/12/2018	5/17/2019
VM-1	-0.623	-0.682	-0.601	-0.730	-0.722	-0.722
VM-2	-0.135	-0.172	-0.073	-0.215	-0.202	-0.097
VM-3	-2.213	-2.503	-2.176	-2.714	-2.667	-2.728
VM-4	-0.102	NA	NA	NA	NA	-0.112
VM-5	-0.077	-0.082	-0.096	-0.093	-0.095	-0.105
VM-6	-0.091	-0.104	NA	NA	NA	NA
VM-7	-0.159	-0.197	NA	NA	NA	NA
VM-8	-0.415	NA	-0.542	-0.785	-0.683	-0.544
SP-1	NA	-0.141	-0.133	-0.162	-0.159	-0.303
SP-2	-0.706	-0.844	-1.355	-1.112	-1.119	-1.066
SP-3	-0.049	-0.054	NA	NA	NA	-0.064
SP-4	NA	-0.064	-0.118	-0.103	-0.091	NA
SP-5	-0.077	-0.101	-0.156	-0.151	-0.140	-0.248
SP-7	-0.333	-0.480	-0.584	-0.713	-0.594	-1.208
SP-8	-0.440	-0.512	-0.611	-0.569	-0.523	-0.722

Notes:
AS/SVE = air sparge / soil vapor extraction
iwc = inches of water column
NA = not accessible

Table 3. Pre- and Post-Construction Groundwater Sampling Results

Monitoring Point	Tetrachloroethylene (µg/L)			Trichloroethylene (µg/L)		
	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019
GW-1	140	74	7.8	1.6	1.4	0.34 J
GW-2	200	240	210	14	5.6	4.1
GW-3	44	NS	10	1.2	NS	0.87
GW-4	90	71	7	1.5	1.3	0.44J
GW-5	95	87	48	2.8	3.7	1.9
MW-1	10	37	16	0.69	0.62	0.34 J
MW-2	41	29	22	1.8	1.2	0.85
MW-5	22	31	14	0.59	0.73	0.43 J

Monitoring Point	*cis*-1,2-Dichloroethene (µg/L)			Vinyl chloride (µg/L)		
	9/9/2016	11/28/2018	5/17/2019	9/9/2016	11/28/2018	5/17/2019
GW-1	0.43 J	0.30 J	0.50 U	1.0 U	1.0 U	1.0 U
GW-2	0.31 J	1.2 U	1.0 U	1.0 U	2.5 U	2.0 U
GW-3	0.25 J	NS	0.23 J	1.0 U	NS	1.0 U
GW-4	0.24 J	0.23 J	0.50 U	1.0 U	1.0 U	1.0 U
GW-5	0.39 J	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U
MW-1	0.19 J	0.20 J	0.50 U	1.0 U	1.0 U	1.0 U
MW-2	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U
MW-5	0.50 U	0.20 J	0.50 U	1.0 U	1.0 U	1.0 U

Monitoring Point	Isopropanol (µg/L)		
	9/9/2016	11/28/2018	5/17/2019
GW-1	100 U	18 J	170 B
GW-2	13 J	250 U	130 BJ
GW-3	8.5 J	NS	160 B
GW-4	100 U	16 J	160 B
GW-5	100 U	21 J	190 B
MW-1	100 U	23 J	290 B
MW-2	100 U	100 U	100 B
MW-5	100 U	100 U	200 B

Notes:

B = Isopropanol was detected in the trip blank sample at 56 µg/L and in the field blank sample at 110 µg/L.

J = estimated value

NS = not sampled as the location was inaccessible

U = non-detect, detection limit concentration presented

Table 4. Comparison of Pre-Construction and May 17, 2019 Groundwater PCE and TCE Concentration Results

PCE Concentration Comparison (µg/L)

Event	Onsite Monitoring Well					Sidewalk Monitoring Well[a]		
	GW-1	GW-2	GW-3	GW-4	GW-5	MW-2	MW-5	Average
Pre-Construction Event: 9/9/2016	140	200	44	90	95	41	22	
5/17/2019	7.8	210	10	7	48	22	14	
Change from pre-construction:	*94% decrease*	*5% increase*	*77% decrease*	*92% decrease*	*49% decrease*	*46% decrease*	*36% decrease*	*56% decrease*

TCE Concentration Comparison (µg/L)

Event	Onsite Monitoring Well					Sidewalk Monitoring Well[a]		
	GW-1	GW-2	GW-3	GW-4	GW-5	MW-2	MW-5	Average
Pre-Construction Event: 9/9/2016	1.6	14	1.2	1.5	2.8	1.8	0.59	
5/17/2019	0.34 J	4.1	0.87	0.44 J	1.9	0.85 J	0.43 J	
Change from pre-construction:	*79% decrease*	*71% decrease*	*28% decrease*	*71% decrease*	*32% decrease*	*53% decrease*	*27% decrease*	*51% decrease*

Notes:
J = estimated value

[a] = Data for potentially downgradient sidewalk monitoring wells MW-2 and MW-5 are presented. Upgradient sidewalk monitoring well MW-1 results are presented in Table 3 and are not included in the average calculations.

Table 5. Pre- and Post-Construction Soil Vapor Sampling Results

Monitoring Point	Tetrachloroethylene ($\mu g/m^3$)		Trichloroethylene ($\mu g/m^3$)		*cis*-1,2-Dichloroethene ($\mu g/m^3$)	
	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)
SP-1	159,000	233	1,190	10	68.6 U	0.793 U
SP-2	475,000	NS	3,750	NS	1,400	NS
SP-3	394,000	NS	973	NS	436 U	NS
SP-4	89,500	1,660	195	7.2	69.4 U	1.98 U
SP-5	199,000	1,590	3,120	71.5	99.5 U	1.98 U
SP-7	56,000	675	432	5.64	143	0.924
SP-8	543,000	1,890	2,180	16	575 U	3.96 U
VM-1	259,000	1.36 U	962	1.07 U	299	0.793 U
VM-2	47,500	69.8	645	10.8	69.4 U	0.793 U
VM-3	206,000	1,080	1,340	35.7	599	192
VM-4	25,600	NS	69.3	NS	30.5	NS
VM-5	34,900	128	74.2	3.14	17.1 U	0.793 U
VM-6	24,300	NS	53.1	NS	17.0 U	NS
VM-7	38,900	NS	268	NS	17.2 U	NS
VM-8	118,000	1.36 U	1,110	1.07 U	94.8	0.793 U

Notes:
NS = not sampled as location was inaccessible
U = non-detect, detection limit concentration presented

Table 5. Pre- and Post-Construction Soil Vapor Sampling Results (continued)

Monitoring Point	Vinyl Chloride (µg/m^3)		Isopropanol (µg/m^3)	
	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)
SP-1	44.2 U	0.511 U	106 U	1.23 U
SP-2	373 U	NS	897 U	NS
SP-3	281 U	NS	674 U	NS
SP-4	44.7 U	1.28 U	108 U	3.07 U
SP-5	64.2 U	1.28 U	154 U	3.07 U
SP-7	28.4 U	0.511 U	67.8 U	8.97
SP-8	371 U	2.56 U	890 U	6.15 U
VM-1	86.9 U	0.511 U	209 U	8.63
VM-2	44.7 U	0.511 U	108 U	9.00
VM-3	72.6 U	1.28 U	175 U	3.07 U
VM-4	11.1 U	NS	26.5 U	NS
VM-5	11.0 U	0.511 U	26.5 U	5.31
VM-6	11.0 U	NS	396	NS
VM-7	11.1 U	NS	26.5 U	NS
VM-8	56.7 U	0.511 U	136 U	21.80

Notes:
NS = not sampled as location was inaccessible
U = non-detect, detection limit concentration presented

Table 6. Comparison of Pre-Construction and Post-Construction Soil Vapor PCE and TCE Concentration Results

PCE Concentration Comparison (µg/m^3)

Event	SP-1	SP-4	SP-5	SP-7	SP-8	VM-1	VM-2
Pre-Construction Event: 9/9/2016	159,000	89,500	199,000	56,000	543,000	259,000	47,500
Post-Construction Event: 11/28/2018	233	1,660	1,590	675	1,890	1.36 U	69.8
Change from pre-construction:	*99.9% decrease*	*98.1% decrease*	*99.2% decrease*	*98.8% decrease*	*99.7% decrease*	*99.9% decrease*	*99.9% decrease*

TCE Concentration Comparison (µg/m^3)

Event	SP-1	SP-4	SP-5	SP-7	SP-8	VM-1	VM-2
Pre-Construction Event: 9/9/2016	1,190	195	3,120	432	2,180	962	645
Post-Construction Event: 11/28/2018	10.00 J	7.2	71.5	5.64	16	1.07 U	10.80 J
Change from pre-construction:	*99.2% decrease*	*96.3% decrease*	*97.7% decrease*	*98.7% decrease*	*99.3% decrease*	*99.9% decrease*	*98.3% decrease*

Notes:
J = estimated value
U = non-detect, detection limit concentration presented

Table 6. Comparison of Pre-Construction and Post-Construction Soil Vapor PCE and TCE Concentration Results (continued)

PCE Concentration Comparison (µg/m^3)

Event	VM-3	VM-5	VM-8	Average
Pre-Construction Event: 9/9/2016	206,000	34,900	118,000	
Post-Construction Event: 11/28/2018	1,080	128	1.36 U	
Change from pre-construction:	*99.5% decrease*	*99.6% decrease*	*99.9% decrease*	*99.4% decrease*

TCE Concentration Comparison (µg/m^3)

Event	VM-3	VM-5	VM-8	Average
Pre-Construction Event: 9/9/2016	1,340	74.2	1,110	
Post-Construction Event: 11/28/2018	35.7	3.14 J	1.07 U	
Change from pre-construction:	*97.3% decrease*	*95.8% decrease*	*99.9% decrease*	*98.2% decrease*

Notes:
J = estimated value
U = non-detect, detection limit concentration presented

Table 7. SVE Exhaust Sampling Results (May 17, 2019)

Compound	Concentration (µg/m^3)
Tetrachloroethylene	619
Trichloroethylene	14.5
cis-1,2-Dichloroethene	4.24
trans-1,2-Dichloroethene	1.13 U
Vinyl chloride	0.73 U
Isopropanol	18.6
Sum of Compounds:	656 µg/m^3

Note:
U = non-detect, detection limit concentration presented

Table 1. Pre- and Post-Construction Groundwater Sampling Results Comparison

Location	Tetrachloroethylene (µg/L)			Trichloroethylene (µg/L)		
	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019
GW-1	140	74	7.8	1.6	1.4	0.34 J
GW-2	200	240	210	14	5.6	4.1
GW-3	44	NS	10	1.2	NS	0.87
GW-4	90	71	7	1.5	1.3	0.44J
GW-5	95	87	48	2.8	3.7	1.9
MW-1	10	37	16	0.69	0.62	0.34 J
MW-2	41	29	22	1.8	1.2	0.85
MW-5	22	31	14	0.59	0.73	0.43 J

Notes:
B = Isopropanol was detected in the trip blank sample at approximately 56 µg/L and in the field blank sample at 110 µg/L.
J = estimated value
NS = not sampled
U = non-detect

Table 1. Pre- and Post-Construction Groundwater Sampling Results Comparison (continued)

Location	*cis*-1,2-Dichloroethene (µg/L)			*trans*-1,2-Dichloroethene (µg/L)		
	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019
GW-1	0.43 J	0.30 J	0.50 U	0.75 U	0.75 U	0.75 U
GW-2	0.31 J	1.2 U	1.0 U	0.75 U	1.9 U	0.75 U
GW-3	0.25 J	NS	0.23 J	0.75 U	NS	0.75 U
GW-4	0.24 J	0.23 J	0.50 U	0.75 U	0.75 U	0.75 U
GW-5	0.39 J	0.50 U	0.50 U	0.75 U	0.75 U	0.75 U
MW-1	0.19 J	0.20 J	0.50 U	0.75 U	0.75 U	0.75 U
MW-2	0.50 U	0.50 U	0.50 U	0.75 U	0.75 U	0.75 U
MW-5	0.50 U	0.20 J	0.50 U	0.75 U	0.75 U	0.75 U

Notes:

B = Isopropanol was detected in the trip blank sample at approximately 56 µg/L and in the field blank sample at 110 µg/L.

J = estimated value

NS = not sampled

U = non-detect

Table 1. Pre- and Post-Construction Groundwater Sampling Results Comparison (continued)

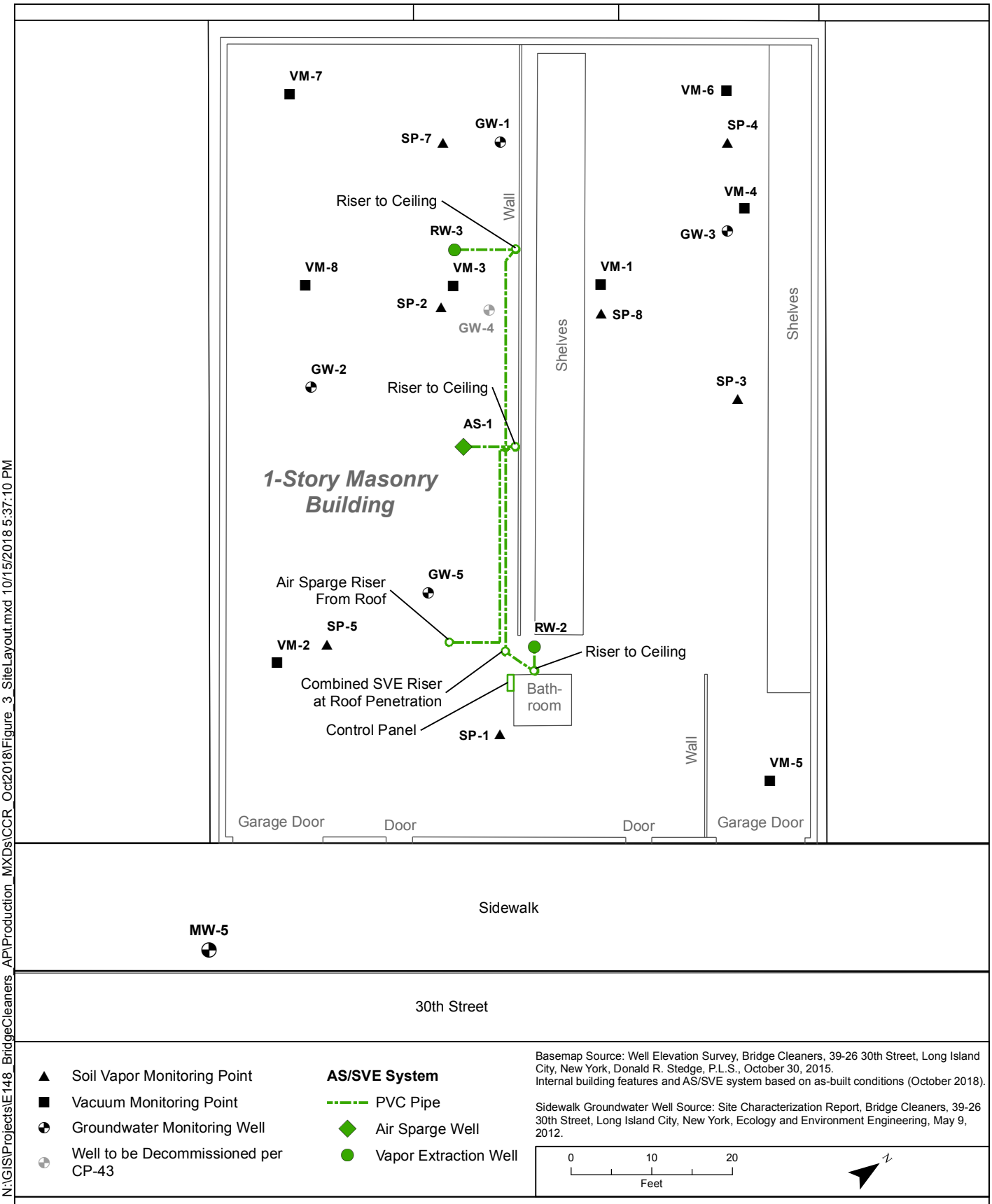
ıcati	Vinyl chloride (µg/L)			Isopropanol (µg/L)		
	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019
GW	1.0 U	1.0 U	1.0 U	100 U	18 J	170 B
GW	1.0 U	2.5 U	2.0 U	13 J	250 U	130 BJ
GW	1.0 U	NS	1.0 U	8.5 J	NS	160 B
GW	1.0 U	1.0 U	1.0 U	100 U	16 J	160 B
GW	1.0 U	1.0 U	1.0 U	100 U	21 J	190 B
MW	1.0 U	1.0 U	1.0 U	100 U	23 J	290 B
MW	1.0 U	1.0 U	1.0 U	100 U	100 U	100 B
MW	1.0 U	1.0 U	1.0 U	100 U	100 U	200 B

Notes:
B = Isopropanol was detected in the trip blank sample at approximately 56 µg/L and in the field blank sample at 110 µg/L.
J = estimated value
NS = not sampled
U = non-detect

Results from Pre- and Post-Construction Groundwater Monitoring

		GW-1	GW-2	GW-3	GW-4	GW-5	MW-5	MW-2	Average
PCE (µg/L)	Pre-Construction Event: 9/9/2016	140	200	44	90	95	22	41	
	Post-Construction Event: 11/28/2018	74	240	NS	71	87	31	29	
	5/17/2019	7.8	210	10	7	48	14	22	
	Change from pre-construction	*94% decrease*	*5% increase*	*77% decrease*	*92% decrease*	*49% decrease*	*36% decrease*	*46% decrease*	*56% decrease*
TCE (µg/L)	Pre-Construction Event: 9/9/2016	1.6	14	1.2	1.5	2.8	0.59	1.8	
	Post-Construction Event: 11/28/2018	1.4	5.6	NS	1.3	3.7	0.73	1.2	
	5/17/2019	0.34 J	4.1	0.87	0.44 J	1.9	0.43 J	0.85 J	
	Change from pre-construction	*79% decrease*	*71% decrease*	*28% decrease*	*71% decrease*	*32% decrease*	*27% decrease*	*53% decrease*	*51% decrease*

Notes:
J = estimated value
NS = not sampled
U = non-detect



N:\GIS\Projects\E148_BridgeCleaners_AP\Production_MXDs\CCR_Oct2018\Figure_3_SiteLayout.mxd 10/15/2018 5:37:10 PM

integral engineering p.c.

Figure 3.
Site Layout and AS/SVE Plan
39-26 30th Street
Long Island City, NY

ANALYTICAL REPORT

Lab Number:	L1920979
Client:	Integral Consulting, Inc. 1001 6th Avenue Floor 11 New York, NY 10018-5469
ATTN:	Sara Barbuto
Phone:	(212) 962-4301
Project Name:	BRIDGE CLEANERS
Project Number:	E148
Report Date:	05/22/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1920979
Report Date: 05/22/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1920979-01	TRIP BLANK	WATER	LONG ISLAND CITY, NY	05/16/19 08:50	05/17/19
L1920979-02	TRIP BLANK	WATER	LONG ISLAND CITY, NY	05/16/19 08:55	05/17/19
L1920979-03	FIELD BLANK	WATER	LONG ISLAND CITY, NY	05/17/19 12:50	05/17/19
L1920979-04	MW-2	WATER	LONG ISLAND CITY, NY	05/17/19 09:31	05/17/19
L1920979-05	MW-5	WATER	LONG ISLAND CITY, NY	05/17/19 10:51	05/17/19
L1920979-06	MW-1	WATER	LONG ISLAND CITY, NY	05/17/19 11:46	05/17/19
L1920979-07	GW-5	WATER	LONG ISLAND CITY, NY	05/17/19 12:56	05/17/19
L1920979-08	GWDUP19	WATER	LONG ISLAND CITY, NY	05/17/19 00:00	05/17/19
L1920979-09	GW-3	WATER	LONG ISLAND CITY, NY	05/17/19 09:07	05/17/19
L1920979-10	GW-1	WATER	LONG ISLAND CITY, NY	05/17/19 10:07	05/17/19
L1920979-11	GW-4	WATER	LONG ISLAND CITY, NY	05/17/19 11:17	05/17/19
L1920979-12	GW-2	WATER	LONG ISLAND CITY, NY	05/17/19 12:37	05/17/19

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1920979
Project Number:	E148	**Report Date:**	05/22/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1920979
Project Number:	E148	**Report Date:**	05/22/19

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1920979-03: The Field Blank has a result for IPA present above the reporting limit. The sample vial was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 05/22/19

ORGANICS

VOLATILES

Project Name: BRIDGE CLEANERS
Lab Number: L1920979
Project Number: E148
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-01
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY

Date Collected: 05/16/19 08:50
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 16:19
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	56	J	ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	91		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1920979
Project Number: E148
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-03
Client ID: FIELD BLANK
Sample Location: LONG ISLAND CITY, NY

Date Collected: 05/17/19 12:50
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 15:50
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	110		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	91		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1920979

Project Number: E148 **Report Date:** 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-04 Date Collected: 05/17/19 09:31
Client ID: MW-2 Date Received: 05/17/19
Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 11:32
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	22		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.85		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	100		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	93		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1920979
Project Number: E148
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-05
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY
Date Collected: 05/17/19 10:51
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 12:29
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	14		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.43	J	ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	200		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	93		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1920979
Project Number: E148
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-06
Client ID: MW-1
Sample Location: LONG ISLAND CITY, NY
Date Collected: 05/17/19 11:46
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 12:58
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	16		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.34	J	ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	290		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	92		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1920979

Project Number: E148 **Report Date:** 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-07
Client ID: GW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 05/17/19 12:56
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 13:27
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	48		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.9		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	190		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	90		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1920979
Project Number: E148
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-08
Client ID: GWDUP19
Sample Location: LONG ISLAND CITY, NY
Date Collected: 05/17/19 00:00
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 13:55
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	51		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	2.0		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	120		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	92		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1920979
Project Number: E148
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-09
Client ID: GW-3
Sample Location: LONG ISLAND CITY, NY
Date Collected: 05/17/19 09:07
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 14:24
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	10		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.87		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.23	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	160		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	91		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1920979
Project Number: E148
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-10
Client ID: GW-1
Sample Location: LONG ISLAND CITY, NY
Date Collected: 05/17/19 10:07
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 14:53
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	7.8		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.34	J	ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	170		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	92		70-130

Project Name: BRIDGE CLEANERS
Project Number: E148
Lab Number: L1920979
Report Date: 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-11
Client ID: GW-4
Sample Location: LONG ISLAND CITY, NY
Date Collected: 05/17/19 11:17
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 15:22
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	7.0		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.44	J	ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	160		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	93		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1920979

Project Number: E148 **Report Date:** 05/22/19

SAMPLE RESULTS

Lab ID: L1920979-12 D
Client ID: GW-2
Sample Location: LONG ISLAND CITY, NY

Date Collected: 05/17/19 12:37
Date Received: 05/17/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/21/19 12:01
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	210		ug/l	1.0	0.36	2
Vinyl chloride	ND		ug/l	2.0	0.14	2
trans-1,2-Dichloroethene	ND		ug/l	1.5	0.33	2
Trichloroethene	4.1		ug/l	1.0	0.35	2
cis-1,2-Dichloroethene	ND		ug/l	1.0	0.37	2
Isopropyl Alcohol	130	J	ug/l	200	7.0	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	91		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1920979

Project Number: E148 **Report Date:** 05/22/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/21/19 09:09
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03-12 Batch: WG1239553-5					
Tetrachloroethene	ND		ug/l	0.50	0.18
Vinyl chloride	ND		ug/l	1.0	0.07
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16
Trichloroethene	ND		ug/l	0.50	0.18
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Isopropyl Alcohol	ND		ug/l	100	3.5

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	90		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E148

Lab Number: L1920979

Report Date: 05/22/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03-12 Batch: WG1239553-3 WG1239553-4								
Tetrachloroethene	91		96		70-130	5		20
Vinyl chloride	98		100		55-140	2		20
trans-1,2-Dichloroethene	91		97		70-130	6		20
Trichloroethene	92		98		70-130	6		25
cis-1,2-Dichloroethene	91		95		70-130	4		20
Isopropyl Alcohol	98		102		70-130	8		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		106		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	103		105		70-130
Dibromofluoromethane	95		94		70-130

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1920979
Report Date: 05/22/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1920979-01A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(14)
L1920979-01B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(14)
L1920979-02A	Vial unpreserved	A	NA		4.4	Y	Absent		HOLD-8260(14)
L1920979-02B	Vial unpreserved	A	NA		4.4	Y	Absent		HOLD-8260(14)
L1920979-03A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-03B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-03C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-03D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-04A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-04B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-04C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-04D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-05A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-05B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-05C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-05D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-06A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-06B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-06C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-06D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-07A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-07B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-07C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)

*Values in parentheses indicate holding time in days

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1920979
Report Date: 05/22/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1920979-07D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-08A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-08B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-08C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-08D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-09A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-09B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-09C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-09D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-10A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-10B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-10C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-10D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-11A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-11B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-11C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-11D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-12A	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-12B	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-12C	Vial HCl preserved	A	NA		4.4	Y	Absent		8260(7)
L1920979-12D	Vial unpreserved	A	NA		4.4	Y	Absent		8260(7)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1920979
Project Number:	E148	**Report Date:**	05/22/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1920979
Project Number:	E148	**Report Date:**	05/22/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1920979
Project Number:	E148	**Report Date:**	05/22/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/18/19

ALPHA Job #: L1920979

Client Information

Client: Integral Consulting, Inc
Address: ~~6 Foster St, Suite 6~~ 1001 6th Ave
~~Wakefield, MA 01880~~ New York, NY 10018
Phone: 781.863.0988
Fax:
Email: sbarbuto@integral-corp.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Long Island City, NY
Project #: ~~E028-0502~~ E148
Project Manager: Sarah Baruto
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client Info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: NY
Criteria: Category B data deliverable

Other Project Specific Requirements/Comments/Detection Limits:
Category B data deliverable

Sampled by EST Associates

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCE,TCE, 1,2-DCE, VC,	isopropanol											Sample Specific Comments	TOTAL # BOTTLES
20979-01	Trip Blank	5/16/19	850	AQ	LAB	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		2
-02	Trip Blank	5/16/19	855	AQ	LAB	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		2
-03	Field Blank	5/17/19	1250	AQ	CB	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-04	MW-2	5/17/19	931	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-05	MW-5	5/17/19	1051	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-06	MW-1	5/17/19	1146	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-07	GW-5	5/17/19	1256	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-08	GWBLP19	5/17/19	0000	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-09	GW-3	5/17/19	907	GW	CB	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-10	GW-1	5/17/19	1007	GW	CB	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
	Container Type	V	V	P	P	P	-	-	-	-	-	-	-						
	Preservative	B	A	C	A	A	-	-	-	-	-	-	-						

Relinquished By:	Date/Time	Received By:	Date/Time
	5/17/19 1705		5/17/19 1705
AAL	5/17/19 1825		5/17/19 1825
AAL	5/17/19 2020		5/17/19 2220
	5/18/19 0300		5/18/19 0300

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 29-APR-09)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/18/19

ALPHA Job #: L1920979

Client Information

Client: Integral Consulting, Inc
Address: ~~6 Foster St, Suite 8~~ 1001 6th Ave 3F
~~Wakefield, MA 01880~~ New York, NY 10018
Phone: ~~781.863.0988~~ 3F
Fax: 201-314-1343
Email: sbarbuto@integral-corp.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Long Island City, NY
Project #: ~~E028-0502~~ E148
Project Manager: 3F Sarah Baruto
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: NY
Criteria: Category B data deliverable

Other Project Specific Requirements/Comments/Detection Limits:
Category B data deliverable

Sampled by EST Associates

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCE,TCE, 1,2-DCE, VC,	isopropanol											Sample Specific Comments	TOTAL # BOTTLES
20979-11	GW-4	5/17/19	1117	GW	CB	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-12	GW-2	5/17/19	1237	GW	CB	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
Container Type		V	V	P	P	P	-	-	-	-	-	-	-						
Preservative		B	A	C	A	A	-	-	-	-	-	-	-						

Relinquished By:	Date/Time	Received By:	Date/Time
	5/17/19 1705		5/17/19 1705
	5/17/19 1825		5/17/19 1825
	5/17/19 2200		5/17/19 2200
	5/18/19 0350		5/19/19 0300

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 29-APR-09)

Table 2. Pre- and Post-Construction Water Level and Groundwater Elevation Data

Location	Measured Depth to Water (ft)			Groundwater Elevation (ft)		
	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019	9/9/2016 (Pre-Construction Event)	11/28/2018 (Post-Construction Event)	5/17/2019
GW-1	20.12	19.01	18.79	10.35	11.46	11.68
GW-2	20.08	18.98	18.84	10.31	11.41	11.55
GW-3	20.03	NS	18.78	10.38	NS	11.63
GW-4	20.14	19.01	18.74	10.33	11.46	11.73
GW-5	20.11	18.94	18.89	10.29	11.46	11.51
MW-1	24.32	23.22	23.06	NA	NA	NA
MW-2	16.33	15.66	15.02	NA	NA	NA
MW-5	18.46	17.34	17.29	NA	NA	NA

Notes:
Data collected from the Former Bridge Cleaners Site:
Site ID No.: 241127
39-26 30th Street
Long Island City, Queens

NA = Survey and surface elevations for the sidewalk monitoring wells MW-1, MW-2, and MW-5 were not available and groundwater elevation could not be calculated.
NS = GW-3 was inaccessible during the November, 28, 2018 post-construction groundwater monitoring event and depth to water was not measured.

The letter from Mr. Bogin disputes two items – 1) The air sparge system in not functioning and not addressing groundwater contamination and 2) Respondent must install additional air sparge points.

I am in possession of three letters related to this dispute which are attached:

Letter dated March 29, 2019 from Ruth Curley, NYSDEC to the following: Jeffrey Cohan, Alenat Properties LLC; Zhong Chuang Properties LLC, c/o Lillian Shi, Cutting Inc; Sive Paget & Reisel PC Attn: Dan Cohorst; Allen & Desnoyers LLP; and Integral Engineering, PC Attn: K. Brodock.

Letter dated May 10, 2019 from Michael Bogin, Sive Paget & Reisel P.C. to Patrick Foster, NYSDEC Region 2.

Letter dated June 12, 2019 from Patrick Foster to the following: Sive Paget & Reisel PC Attn: Michael Bogin; Jeffrey Cohan, Alenat Properties LLC; Allen & Desnoyers LLP; and Zhong Chuang Properties LLC, c/o Lillian Shi, Cutting Inc.

If there is any additional information relevant to the dispute please provide such information in written form to me by close of business July 19, 2019.

This serves as notice that the dispute process has begun.

Eric R. Obrecht, P.E.
Director Remedial Bureau A, Environmental Remediation

New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233-7012
P: (518) 402-9719 | F: (518) 402-9722 | Eric.Obrecht@dec.ny.gov

www.dec.ny.gov | |

Exhibit C

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau B
625 Broadway, 12th Floor, Albany, NY 12233-7016
P: (518) 402-9767 I F: (518) 402-9773
www.dec.ny.gov

To: Eric Obrecht, Director, Remedial Bureau A

From: Michael Komoroske, Section Chief Section A
Ruth Curley, Project Manager Ruth Curley

Thru: Gerard Burke, Director, Bureau B GCB for GB

Subject: Notice of Dispute Resolution
Bridge Cleaners Site
NYSDEC Site No. 241127

Date: July 17, 2019

This memorandum responds to the Notice of Dispute Resolution in relation the Bridge Cleaners Site, located at 39-26 30th Street, Long Island City, Queens NY.

Respondent disagrees with the Department's conclusion that the air sparge system is not functioning and not addressing groundwater contamination, that they are in violation of the Order, and that they must install additional air sparge points. Below is the response to the dispute.

Department Response:

(i) **Air Sparge System is not functioning and not addressing groundwater contamination**

Item 4 in the August 2018 Consent Order states that the goal of the Order is to implement the remedy set forth in the IRM design, dated March 29, 2016. The IRM design was for an Air Sparge/Soil Vapor Extraction System (AS/SVE).

Section 5 of the IRM Design states:

Based on the results of the pilot test, we have designed the AS/SVE remediation system with one blower that will extract soil vapor from two locations along the centerline of the building with an air sparge well in between. An AS/SVE system uses one or more blowers to induce airflow through the subsurface (unsaturated zones) to volatilize contaminants for exhaust to the atmosphere, in addition to the introduction of air into the saturated zone to allow for mass transfer of dissolved contaminants into the vapor phase (for collection by the SVE). Monitoring wells are well situated around this location to monitor the effects of air sparging. For this Site, the AS/SVE system will also serve to create negative differential pressure beneath the Site building's slab relative to the pressure above the building's slab, thereby mitigating the infiltration of sub-slab vapors into the building. The AS/SVE process flow diagram (PFD), layouts, elevations, and equipment schedule are provided in Appendix H.

Pre-construction monitoring occurred in September 2016. The system was installed in January 2018. The AS began continuous operation in March 2018. The consultant reported that the system was inoperative for approximately 30 days between October and November 2018. One round of soil vapor sampling (11/2018) and two rounds of groundwater sampling (11/2018 and 5/2019) have been completed since system installation.

As outlined in the Department's June 12, 2019 letter and summarized below, monitoring at GW-2 has not shown a reduction in PCE contamination compared to pre-construction levels. PCE in other on-site wells (GW-1,3,4,5) appears to have been reduced. GW-2 is approximately the same distance as GW-5 from the single air sparge well, and is closer than GW-1, or GW-3. The Department concludes that the air sparge is not impacting groundwater near GW-2 and requests modification of the AS system to address persistent PCE contamination at GW-2.

Groundwater results at GW-2:

PCE Data at GW-2 (results in parts per billion)

Pre-Construction Event	9/2016	200
Post-Construction	11/2018	240
Post-Construction	5/2019	210

(ii) Violation of the Order: ***(This item was in the Sive-Paget 6/27/19 letter that invoked Dispute Resolution).***

Item 4 in the August 2018 Consent Order states that the goal of the Order is to implement the remedy set forth in the IRM design, dated March 29, 2016.

The IRM design included pre-construction (Section 6.1) and quarterly post-construction monitoring (Section 6.3.2.1) to verify system effectiveness. Pre-construction monitoring occurred in September 2016. The system was installed in January 2018. One round of

soil vapor sampling (11/2018) and two rounds of groundwater sampling (11/2018 and 5/2019) have been completed since January 2018.

The Order required the submittal of a CCR for the IRM. A draft CCR was submitted in September 2018, and disapproved due to lack of monitoring data. It was re-submitted in draft form in December 2018 with one round of monitoring data. It was disapproved in March due to lack of progress in addressing groundwater contamination. Since it was the second disapproval, Appendix A, III. D.1.iii states that the Respondent is in violation of the Order.

The consultant submitted an email with the May 2019 sampling data stating that with the incorporation of the second set of groundwater monitoring data, it was believed that the CCR could be approved.

Quarterly monitoring has not been implemented in accordance with the approved IRM design. Monitoring that has been completed does not show the system to be effective in the vicinity of GW-2.

(iii) Must install additional air sparge points

Same answer as (i).

The Department indicated additional air sparge wells were necessary in March 2019, after the December 2018 draft CCR indicated that groundwater results did not indicate an increase or decrease in the post-construction (November 2018) results. The air sparge system had operated from March - October 2018 prior to that event.

The May 2019 monitoring at GW-2 did not show a reduction in PCE contamination compared to pre-construction levels. PCE in other on-site wells (GW-1,3,4,5) appears to have been reduced. GW-2 is approximately the same distance as GW-5 from the single air sparge well, and is much closer than GW-1, or GW-3. The Department concludes that the air sparge is not impacting groundwater near GW-2 and requests modification of the AS system to address persistent PCE contamination at GW-2.

Appendix B
NYSDEC IRM Request Correspondence

From:	Al Nesheiwat
To:	Nick Krasnecky
Cc:	roland.costanzo@nbgr.com
Subject:	Fwd: 241127 - Bridge Cleaners - 2020 Activities
Date:	Thursday, January 9, 2020 9:39:06 AM
Attachments:	image009.jpg image010.png image011.png image012.jpg

---

Nick - this is the job in Long Island City. I will call you this afternoon to discuss

Al Nesheiwat
Managing Principal
Sustainable Development Inc.
166 Woodside Avenue
Harrison, NY 10604
914-220-2404

Begin forwarded message:

From: "Curley, Ruth E (DEC)" <ruth.curley@dec.ny.gov>
Date: January 8, 2020 at 2:20:50 PM EST
To: "alnesheiwat@sustainable-development-inc.com" <alnesheiwat@sustainable-development-inc.com>, "etelemaque@wcdgroup.com" <etelemaque@wcdgroup.com>
Cc: "Komoroske, Michael (DEC)" <michael.komoroske@dec.ny.gov>, "Curley, Ruth E (DEC)" <ruth.curley@dec.ny.gov>
Subject: 241127 - Bridge Cleaners - 2020 Activities

Mr. Neshiewat and Mr. Telemaque

I am the project manager for the Bridge Cleaners Site, and I understand that Sustainable Development is now working for the former owner and Gallagher Bassett is now working for the current owner of the Site. This email is intended outline NYSDEC's expectation for the Bridge Cleaners Site and provide contact information.

1. Based on two rounds of post-construction groundwater monitoring, the existing AS/SVE system is reducing groundwater concentrations at GW-2. The dispute resolution decision, dated 11/4/2019, determined that an additional air sparge well in the vicinity of GW-2 is necessary. Please provide a revised Interim Remedial Measure (IRM) Workplan for installation of the additional well(s), including any upgrades needed to the existing AS/SVE system within 30 days.

2. NYSDEC's Technical Guidance Document DER-10, Section 1.5 requires submittals be certified (stamped) by a professional engineer, or,

in limited cases, a qualified environmental professional. The revised IRM workplan (above) must be submitted by a NYS-licensed engineering company or sole proprietor NYS Professional Engineer under contract to the site owner. After NYSDEC approval, implementation of the workplan must be overseen by a PE or by a person under their supervision (that is – an employee of the same NYS-licensed engineering firm, or, if a sole proprietorship, a direct employee of theirs). The construction completion report and site management plan also require this level of certification. The NYS Office of Profession Licensing Verification tool (available on the internet) did not indicate that Sustainable Development, Gallagher Bassett, or WCD Group are NYS-licensed Engineering Firms. Please provide clarification to the Department regarding the Professional Engineer or Professional Engineering firm for this Site within 7 days.

Link to DER-10: https://www.dec.ny.gov/regulations/67386.html

3. The existing system requires quarterly groundwater and soil vapor monitoring to quantify contaminant reductions and evaluate system effectiveness. The last soil vapor data was collected in Nov 2018, groundwater was collected in May 2019. Please provide the Department with the groundwater and soil vapor sampling schedule for 2020.

My contact information & availability is below if you would like to schedule a call in the next week to discuss these items.
Avaiable-
Monday - anytime (prefer AM)
Tues - after 10AM
Wed, Fri - not available
Thurs- AM only

Ruth Curley
Professional Engineer 1 (Environmental)
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway, 12th Floor Albany, NY 12233-7016
P: 518-402-9480 | F: 518-402-9773 | ruth.curley@dec.ny.gov
www.dec.ny.gov | | |

Appendix C
Health and Safety Plan

(under separate cover)

Appendix D
Community Air Monitoring Program

July 2020

NYS Department of Environmental Conservation
Division of Environmental Remediation
47-40 21st Street
Long Island City, New York 11101

Attention:	Ms. Ruth Curley
Subject:	Community Air Monitoring Plan – Supplemental Interim Remedial Measure Work Plan 39-26 30th St, Long Island City, New York NYSDEC Case #: 241127 ECC File #: Bridge Cleaners

Dear Ms. Curley:

This Community Air Monitoring Plan (CAMP) has been prepared by TechSolutions Engineering, P.C. on behalf of Alenat Properties, Inc. to describe air monitoring activities to be implemented during the proposed Air Sparge and Soil Vapor Extraction (AS/SVE) system modification work associated with the Supplemental Intermin Remedial Measure (IRM) Work Plan (WP) proposed for 39-26 30th St, Long Island City, New York (the Site). This CAMP has been prepared in accordance with the New York State Department of Health (NYSDOH) Generic CAMP (Appendix 1A) of the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER) guidance memorandum DER-10/Technical Guidance for Site Investigation and Remediation.

The NYSDOH CAMP is a companion document to the Supplemental IRM WP. Further, the NYSDOH CAMP is a stand-alone companion document to the Site-specific health and safety plan (HASP). The Site-specific HASP provides details related to health and safety for on-site activities for ECC personnel and associated subcontractors, and the CAMP details air monitoring activities to protect the surrounding community.

Purpose

This CAMP will be implemented during the installation of the air sparge wells, trenching, and modifications to the treatment system, outlined in the proposed IRM WP dated February 2020. The purpose of this CAMP is to provide a measure of protection for the off-site receptors and on-site workers not directly involved in the Supplemental IRM activities from potential airborne contaminant releases as a result of remedial work activities performed at the Site.

Volatile Organic Compound Air Monitoring

Volatile organic compound (VOC) air monitoring will be conducted during all remedial activities presented within the proposed IRM WP. VOC air monitoring will be conducted using a RAE Systems MiniRAE 2000/3000 VOC instrument (or a similar photoionization detector device) to provide real-time recordable air monitoring data. VOC monitoring will be conducted within the building and downwind outdoors prior to the intiation of work activites to determine baseline readings within the work area. During work, VOC monitoring will be continuously conducted within the center of the work area indoors and periodically at other points within the building and downwind outdoors. VOCs will be monitored and recorded indoors and downwind of the immediate work area.

Based on the small size of the anticipated work area and limited ground intrusive activities (installation of two air sparge wells and trenching) continuous monitoring at the center of the work area coupled with periodic monitoring downwind outdoors will provide protection of indoor and downwind receptors. The work area VOC monitoring device will also be checked periodically throughout the day to assess emissions and the need for corrective action. Indoor and outdoor concentrations will be measured before field activities commence to establish background conditions and periodically throughout the day. Downwind outdoor concentrations will will also be checked periodically throughout the day to assess emissions and the need for corrective action.

VOC monitoring response and action levels are:

- If the ambient air concentration of total organic vapors of the indoor work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities may resume with continued monitoring.
- If the organic vapor level remains sustained above 5 ppm at the indoor work area, activities must cease and work will be re-evaluated.

Weather conditions, particularly the prevailing wind direction, will be observed and recorded for each day of site activities.

Particulate Air Monitoring

Particulate monitoring will be conducted during ground intrusive activities at the Site, which includes the installation of two air sparge wells and trenching. Dust and particulate monitoring will be conducted indoors near the installation locations within the exclusion zone, when possible, or where dust generating operations are apparent, and at a downwind location.

Particulate air monitoring will be conducted with a MIE pDR-1000 (or a similar device). This instrument is equipped with an audible alarm (indication of exceedance) and is capable of measuring particulate matter less than 10 micrometers in size (PM-10). It will continually record

emissions (calculating 15-minute running average concentrations) generated during field activities. The dust monitoring devices will be checked and recorded periodically during intrusive activities to assess emissions and the need for corrective action.

Particulate monitoring response and action levels include:

- If the indoor PM-10 particulate level is 100 micrograms per cubic meter ($\mu g/m^3$) greater than background (initial indoor particulate level, or background level) for the 15-minute period, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that indoor PM-10 particulate levels do not exceed 150 $\mu g/m^3$ above the background level.
- If, after implementation of dust suppression techniques, indoor PM-10 particulate levels are greater than 150 $\mu g/m^3$ above the background level, work must be stopped and a reevaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the indoor PM-10 particulate concentration to within 150 $\mu g/m^3$ of the background level.

Weather conditions, particularly the prevailing wind direction, will be observed and recorded for each day of site activities.

Documentation and Calibration

The VOC air monitoring device shall be calibrated prior to daily field activities according to manufacturer's instructions and standard industrial hygiene practices. In addition, monitoring instruments will be checked for "drift" upon completion of daily field activities. Calibration measurements will be recorded on a field data record. Field measurements will be recorded and available for State (NYSDEC and NYSDOH) personnel to review. The particulate monitoring device is factory calibrated on an annual basis. Upon completion of field activities, available monitored data recorded will be downloaded, evaluated, and summarized in the Construction Completion Report (CCR).

CAMP reports will be prepared and submitted to the NYSDEC and NYSDOH for review on a weekly basis, although it is anticipated ground intrusive work activities will be completed within one week.

If an exceedance occurs during work activities, the data will be provided to the NYSDEC and NYDOH via email as soon as possible on the same day. The email is to include a description of the exceedance, the cause of the exceedance, and corrective actions taken, if any. If the exceedance occurs after regular business hours, the NYSDEC and NYSDOH are to be notified as soon as possible the next business day.

Meteorological Data

Wind direction is the only meteorological data considered relevant for the proposed remedial activities and associated CAMP. To evaluate wind direction a meteorological website (www.weather.gov, or similar) will be utilized and combined with field observations to confirm direction. Wind direction will be determined at the start of each work day, and may be reassessed during the day should a significant shift in the wind direction be observed. These results will be utitlized to determine the appropriate upwind and downwind monitoring locations for the VOC and particulate monitoring equipment. Wind direction and monitoring locations will be noted on daily field logs.

Enclosure:

Appendix 1A: NYSDOH Generic CAMP

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix E
Proposed Supplemental IRM Schedule

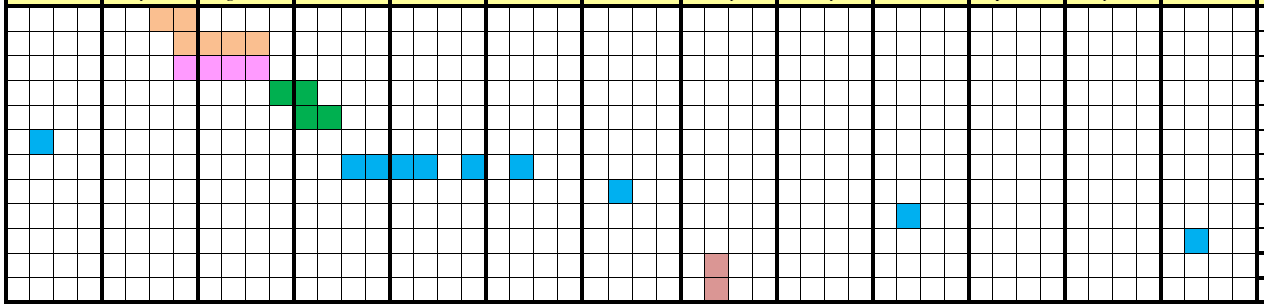
39-26 30th St, Long Island City, NY - Supplemental IRM Schedule

Project: Bridge Cleaners
Supplemental IRM Schedule

Regulatory Approval | System Mod. | Reporting

Contractor | Monitoring

Milestone Schedule



Estimated # Days Req'd	Project Milestone or Major Activity
	IRM WP Approval
	Permitting acquisition
	Contractor acquisition
2-3	AS Point Installation
3-5	AS/SVE System Modification, Re-Start Monitoring, and Optimization
1	Baseline Groundwater and System O&M
6	Post-Construction Efectiveness Monitoring
2	Q4 2020 Groundwater & System O&M
2	Q1 2021 Groundwater & System O&M
2	Q2 2021 Groundwater & System O&M
	Construction Completion Report Submittal
	Site Management Plan Submittal

Appendix B

Integral "Draft" Construction Completion Report (CCR)

Former Bridge Cleaners

39-26 30TH STREET

LONG ISLAND CITY, NEW YORK

Construction Completion Report

DRAFT FOR AGENCY REVIEW

NYSDEC Site Number: C241127

Prepared for:

Jeffrey L. Cohan

Alenat Properties, LLC

95 Dutch Hill Road

Orangeburg, NY 10962

Prepared by:

Integral Engineering, P.C.

1001 6th Ave

11th Floor

New York, NY 10018-5469

(212) 962-4303

DECEMBER 2018

CERTIFICATIONS

I, Keith P. Brodock, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Interim Remedial Measure Design Document was implemented and that all construction activities were completed in substantial conformance with the Department-approved Interim Remedial Measure Design Document and any Department-approved modifications.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Keith Brodock, of Integral Engineering, P.C., am certifying as Owner's Designated Site Representative for the site.

089004		
NYS Professional Engineer #	Date	Signature

TABLE OF CONTENTS

CERTIFICATIONS ..... **II**

TABLE OF CONTENTS ..... **III**

LIST OF TABLES ..... **IV**

LIST OF FIGURES ..... **IV**

LIST OF APPENDICES ..... **IV**

CONSTRUCTION COMPLETION REPORT **1**

1.0 BACKGROUND AND SITE DESCRIPTION **1**

2.0 SUMMARY OF SITE REMEDY **4**

2.1 REMEDIAL ACTION OBJECTIVES **4**

2.2 DESCRIPTION OF SELECTED REMEDY **4**

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS, AND REMEDIAL CONTRACTS **6**

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED **7**

4.1 Governing Documents **7**

4.1.1 Site Specific Health & Safety Plan (HASP) **7**

4.1.2 Pre-Construction Sampling **7**

4.1.3 Post-Construction Sampling **8**

4.2 REMEDIAL PROGRAM ELEMENTS **8**

4.2.1 Contractors and Consultants **8**

4.2.1.1 Regulatory Agencies **9**

4.2.1.2 Certifying Engineer **9**

4.2.1.3 IRM Contractors **9**

4.2.2 General Site Controls **9**

4.3 AS/SVE SYSTEM **10**

4.4 REMEDIAL PERFORMANCE **10**

4.4.1 January 15, 2018 Startup **11**

4.4.2 March 14, 2018 Startup **11**

4.4.3 November 30, 2018 Startup and December 2018 Monitoring **12**

4.4.4 Mass Removal Calculations 14
4.5 CONTAMINATION REMAINING AT THE SITE 15
4.6 INSTITUTIONAL CONTROLS 15
4.7 DEVIATIONS FROM THE IRM DESIGN DOCUMENT 16
4.7.1 Recovery Well RW-2 Location Adjustment 16
4.7.2 Control Panel Location Adjustment 16
4.7.3 Skid Deviations 16
4.7.4 Air Sparge Piping 17
BIBLIOGRAPHY 18

LIST OF TABLES

Table 1. Pre- and Post-Construction Groundwater Sampling Results

Table 2. Pre- and Post-Construction Soil Vapor Sampling Results

Table 3. AS/SVE System Startup Data, January 15, 2018

Table 4. AS/SVE System Differential Pressure Data, March 14, 2018

Table 5. AS/SVE System Differential Pressure Data, November and December 2018

LIST OF FIGURES

Figure 1. Site Location

Figure 2. Site Plan

Figure 3. Pre- and Post-Construction Groundwater Sampling Results

Figure 4. Pre- and Post-Construction Soil Vapor Sampling Results

LIST OF APPENDICES

Appendix A. Integral IRM Design Document (March 29, 2016)

Appendix B. Non-Hazardous Manifest for Installation Waste Disposal

Appendix C. Laboratory Reports

Appendix D. AS/SVE As-Built Drawings

Appendix E. Dissolved Oxygen Measurements (January 15, 2018)

LIST OF ACRONYMS AND ABBREVIATIONS

Abbreviation	Definition
Alenat	Alenat Properties, LLC
AS/SVE	air sparge and soil vapor extraction
ACFM	actual cubic feet per minute
BCA	Brownfield cleanup agreement
BCP	Brownfield Cleanup Program
Design Document	Interim Remedial Measure Design Document
DOB	Department of Buildings
EC/ICs	engineering controls and institutional controls
Integral	Integral Engineering, P.C
IRM	interim remedial measure
Iwc	inches of water column
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCE	tetrachloroethylene
PSI	pounds per square inch
SCFM	standard cubic feet per minute
SMP	Site Management Plan
TCE	trichloroethylene
Zhong Chuang	Zhong Chuang Properties LLC

CONSTRUCTION COMPLETION REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

Integral Engineering, P.C. (Integral) has prepared this Construction Completion Report (CCR) on behalf of Alenat Properties, LLC (Alenat), for the property located at 39-26 30th Street, Long Island City, NY (Site). Zhong Chuang Properties LLC (Zhong Chuang) is the current owner of the Site, having purchased the property from Alenat in May 2012. In May 2013, Zhong Chuang entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) as a Volunteer to investigate and remediate the Site. On December 1, 2016 the BCA was terminated. On August 16, 2018, Alenat and Zhong Chuang executed an Order on Consent with NYSDEC which addresses, among other things, preparation of this CCR, preparation of a site management plan (SMP), and operation and maintenance of the air sparge / soil vapor extraction (AS/SVE) system that Integral installed at the Site. In 2017 and 2018, the AS/SVE system was installed and began operating.

The Site is located in the County of Queens, New York and is identified as Block 399 and Lot 31 on the New York City Tax Map (Figure 1). A map showing the boundaries of the property is included as Figure 2. The Site is situated on an approximately 0.17-acre area surrounded by commercial and residential properties (Figure 2) and is zoned as M1-3/R7X, which is a Special Long Island City Mixed Use District for mixed residential and commercial use. The Site is currently improved with a one-story building (without a basement) that covers the entire lot. The building is currently used as a warehouse for the storage and cutting of fabric and for the washing of linens. Large portions of the building are covered with cutting tables, industrial washing machines, and palettes of aggregate and fabric. There is limited mobility and access within the building. It is anticipated that the Site will continue to be used for these purposes in the future.

Several investigations and assessments have been performed at the Site between 2011 and 2014. These investigations consisted of limited subsurface assessments conducted by various consultants on behalf of either the former property owner, Alenat, the current property owner, Zhong Chuang, or the NYSDEC.

According to the June 2014 Remedial Investigation Report (RIR) prepared by TechSolutions Engineering, P.C., the Site was used as a dry cleaner from 1997 until about 2011. Other historical uses included warehousing and distribution. The RIR summarized soil, groundwater, and soil vapor results from investigations performed at the Site between September 2011 and February 2014. Elevated tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations were found in groundwater and soil vapor samples collected within and nearby the Site. Groundwater PCE values ranged from 10 – 240 µg/L and TCE concentrations ranged from 0.59 – 14 µg/L, requiring remediation. Soil vapor PCE concentrations ranged from 69.8 – 543,000 µg/m^3, and TCE values ranged from 3.14 – 3,750 µg/m^3; these values are above New York State Department of Health (NYSDOH) decision matrix concentrations that indicate mitigation is recommended to minimize current or potential exposures associated with soil vapor intrusion (NYSDOH 2017). PCE and TCE were identified in soil samples from 2011-2014 at the Site, but did not exceed NYSDEC Unrestricted Soil Cleanup Objectives (SCOs).

A soil investigation conducted by Integral in December 2014 identified concentrations of PCE above the Unrestricted SCO, but below the Industrial SCO, in four soil samples collected from beneath the northern corner of the building. Pursuant to a NYSDEC-approved Remedial Investigation Proposal dated November 11, 2014, a total of five soil samples, inclusive of one duplicate, were collected for VOC analysis during the installation of two soil borings (SB-6 and SB-7). PCE was the only analyte detected, and was identified above the Unrestricted SCO and the Protection of Groundwater SCO, both 1.3 mg/kg, but below the Industrial SCO of 300 mg/kg. The maximum observed concentration of PCE was 9.6 mg/kg, collected from soils 0 – 4 feet below ground surface. Integral's Data Evaluation Report, dated July 1, 2015, presented the results from this investigation.

Integral performed remediation pilot tests at the Site in November 2015 to evaluate the efficacy of air sparge and soil vapor extraction (SVE) and to identify design parameters for a remediation system. The subsurface pilot tests included installation of one SVE recovery well, application of negative pressure (vacuum) to the recovery well, and measurement of subsurface pressures at various distances from the recovery well. Two of the pilot tests included injection of air into the saturated subsurface to evaluate the utility and efficacy of air sparging as a component of the remediation.

Based on the results of the pilot tests, Integral designed an AS/SVE remediation system with one blower that extracts soil vapor from two locations along the centerline of the Site building with an air sparge well in between. Integral presented the pilot test results and remedial design to NYSDEC in the Interim Remedial Measure Design Document (Design Document) on March 29, 2016 (Appendix A).

NYSDEC approved the Design Document on May 23, 2016. AS/SVE system installation was completed in 2018 as an interim remedial measure (IRM) to remediate Site soil, groundwater, and soil vapor, and to reduce the risk of intrusion of sub-slab soil vapor into the building on the Site. This CCR serves to document the installation and startup of the AS/SVE remediation system as set forth in the Design Document.

2.0 SUMMARY OF SITE REMEDY

In March 2016, Integral submitted a Design Document to NYSDEC to present the design details for an AS/SVE remediation system (the Design Document is included in Appendix A). The AS/SVE remediation system was designed with one blower to extract soil vapor from two locations along the centerline of the building and an air sparge well in between. The following sections provide additional details of the AS/SVE system design.

2.1 REMEDIAL ACTION OBJECTIVES

The results of previous Site investigations have shown elevated PCE and TCE concentrations in groundwater and soil vapor samples, and PCE in soil above the Unrestricted SCO and the Protection of Groundwater SCO, both 1.3 mg/kg, but below the Industrial SCO of 300 mg/kg.

2.2 DESCRIPTION OF SELECTED REMEDY

The Site was remediated in accordance with the interim remedy selected by the NYSDEC in the Design Document dated March 29, 2016.

The factors considered during the selection of the remedy are those listed in 6 NYCRR 375-1.8. The following are the components of the selected remedy:

1. An AS/SVE system was designed and constructed to remediate Site soil, groundwater, and soil vapor, and to mitigate soil vapor intrusion at the Site. Integral submitted the AS/SVE system design to NYSDEC in the Design Document dated March 29, 2016 (Appendix A). The AS/SVE process flow diagram (PFD), layouts, elevations, and equipment schedule are provided in the Design Document.

2. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the Site. The completion of an Environmental Easement is pending.

3. An SMP for long term management of remaining contamination. The SMP will includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3)

operation and maintenance and (4) reporting. The completion of an SMP for the Site is pending.

4. Periodic certification of the institutional and engineering controls listed above.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS, AND REMEDIAL CONTRACTS

All remediation work was completed as an IRM. The interim remedy for this Site was performed as a single project and no operable units were designated.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Interim remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved Design Document, submitted March 29, 2016 (Appendix A) and approved on May 23, 2016. All deviations from the Design Document are noted in Section 4.7.

4.1 Governing Documents

Integral submitted the Design Document to NYSDEC to present the design details for the AS/SVE remediation system. Construction of the remediation system began in May 2017 and was completed in January 2018.

4.1.1 Site Specific Health & Safety Plan (HASP)

All remedial work performed by Integral under this Remedial Action was in compliance with governmental requirements, including Site and worker safety requirements mandated by Federal OSHA.

Integral complied with its internal Health and Safety Plan (HASP) for all remedial and invasive work performed at the Site. Integral was not responsible for the health and safety of the contractor, its workers, or its subcontractors.

4.1.2 Pre-Construction Sampling

In accordance with the pre-construction sampling requirements outlined in the Design Document, Integral collected groundwater and soil vapor samples on September 9, 2016, prior to construction of the AS/SVE system. Figure 3 shows the locations of the pre-construction groundwater and soil vapor sampling points; groundwater samples were collected from onsite and nearby offsite monitoring wells (GW-1, GW-2, GW-3, GW-4, GW-5, MW-1 MW-2, and MW-5). Soil vapor samples were collected from all Site sub-slab and vacuum monitoring points (Figure 3). Groundwater and soil vapor samples were analyzed for PCE, TCE, 1,2-dichloroethene (1,2-DCE), vinyl chloride (VC), and isopropanol. Table 1 and Table 2 provide a summary of the groundwater and soil vapor sample results, respectively. The results of the pre-construction sampling show that elevated levels of TCE and PCE were present in Site groundwater and soil vapor. These

data provide a baseline for comparison to future post-construction datasets. Appendix C provides the laboratory reports for pre- and post-construction sampling.

4.1.3 Post-Construction Sampling

In accordance with the post-construction sampling requirements outlined in the Design Document, Integral collected groundwater and soil vapor samples on November 28 and 29, 2018, respectively. Figure 3 shows the locations of the post-construction groundwater sampling points; groundwater samples were collected from onsite and nearby offsite monitoring wells (GW-1, GW-2, GW-4, GW-5, MW-1, MW-2, and MW-5). Groundwater was not sampled from onsite well GW-3 as it was covered with industrial equipment. Figure 4 shows the locations of the post-construction soil vapor sampling points; samples were not collected from locations SP-2, SP-3, VM-4, VM-6, and VM-7 because the locations were covered with industrial equipment.

Groundwater and soil vapor samples were analyzed for PCE, TCE, 1, 2-dichloroethene (1,2-DCE), vinyl chloride (VC), and isopropanol. Table 1 and Table 2 provide a summary of the groundwater and soil vapor sample results, respectively. The results of the post-construction sampling show that elevated levels of TCE and PCE continue to be present in Site groundwater and soil vapor, though there has been significant reduction in soil vapor concentrations. These results provide a data point for the calculation of VOC mass removal by the AS/SVE system; these calculations are further discussed in Section 4.4.4. Appendix C provides the laboratory reports for pre- and post-construction sampling.

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants

Alenat or Zhong Chuang were responsible for implementing the IRM in accordance with the NYSDEC DER-10, the guidance document for site investigation and remediation. The following sections describe the roles and responsibilities of the other entities involved with the project.

4.2.1.1 Regulatory Agencies

NYSDEC acted as the regulatory agency responsible for the IRM. NYSDEC project manager Ruth E. Curley, P.E. received, reviewed, and approved the Design Document.

4.2.1.2 Certifying Engineer

Integral was selected to carry out the following responsibilities as they pertain to the IRM: preparation of work plans and reports, engineering control design and installation, coordination with NYSDEC and NYSDOH, and collection and documentation of confirmatory engineering control data. The Integral project manager, Keith P. Brodock, P.E., is the Engineer of Record for the Site.

4.2.1.3 IRM Contractors

GASHO Inc. (West Chester, PA) served as the AS/SVE system equipment vendor and provided support to Integral during the design and installation process. AARCO Environmental Services Corp. (AARCO) (Lindenhurst, NY) installed the AS/SVE: two soil vapor extraction recovery wells and one air sparge well, piping, penetration of the roof for the risers, and the roof-mounted AS/SVE skid. AARCO subcontractor Pacific Electric was contracted to perform the electrical work for the AS/AVE system (e.g. installation of electrical wiring, control panel, and the transformer).

4.2.2 General Site Controls

Integral was present at the Site during installation activities to provide support to AARCO and to observe if the AS/SVE was constructed according to the specifications outlined in the Design Document. Integral was also responsible for the following:

- Access coordination. The building was only accessed by Integral, contractor/subcontractor personnel, the current building owner, and employees of the current building owner;
- Documentation. Photographs were taken throughout the installation and field notebooks were maintained to record contractor personnel and deviations from the Design Document, if any;
- Proper disposal of waste generated during the installation. Soil cuttings from installation of the air sparge well and recovery wells were stored in 55 gallon

drums onsite prior to analysis and disposal (non-hazardous manifest provided in Appendix B).

4.3 AS/SVE SYSTEM

In March 2016, Integral submitted a Design Document to NYSDEC to present the design details for an AS/SVE remediation system. The system was designed to remediate Site soil, groundwater, and soil vapor, and to mitigate vapor intrusion in the onsite building. Prior to completion of the design, remediation pilot tests were performed at the Site to evaluate the efficacy of the AS/SVE system; to identify the design parameters for the remediation system; and to evaluate the appropriateness of SVE for mitigation of soil vapor intrusion and remediation of Site soil, groundwater, and soil vapor. The initial AS/SVE process flow diagram (PFD), layouts, elevations, and equipment schedule are provided in the Design Document (Appendix A). Appendix D presents the as-built drawings for the completed system.

The AS/SVE system uses a blower to induce airflow through the subsurface (unsaturated zones) to volatilize contaminants for exhaust to the atmosphere, in addition to the introduction of air into the saturated zone to allow for mass transfer of dissolved contaminants into the vapor phase (for collection by the SVE). The AS/SVE system also creates negative differential pressure beneath the Site building's slab relative to the pressure above the building's slab, thereby mitigating the infiltration of sub-slab vapors into the building.

A differential pressure criterion of -0.10 inches of water column (iwc) was established for the remediation system in the Design Document (Appendix A). Monitoring wells are situated around the Site to monitor the effects of the remediation system.

4.4 REMEDIAL PERFORMANCE

Once it was started and balanced, the AS/SVE has generally been performing as designed. As discussed below, increases in dissolved oxygen were not observed during the startup days, but air flow to the subsurface was confirmed. In limited instances, the differential pressure did not meet the design criterion of -0.10 iwc; however, differential pressure measurements indicated lower pressure (vacuum) in the subsurface as compared to the building.

4.4.1 January 15, 2018 Startup

An initial AS/SVE system startup was performed on January 15, 2018. Manual differential pressure measurements were collected by connecting a digital micromanometer to Site sub-slab and vacuum monitoring points. The differential pressure measurements were used to evaluate the effectiveness of the AS/SVE system in achieving the design criterion pressure of -0.10 iwc. A log sheet was used to record measurements collected during the system startup. Table 3 presents the differential pressure measurements collected before the startup of the AS/SVE system, during the startup of the SVE system and prior to startup of the AS, and after the startup of the full AS/SVE system. Further, dissolved oxygen concentrations were collected via in situ transducers. Appendix E provides the dissolved oxygen measurements collected during the January 15, 2018 startup, and these measurements are discussed below.

During the January 15, 2018 startup, flow meters had not been installed on the air sparge (or extraction well) risers; therefore, we were unable to collect air flow data in the air sparge or extraction risers. However, we were able to collect empirical data indicating flow in both systems. For the extraction system, we observed air discharge from the SVE, indicating flow. For the air sparge system, dissolved oxygen concentrations fluctuated in well GW-2, near the AS injection well, once the air sparge was introduced to the subsurface, indicating airflow to the saturated zone. An increase in dissolved oxygen, similar to the pilot test results, was not observed, however, in the limited 3-hour period in which the air sparge ran. Since air flow in the air sparge line could not be measured, the air sparge was turned off prior to leaving the Site (the extraction system remained on/active).

4.4.2 March 14, 2018 Startup

A second, successful startup event was conducted on March 14, 2018. During this event, flow in both the air sparge and extraction systems was verified via measurements collected from pitot tubes. In addition, differential pressure measurements were collected from subsurface points and used to balance the applied air sparge pressure and soil vapor extraction vacuum in each riser. The pressure measurements are provided in Table 4. No dissolved oxygen measurements were collected during this startup event.

The air sparge and extraction system flow and vacuum measurements were compared to the design, and we concluded that the system was generally operating as

designed. The table below is provided for a comparison of design flow/pressure to operating flow/pressure.

Parameter	Design	Operating (as observed March 14, 2018)
Extraction system flow	122.7 actual cubic feet per minute (ACFM)	165 ACFM (based on flow in RW-2)
Extraction system pressure	22 iwc	8 iwc
Air sparge flow	Minimum: 0 standard cubic feet per minute (SCFM) Maximum: 40 SCFM	37 SCFM (approximate, estimated from compressor curve)
Air sparge pressure	Minimum: 6.5 pounds per square inch (PSI) Maximum: 30 PSI	11.1 PSI

Higher extraction system flow than expected, based on the design, was observed during the March 14, 2018 post-construction monitoring. This would correspond to the observed lower differential pressure in certain monitoring points as the energy from the SVE system is converted from pressure to flow. This is likely due to higher transmissive zones beneath the building (or near the building foundations) than in the pilot test area.

While the differential pressure at certain subsurface monitoring points remains below the design criterion of -0.10 iwc, the AS/SVE is effective. The differential pressure in these locations indicates lower pressure (vacuum) below the slab, thereby still effectively mitigating soil vapor intrusion to the building. The lower differential pressure (below the design criterion) may indicate longer time to remediate soil and groundwater.

4.4.3 November and December 2018 Monitoring

Integral observed the AS/SVE was not operating upon arrival to the Site to perform post-construction groundwater and soil vapor sampling on November 28, 2018. A warning light indicated the SVE liquid knockout tank had filled and triggered a system shutdown. The hour meter on the AS/SVE indicated the system had operated through October 27, 2018. The SVE knockout tank was drained on November 30, 2018 and the water was containerized for proper characterization and disposal. The AS/SVE was

restarted on November 30, 2018 and the system measurements were collected on this day and two additional days to assess vacuum pressure and system flows during startup and steady state conditions: November 30 (beginning 30 minutes after restart), December 4 (four days after restart), and December 12 (twelve days after restart).

During the December 12, 2018 monitoring event[1], measurements of flow in both the air sparge and extraction systems were collected from pitot tubes. In addition, differential pressure measurements were collected from subsurface points.

AS/SVE flow and vacuum measurements were compared to the design, and we concluded that the system was generally operating as designed. The table below is provided for a comparison of design flow/pressure to operating flow/pressure.

Parameter	**Design**	**Operating (as observed December 12, 2018)**
Extraction system flow	122.7 ACFM	171 ACFM
Extraction system pressure	22 iwc	11.2 iwc
Air sparge flow	Minimum: 0 SCFM Maximum: 40 SCFM	37.5 SCFM (approximate, estimated from compressor curve)
Air sparge pressure	Minimum: 6.5 PSI Maximum: 30 PSI	10.5 PSI

Higher extraction system flow than expected, based on the design, was observed during the November and December 2018 monitoring events. This would correspond to the observed lower differential pressure in certain monitoring points as the energy from the SVE system is converted from pressure to flow. This is likely due to higher transmissive zones beneath the building (or near the building foundations) than in the pilot test area.

[1] We used the December 12, 2018 flow rate to provide more certainty that the AS/SVE had reached steady state after the restart. The measured flowrates from December 12, 2018 were similar to those measured on March 14, 2018.

Table 5 presents the pressure readings recorded during the November and December 2018 monitoring events. Locations GW-3, SP-2, SP-3, VM-4, VM-6, and VM-7 were not accessible due to the installation of commercial washing machines and storage of palettes within the building. With one exception, differential pressure measurements collected from the accessible subsurface monitoring points were greater (more negative; more vacuum) than those collected in March and January 2018, and ranged from -0.091 to -2.7 iwc. While the differential pressure at two subsurface monitoring points remains about one one-hundredth of an inch of water below the design criterion of -0.10 iwc, the AS/SVE is effective. Lower pressure (i.e., greater vacuum) below the slab is demonstrated at subsurface monitoring points located throughout the building, thereby still effectively mitigating soil vapor intrusion to the building and removing volatile contaminants in Site soils. The lower differential pressure (below the design criterion) may indicate longer time to remediate soil and groundwater.

4.4.4 Mass Removal Calculation

Tables 1 and 2 present the groundwater and soil vapor sample results, respectively, collected from the pre- and post-construction sampling events. Groundwater results across the two events do not indicate a decrease nor increase in the post-construction results (Table 1). However, PCE and TCE concentration decreases spanning several orders of magnitude were observed in the post-construction soil vapor data, indicating the system is remediating these compounds in the subsurface (Table 2).

The total target VOC (as represented by PCE, TCE, 1,2-DCE, VC, and isopropanol) mass removed was calculated using the pre- and post-construction soil vapor concentrations presented in Table 2. The average difference between pre- and post-construction target VOC concentrations was calculated; to be conservative, non-detect results were assumed to equal the laboratory detection limit:

Constituent	Average Concentration Difference Between Pre- and Post-Construction ($\mu g/m^3$)
PCE	170,457
TCE	1,109
cis-1,2-DCE	183
trans-1,2-DCE	126

VC	81
Isopropanol	191
Total:	172,148

Pore volume beneath the building slab was calculated using values presented in the Design Report: the area of the building footprint (7,500 ft^2), the approximate depth to groundwater (20.7 ft), and the porosity (0.30). The calculated pore volume (46,575 ft^3) was then multiplied by the sum of the average concentration differences[2] to calculate the total mass removed during the time the AS/SVE system had run as of November 29, 2018:

$$\mathbf{46,575}\ ft^3 \times\ \mathbf{172,148}\ \frac{\mu g}{m^3} \times \frac{\mathbf{1}\ kg}{\mathbf{10^9}\ \mu g} \times \frac{m^3}{\mathbf{35.3}\ ft^3} = \mathbf{0.23}\ kg$$

The total target VOC mass removed as of November 29, 2018 is 0.23 kg.

4.5 CONTAMINATION REMAINING AT THE SITE

As presented in the above sections, the primary objectives of this IRM are to remediate Site soil, groundwater, and soil vapor, and to protect human health by preventing sub-slab soil vapor from entering the building at the Site. Contaminated soil, soil vapor, and groundwater may remain at the Site until the remedy is complete and the AS/SVE is discontinued.

4.6 INSTITUTIONAL CONTROLS

The Site remedy requires that an environmental easement be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to non-residential uses only. An environmental easement for the property is pending and is to be provided in the SMP.

[2] Concentration differences are based on two points in time and calculations do not take into account constituent movement, dispersion, advection, or degradation.

4.7 DEVIATIONS FROM THE IRM DESIGN DOCUMENT

Appendix C presents the as-built drawings for the installed AS/SVE. Deviations from the design are described in the sections below, and include minor adjustments to the locations of recovery well RW-2 and the control panel, adjustments to the roof-mounted skid, and a change in the material used for the construction of the air sparge piping. All adjustments and deviations were reviewed and approved by the Integral project manager and Engineer of Record, and have no significant impact on the system's functionality.

4.7.1 Recovery Well RW-2 Location Adjustment

SVE recovery well RW-2 was installed 1.5 feet northwest of the proposed location to allow for clearance of the drill rig. The proposed RW-2 location did not provide enough space for drilling the well, as it was located between two partition walls.

4.7.2 Control Panel Location Adjustment

The AS/SVE control panel was mounted on the southeast bathroom wall, rather than on northwestern bathroom wall. This change was made to accommodate day-to-day operations by the current building owner (Zhong Chuang). The change was reviewed and approved by the Integral project manager and Engineer of Record.

4.7.3 Skid Deviations

There were minor deviations to the skid construction and instrumentation upon delivery. Integral reviewed the components of the AS/SVE skid when it was delivered to the Site on December 13, 2017, and we observed minor deviations to the skid design, including:

- The air sparge heat exchanger was supplied loose and was not within the heated enclosure.
- The air sparge air inlet was located inside the heated enclosure instead of outside (the enclosure).
- No solenoid valve or sample tubing was installed on the soil vapor extraction discharge line.
- The pitot tube sample port for the soil vapor extraction wells was installed outside the heated enclosure on the roof.

- Other minor instrumentation and piping adjustments were made.

These deviations in the AS/SVE skid construction were reviewed and approved by the Integral project manager and Engineer of Record.

4.7.4 Air Sparge Piping

Schedule 80 PVC piping was used for above ground piping for the air sparge instead of Schedule 40 PVC. Schedule 80 PVC has a higher maximum pressure than Schedule 40 PVC. The change was reviewed and approved by the Integral project manager and Engineer of Record.

BIBLIOGRAPHY

Integral Engineering, P.C. 2015. Data Evaluation Report. Former Bridge Cleaners, 39-26 30th St, Long Island City, NY. BCP Site No. C241127. July 1, 2015.

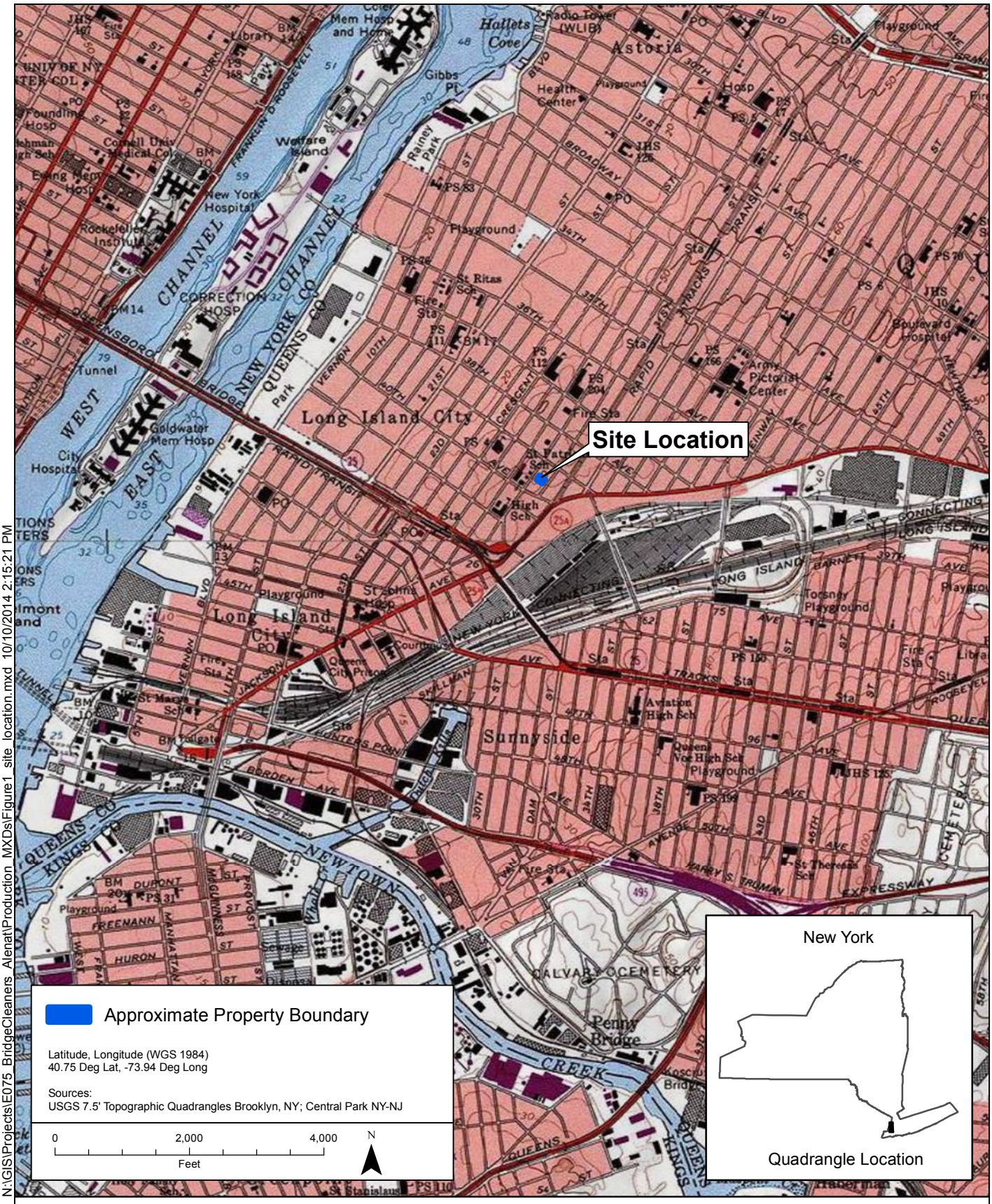
NYSDEC. 2010. Technical guidance for site investigation and remediation (DER-10). New York State Department of Environmental Conservation, Division of Environmental Remediation.

NYSDOH. 2017. Soil Vapor/Indoor Air Decision Matrices. New York State Department of Health. May 2017. Available from: https://health.ny.gov/environmental/indoors/vapor_intrusion/docs/svi_decision_matrices_abc.pdf

Soren, Julian. 1978. Subsurface geology and paleogeography of Queens County, Long Island, New York. U.S. Geological Survey. February 1978.

TechSolutions Engineering, P.C. 2014. Remedial Investigation Report. Former Bridge Cleaners. June 2014.

FIGURES

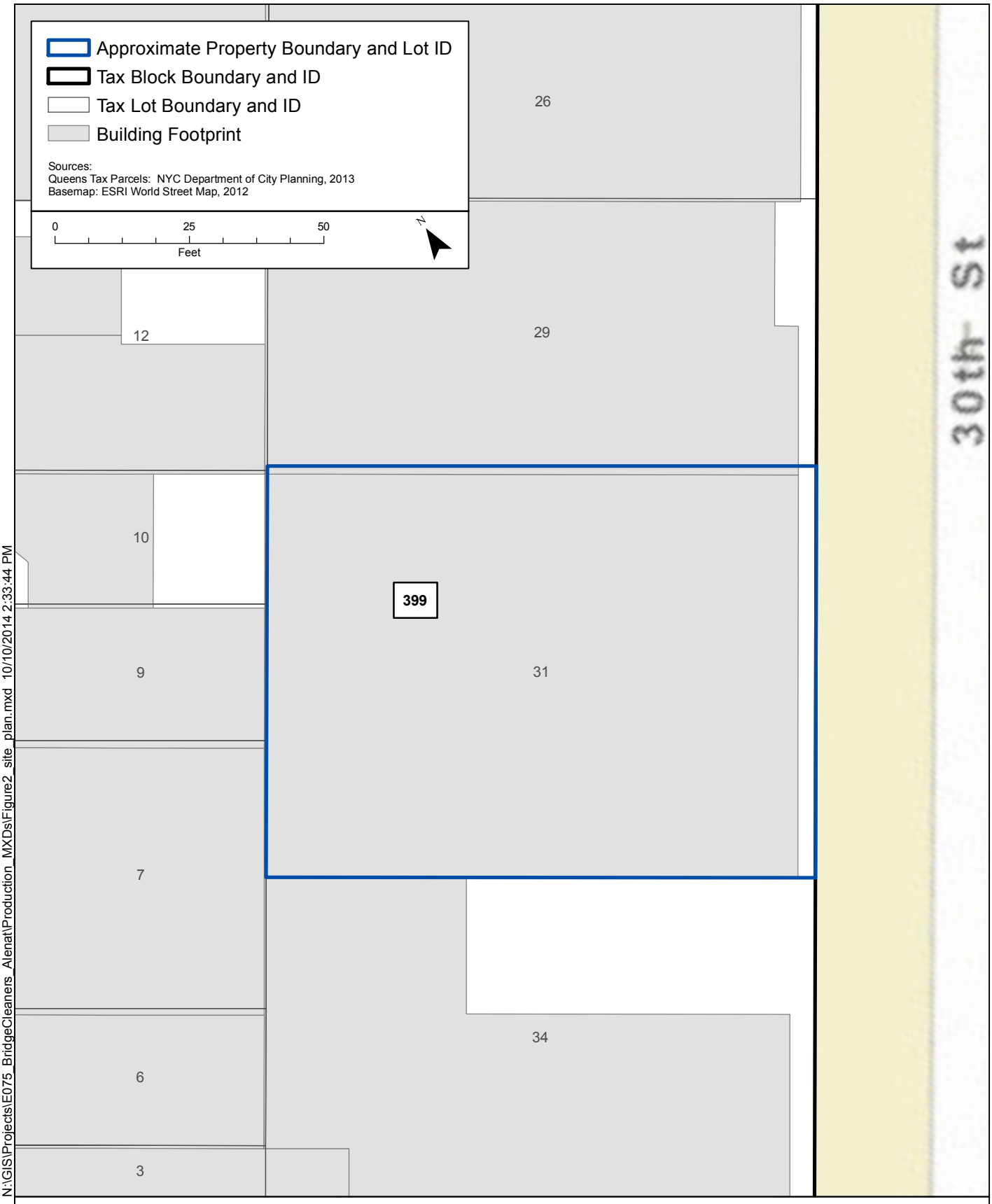


N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\Figure1_site_location.mxd 10/10/2014 2:15:21 PM

integral engineering p.c.

DRAFT FOR AGENCY REVIEW

Figure 1.
Site Location
39-26 30th Street
Long Island City, NY



N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\Figure2_site_plan.mxd 10/10/2014 2:33:44 PM

integral engineering p.c.

DRAFT FOR AGENCY REVIEW

Figure 2.
Site Plan
39-26 30th Street
Long Island City, NY

GW-1 Groundwater (µg/L)		
	9/9/16	11/28/18
PCE	140	74
TCE	1.6	1.4
cis -1,2-DCE	0.43 J	0.30 J
trans -1,2-DCE	ND	ND
Vinyl chloride	ND	ND
Isopropanol	ND	18J

GW-4 Groundwater (µg/L)		
	9/9/16	11/28/18
PCE	90	71
TCE	1.5	1.3
cis -1,2-DCE	0.24 J	0.23 J
trans -1,2-DCE	ND	ND
Vinyl chloride	ND	ND
Isopropanol	ND	16 J

GW-2 Groundwater (µg/L)		
	9/9/16	11/28/18
PCE	200	240
TCE	14	5.6
cis -1,2-DCE	0.31 J	ND
trans -1,2-DCE	ND	ND
Vinyl chloride	ND	ND
Isopropanol	13 J	ND

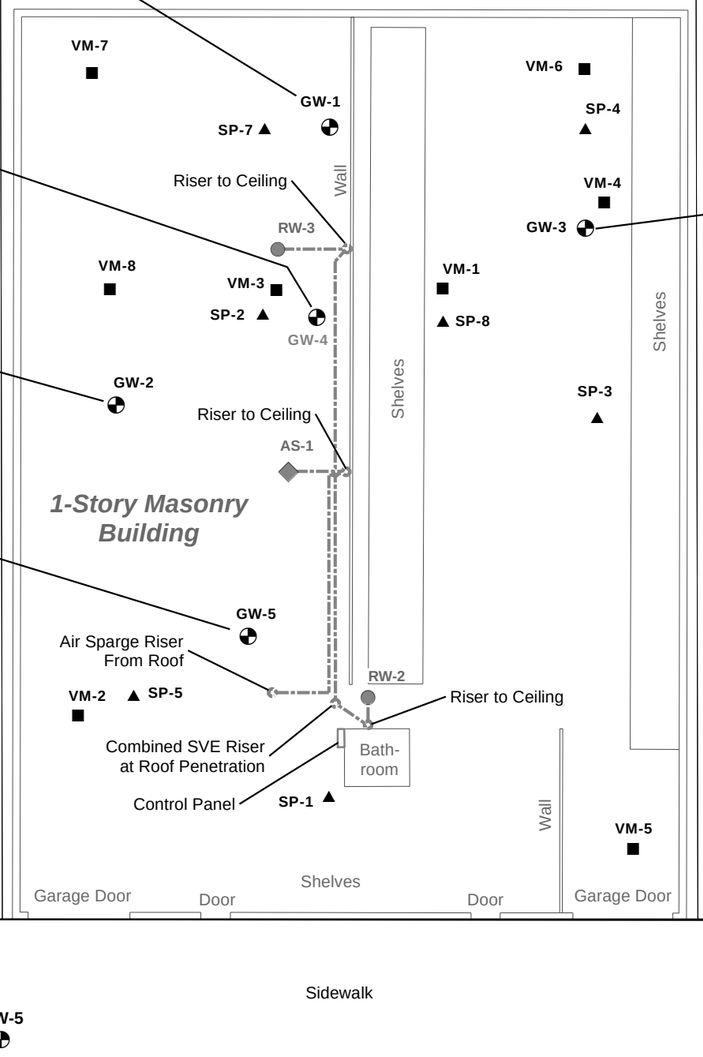
GW-5 Groundwater (µg/L)		
	9/9/16	11/28/18
PCE	95	87
TCE	2.8	3.7
cis -1,2-DCE	0.39 J	ND
trans -1,2-DCE	ND	ND
Vinyl chloride	ND	ND
Isopropanol	ND	21 J

GW-3 Groundwater (µg/L)	
	9/9/2016
PCE	44
TCE	1.2
cis -1,2-DCE	0.25 J
trans -1,2-DCE	ND
Vinyl chloride	ND
Isopropanol	8.5 J

MW-2 Groundwater (µg/L)		
	9/9/16	11/28/18
PCE	41	29
TCE	1.8	1.2
cis -1,2-DCE	ND	ND
trans -1,2-DCE	ND	ND
Vinyl chloride	ND	ND
Isopropanol	ND	ND

MW-5 Groundwater (µg/L)		
	9/9/2016	11/28/18
PCE	22	31
TCE	0.59	0.73
cis -1,2-DCE	ND	0.20 J
trans -1,2-DCE	ND	ND
Vinyl chloride	ND	ND
Isopropanol	ND	ND

MW-1 Groundwater (µg/L)		
	9/9/16	11/28/18
PCE	10	37
TCE	0.69	0.62
cis -1,2-DCE	0.19 J	0.20 J
trans -1,2-DCE	ND	ND
Vinyl chloride	ND	ND
Isopropanol	ND	23 J



- ▲ Soil Vapor Monitoring Point
- ■ Vacuum Monitoring Point
- Groundwater Monitoring Well

AS/SVE System

- PVC Pipe
- Air Sparge Well
- Vapor Extraction Well

Notes:
1. DCE = Dichloroethene
2. PCE = Tetrachlorethylene
3. TCE = Trichloroethylene
4. J = Estimated value
5. ND = Non-detect
6. Pre-construction groundwater sampling was performed September 9, 2016.
7. Post-construction groundwater sampling was performed November 28, 2018.
9. Location GW-3 was not accessible during the post-construction groundwater sampling event.

Sources:
Basemap: Well Elevation Survey, Bridge Cleaners, 39-26 30th Street, Long Island City, New York, Donald R. Stedge, P.L.S., October 30, 2015. Internal building features and AS/SVE system based on as-built conditions (October 2018).

Sidewalk Well Locations: Site Characterization Report, Bridge Cleaners, 39-26 30th Street, Long Island City, New York, Ecology and Environment Engineering, May 9, 2012.

0 10 20
Feet

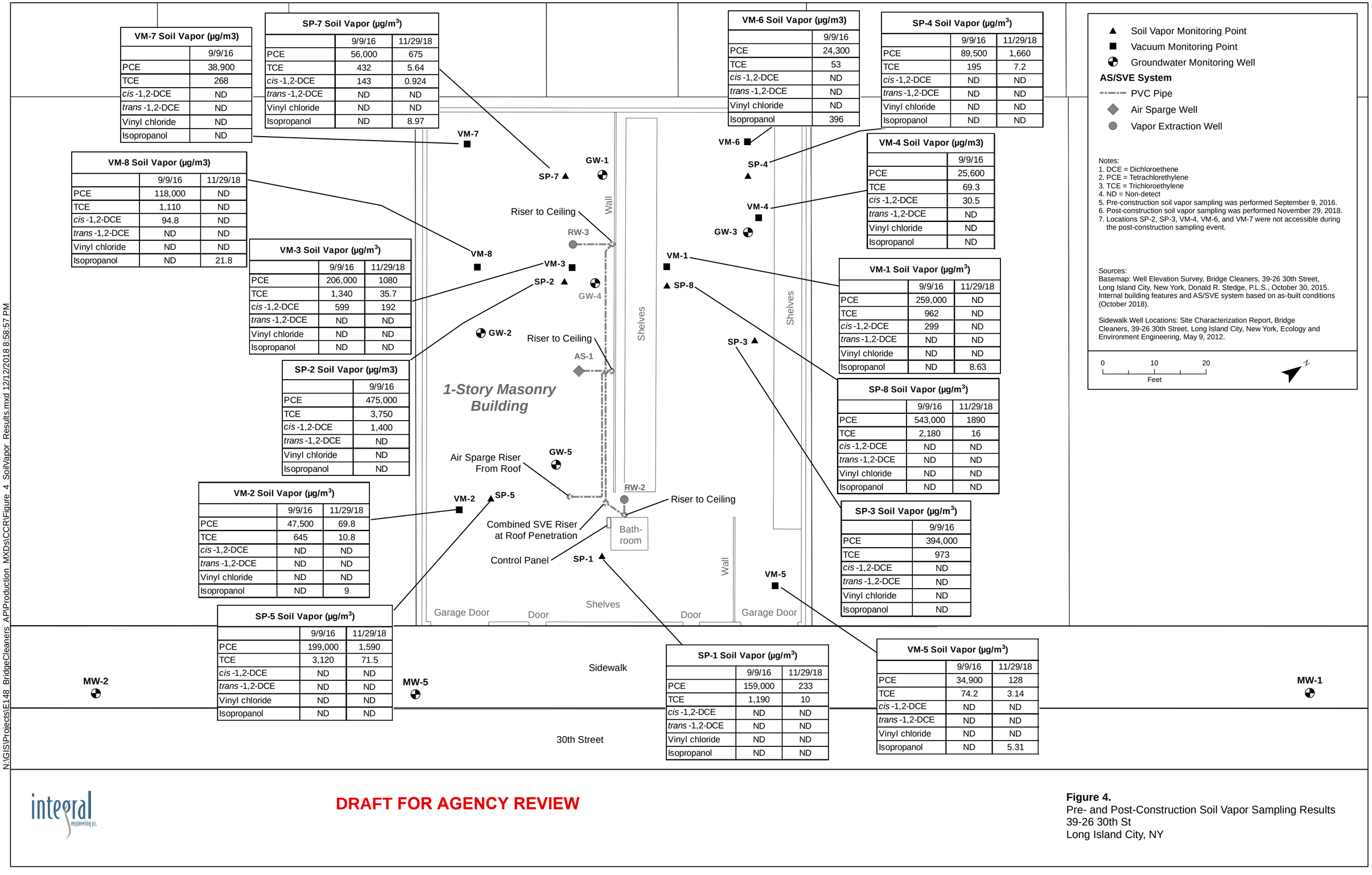
N

N:\GIS\Projects\E148 BridgeCleaners AP\Production MXDs\CCR\Figure 3 Groundwater Results.mxd 12/12/2018 9:01:25 PM

integral engineering p.c.

DRAFT FOR AGENCY REVIEW

Figure 3.
Pre- and Post-Construction Groundwater Sampling Results
39-26 30th St
Long Island City, NY



DRAFT FOR AGENCY REVIEW

Figure 4.
Pre- and Post-Construction Soil Vapor Sampling Results
39-26 30th St
Long Island City, NY

TABLES

Table 1. Pre- and Post-Construction Groundwater Sampling Results

Location	Tetrachloroethylene (µg/L)		Trichloroethylene (µg/L)		*cis*- 1,2-Dichloroethene (µg/L)		*trans* -1,2-Dichloroethene (µg/L)		Vinyl chloride (µg/L)		Isopropanol (µg/L)	
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-
GW-1	140	74	1.6	1.4	0.43 J	0.30 J	0.75 U	0.75 U	1.0 U	1.0 U	100 U	18 J
GW-2	200	240	14	5.6	0.31 J	1.2 U	0.75 U	1.9 U	1.0 U	2.5 U	13 J	250 U
GW-3	44	NS	1.2	NS	0.25 J	NS	0.75 U	NS	1.0 U	NS	8.5 J	NS
GW-4	90	71	1.5	1.3	0.24 J	0.23 J	0.75 U	0.75 U	1.0 U	1.0 U	100 U	16 J
GW-5	95	87	2.8	3.7	0.39 J	0.50 U	0.75 U	0.75 U	1.0 U	1.0 U	100 U	21 J
MW-1	10	37	0.69	0.62	0.19 J	0.20 J	0.75 U	0.75 U	1.0 U	1.0 U	100 U	23 J
MW-2	41	29	1.8	1.2	0.50 U	0.50 U	0.75 U	0.75 U	1.0 U	1.0 U	100 U	100 U
MW-5	22	31	0.59	0.73	0.50 U	0.20 J	0.75 U	0.75 U	1.0 U	1.0 U	100 U	100 U

Notes:
J = estimated value
NS = not sampled as location was inaccessible
U = non-detect

Pre-construction groundwater sampling was performed September 9, 2016.
Post-construction groundwater sampling was performed November 28, 2018.

Table 2. Pre- and Post-Construction Soil Vapor Sampling Results

Location	Tetrachloroethylene (µg/m^3)		Trichloroethylene (µg/m^3)		*cis*-1,2-Dichloroethene (µg/m^3)		*trans*-1,2-Dichloroethene (µg/m^3)		Vinyl Chloride (µg/m^3)		Isopropanol (µg/m^3)	
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-
SP-1	159,000	233	1,190	10	68.6 U	0.793 U	68.6 U	0.793 U	44.2 U	0.511 U	106 U	1.23 U
SP-2	475,000	NS	3,750	NS	1,400	NS	579 U	NS	373 U	NS	897 U	NS
SP-3	394,000	NS	973	NS	436 U	NS	436 U	NS	281 U	NS	674 U	NS
SP-4	89,500	1,660	195	7.2	69.4 U	1.98 U	69.4 U	1.98 U	44.7 U	1.28 U	108 U	3.07 U
SP-5	199,000	1,590	3,120	71.5	99.5 U	1.98 U	99.5 U	1.98 U	64.2 U	1.28 U	154 U	3.07 U
SP-7	56,000	675	432	5.64	143	0.924	44.0 U	0.793 U	28.4 U	0.511 U	67.8 U	8.97
SP-8	543,000	1,890	2,180	16	575 U	3.96 U	575 U	3.96 U	371 U	2.56 U	890 U	6.15 U
VM-1	259,000	1.36 U	962	1.07 U	299	0.793 U	135 U	0.793 U	86.9 U	0.511 U	209 U	8.63
VM-2	47,500	69.8	645	10.8	69.4 U	0.793 U	69.4 U	0.793 U	44.7 U	0.511 U	108 U	9.00
VM-3	206,000	1,080	1,340	35.7	599	192	113 U	1.98 U	72.6 U	1.28 U	175 U	3.07 U
VM-4	25,600	NS	69.3	NS	30.5	NS	17.2 U	NS	11.1 U	NS	26.5 U	NS
VM-5	34,900	128	74.2	3.14	17.1 U	0.793 U	17.1 U	0.793 U	11.0 U	0.511 U	26.5 U	5.31
VM-6	24,300	NS	53.1	NS	17.0 U	NS	17.0 U	NS	11.0 U	NS	396	NS
VM-7	38,900	NS	268	NS	17.2 U	NS	17.2 U	NS	11.1 U	NS	26.5 U	NS
VM-8	118,000	1.36 U	1,110	1.07 U	94.8	0.793 U	88.0 U	0.793 U	56.7 U	0.511 U	136 U	21.80

Notes:
NS = not sampled as location was inaccessible
U = non-detect

Pre-construction soil vapor sampling was performed September 9, 2016.
Post-construction soil vapor sampling was performed November 28, 2018.

Table 3. AS/SVE System Startup Data, January 15, 2018

SVE Startup:	2:16 PM
Air Sparge Startup:	2:56 PM

Monitoring Point	Before SVE Startup		During SVE Startup		After Air Sparge Startup		After Air Sparge Startup		After Air Sparge Startup	
	Time	Pressure (iwc)	Time	Pressure (iwc)	Time	Pressure (iwc)	Time	Pressure (iwc)	Time	Pressure (iwc)
GW-1	1:05 PM	-0.004	2:28 PM	-0.338	3:51 PM	-0.313	4:14 PM	-0.315	5:06 PM	-0.308
GW-2	12:50 PM	0.000	2:32 PM	-0.210	3:34 PM	-0.208	4:11 PM	-0.210	5:02 PM	-0.205
GW-3	1:15 PM	-0.005	2:40 PM	-0.094	3:43 PM	-0.091	4:20 PM	-0.086	5:13 PM	-0.086
GW-4	1:02 PM	-0.001	2:31 PM	-1.115	3:51 PM	-1.150	4:08 PM	-1.260	5:00 PM	-1.224
GW-5	1:03 PM	-0.004	2:33 PM	-0.950	3:40 PM	-0.926	4:17 PM	-0.899	5:10 PM	-0.893
VM-1	1:12 PM	0.003	2:35 PM	-0.619	3:44 PM	-0.617	4:22 PM	-0.624	5:15 PM	-0.623
VM-2	1:00 PM	0.011	not measured		3:55 PM	-0.146	4:16 PM	-0.145	5:09 PM	-0.135
VM-3	1:00 PM	-0.005	2:22 PM	-2.075	3:49 PM	-2.221	4:10 PM	-2.224	5:01 PM	-2.213
VM-4	1:05 PM	-0.009	2:45 PM	-0.073	3:42 PM	-0.081	4:23 PM	-0.106	5:16 PM	-0.102
VM-5	1:08 PM	0.003	2:45 PM	-0.077	3:41 PM	-0.078	4:18 PM	-0.078	5:11 PM	-0.077
VM-6	1:06 PM	-0.020	2:39 PM	-0.092	3:41 PM	-0.096	4:21 PM	-0.103	5:14 PM	-0.091
VM-7	12:58 PM	-0.009	2:29 PM	-0.155	3:33 PM	-0.163	4:13 PM	-0.164	5:05 PM	-0.159
VM-8	12:57 PM	0.005	not measured		3:34 PM	-0.424	4:13 PM	-0.424	5:04 PM	-0.415
SP-2	12:40 PM	-0.002	not measured		3:50 PM	-0.711	4:12 PM	-0.706	5:03 PM	-0.706
SP-3	1:09 PM	-0.004	2:42 PM	-0.05	3:43 PM	-0.043	4:19 PM	-0.049	5:12 PM	-0.049
SP-5	1:00 PM	0.001	not measured		3:36 PM	-0.074	4:16 PM	-0.072	5:08 PM	-0.077
SP-7	12:51 PM	-0.010	2:26 PM	-0.340	3:53 PM	-0.332	4:15 PM	-0.328	5:07 PM	-0.333
SP-8	1:12 PM	-0.001	2:35 PM	-0.455	3:45 PM	-0.298	4:24 PM	-0.424	5:17 PM	-0.440

Notes:
AS/SVE = air sparge / soil vapor extraction
iwc = inches of water column

Table 4. AS/SVE System Differential Pressure Data, March 14, 2018

Sampling Point	Before Optimization (iwc)	After Optimization (iwc)
GW-1		-0.857
GW-2	-0.292	-0.281
GW-3		-0.146
GW-4		-1.500
SP-1		-0.141
SP-2	3.300	-0.844
SP-3		-0.054
SP-4		-0.064
SP-5	-0.112	-0.101
SP-7		-0.480
SP-8		-0.512
VM-1		-0.682
VM-2	-0.176	-0.172
VM-3		-2.503
VM-5		-0.082
VM-6		-0.104
VM-7	-0.194	-0.197

Notes:
AS/SVE = air sparge / soil vapor extraction
iwc = inches of water column

DRAFT FOR AGENCY REVIEW

Table 5. AS/SVE System Differential Pressure Data, November and December 2018

Date of Restart:	11/30/18
SVE Restart:	2:16 PM
Air Sparge Restart:	2:56 PM

	Thirty Minutes After AS/SVE Restart		Four Days After AS/SVE Restart		Twelve Days After AS/SVE Restart	
	Date:	11/30/2018	Date:	12/4/2018	Date:	12/12/2018
Monitoring Point	Time	Pressure (iwc)	Time	Pressure (iwc)	Time	Pressure (iwc)
GW-1	4:00 PM	-0.682	2:20 PM	-0.969	12:10 PM	-0.997
GW-2	4:10 PM	-0.278	2:18 PM	-0.601	12:06 PM	-0.679
GW-4	4:20 PM	-1.798	2:19 PM	-1.709	12:04 PM	-1.984
GW-5	3:59 PM	-1.467	1:57 PM	-1.116	10:22 AM	-1.362
VM-1	3:47 PM	-0.601	2:30 PM	-0.730	10:05 AM	-0.722
VM-2	3:30 PM	-0.073	2:00 PM	-0.215	9:49 AM	-0.202
VM-3	3:42 PM	-2.176	2:09 PM	-2.714	9:58 AM	-2.667
VM-5	4:04 PM	-0.096	2:38 PM	-0.093	10:16 AM	-0.095
VM-8	3:38 PM	-0.542	2:03 PM	-0.785	9:50 AM	-0.683
SP-1	3:56 PM	-0.133	2:25 PM	-0.162	10:19 AM	-0.159
SP-2	3:44 PM	-1.355	2:11 PM	-1.112	10:00 AM	-1.119
SP-4	4:15 PM	-0.118	2:28 PM	-0.103	10:11 AM	-0.091
SP-5	3:34 PM	-0.156	2:04 PM	-0.151	9:45 AM	-0.140
SP-7	3:40 PM	-0.584	2:22 PM	-0.713	9:53 AM	-0.594
SP-8	3:50 PM	-0.611	2:33 PM	-0.569	10:08 AM	-0.523

Notes:
AS/SVE = air sparge / soil vapor extraction
iwc = inches of water column

Locations GW-3, SP-2, SP-3, VM-4, VM-6, and VM-7 were not accessible during the November or December 2018 monitoring events.

APPENDIX A

INTEGRAL IRM DESIGN DOCUMENT
(MARCH 29, 2016)

INTERIM REMEDIAL MEASURE DESIGN DOCUMENT

Bridge Cleaners Site, BCP Site No. C241127

Prepared for
Zhong Chuang Properties LLC
39-26 30th Street
Long Island City, NY 11101-2806

Prepared by

61 Broadway
Suite 1601
New York, NY 10006

March 29, 2016

Affiliated with Integral Consulting Inc.

CONTENTS

LIST OF FIGURES ..... **IV**

LIST OF TABLES ..... **V**

ACRONYMS AND ABBREVIATIONS ..... **VI**

CERTIFICATION ..... **VIII**

1 INTRODUCTION **1-1**

1.1 SITE DESCRIPTION 1-2
1.2 SITE HISTORY 1-2
1.3 PURPOSE 1-3

2 BACKGROUND **2-1**

2.1 PHYSICAL SETTING 2-1
2.1.1 Geologic Setting 2-1
2.1.2 Hydrogeologic Setting 2-2

3 CONCEPTUAL SITE MODEL **3-1**

4 PILOT TEST **4-1**

4.1 TESTING OBJECTIVES 4-1
4.2 OVERVIEW OF TESTS AND EQUIPMENT 4-1
4.3 SLUG TEST AND MODIFIED (BETWEEN WELL) SLUG TEST 4-3
4.3.1 Slug Test 4-3
4.3.2 Modified Slug Tests 4-4
4.4 SVE STEADY STATE TESTS 4-7
4.4.1 Intrinsic Permeability 4-7
4.4.2 Modeled SVE Pressure Distribution from Recovery Well 4-10
4.5 AIR SPARGE AND AIR SPARGE WITH SVE TESTS 4-12
4.6 VAPOR LABORATORY ANALYTICAL TESTS 4-16

5 REMEDIATION SYSTEM DESIGN **5-1**

5.1 SOIL VAPOR EXTRACTION 5-1
5.1.1 SVE Design Basis 5-1
5.1.2 SVE Layout 5-1
5.1.3 SVE System Curve 5-1
5.1.4 SVE Air Exchanges 5-4
5.1.5 SVE Recovery Well Design 5-5

5.2 AIR SPARGE 5-5
5.2.1 Air Sparge Layout 5-5
5.2.2 Air Sparge Design 5-5
5.3 AS/SVE INSTRUMENTATION & CONTROLS 5-6
5.4 SSDS DESIGN CRITERION 5-6
6 PRE- AND POST-CONSTRUCTION ACTIVITIES 6-1
6.1 PRE-CONSTRUCTION SAMPLING 6-1
6.2 MONITORING DURING SYSTEM STARTUP 6-1
6.3 POST-CONSTRUCTION ACTIVITIES 6-1
6.3.1 Post-Construction Vacuum Monitoring 6-1
6.3.2 Post-Construction Sampling 6-1
7 SCHEDULE 7-1
8 KEY PROJECT CONTACT LIST 8-1
9 BIBLIOGRAPHY 9-1
Appendix A. Remedial Investigation Report
Appendix B. Data Evaluation Report
Appendix C. Pilot Testing Boring Logs
Appendix D. Cross-Sections
Appendix E. Pilot Testing: Slug Test Calculations
Appendix F. Pilot Testing: Air Sparge Calculations
Appendix G. Soil Vapor Laboratory Report
Appendix H. AS/SVE Design Plans & Elevations
Appendix I. AS/SVE System Startup Monitoring Log Sheet

LIST OF FIGURES

Figure 1. Site Location Map
Figure 2. Site Plan
Figure 3. Site Layout
Figure 4. Soil Sampling Results
Figure 5. Groundwater Sampling Results
Figure 6. Soil Vapor Sampling Results
Figure 7. Slug Test Bouwer & Rice Analysis
Figure 8. Slug Test Image Well Locations
Figure 9. SVE Pilot Test Radius of Influence
Figure 10. SVE Pilot Test Differential Pressure vs. Distance
Figure 11. Calculated Air Spread During Air Sparge
Figure 12. GW-3 Elevation During Air Sparge
Figure 13. Dissolved Oxygen in GW-3 During Air Sparge
Figure 14. Differential Pressure of 0.10 iwc at 42 Ft
Figure 15. SVE Radius of Influence
Figure 16. System and Blower Curves
Figure 17. Pre- and Post-Construction Groundwater Sampling Locations

LIST OF TABLES

Table 1. Hydraulic Conductivity from Slug Tests
Table 2. Hydraulic Conductivity from Modified Slug Tests
Table 3. SVE Pilot Test Radius of Influence
Table 4. SVE Pilot Test Measured Pressure Differentials
Table 5. SVE Pilot Test Soil Vapor Sample Results
Table 6. Design Parameters for Air Sparge Well
Table 7. Schedule
Table 8. Key Contact List

ACRONYMS AND ABBREVIATIONS

AS/SVE	air sparge / soil vapor extraction
atm	atmosphere (atmospheric pressure)
BCP	brownfield cleanup program
CFM	cubic feet per minute
CSM	conceptual site model
DAR	division of air resources
DER	division of environmental remediation
DGW	depth to groundwater
DO	dissolved oxygen
ft bgs	feet below ground surface
ft^3	cubic feet
GPD	gallons per day
Integral	Integral Engineering, P.C.
IRM	interim remedial measure
iwc	inches of water column
NAVFAC	Naval Facilities Engineering Command
NYCRR	New York Code of Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
PCE	tetrachloroethylene
PFD	process flow diagram
PID	photoionization detector
psig	pounds per square inch (gage)
PVC	polyvinyl chloride
RIR	remedial investigation report
Sch	schedule
SCO	soil cleanup objectives
SF	square foot or square feet
Site	39-26 30th Street, Long Island City, New York

SSDS	sub-slab depressurization system
SVE	soil vapor extraction
TCE	trichloroethylene
TechSolutions	TechSolutions Engineering, P.C.
µg	microgram
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
VMP	vacuum monitoring point
VOC	volatile organic compound
Volunteer	Zhong Chuang Properties LLC
Zhong Chuang	Zhong Chuang Properties LLC

CERTIFICATION

I, Keith P. Brodock, P.E., certify that I am currently a New York State registered professional engineer as defined in 6 NYCRR part 375 and that this Interim Remedial Measure (IRM) Design Document was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by a New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

Date signed and sealed:



Keith P. Brodock, P.E.
NY License #089004

1 INTRODUCTION

Integral Engineering, P.C. (Integral) has prepared this Interim Remedial Measure (IRM) Design Document on behalf of Zhong Chuang Properties LLC (Zhong Chuang or Volunteer) for the property located at 39-26 30th Street, Long Island City, NY (Site). The Site is currently enrolled in the New York State Brownfield Cleanup Program (BCP) and listed as Site No. C241127.

Remediation pilot tests were performed at the Site to evaluate the efficacy of air sparge and soil vapor extraction (SVE); to identify the design parameters for the remediation system; and, to evaluate the appropriateness of SVE for mitigation of soil vapor intrusion. The subsurface pilot tests included installation of one SVE recovery well, application of negative pressure (vacuum) to the recovery well, and measurement of subsurface pressures at various distances from the recovery well. Two of the pilot tests included injection of air into the saturated subsurface to evaluate the utility and efficacy of air sparging as a component of the remediation.

The subsurface pilot test included the installation of an SVE recovery well (RW-01), air injection well (AI-01R)[1], and several vacuum monitoring points (VM-01 through VM-08) placed strategically throughout the site. Previously installed groundwater monitoring wells (GW-1 through GW-5), sub-slab soil probes (SP-2 through 8), and the newly installed wells were utilized for the measurement of subsurface pressures at various distances from the recovery well (RW-01) during the application of negative pressure (vacuum). Two additional air injection pilot tests included the application of pressurized air into AI-01R. The results of the air injection tests were used to evaluate the effectiveness of air sparging as a potential component of the remediation.

The pilot test evaluation and proposed remediation design is presented in this Design Document. In summary, based upon the pilot test data, we propose to install one blower to extract contaminated vapors from the subsurface at two locations within the building. In addition, we propose to install one air sparge well between the two SVE locations. The one system will act as both an air sparge / soil vapor extraction (AS/SVE) system and as a sub-slab depressurization system (SSDS) to mitigate soil vapor intrusion. The system installation would be performed as an interim remedial measure (IRM).

[1] The initial air injection well, AI-01, was compromised. A replacement well, AI-01R, with similar characteristics to AI-01 was installed nearby for the pilot test.

1.1 SITE DESCRIPTION

The approximately 7,500 square foot (SF) Site is known as the former Bridge Cleaners and is designated as Block 399, Lot 31. A Site location map is provided as Figure 1. A map showing the Site property boundaries is included as Figure 2.

The Site is currently improved with a one-story building (without a basement) that covers the entire lot. The building is currently used for the storage and cutting of fabrics. The Site is currently zoned as M1-3/R7X, which is a Special Long Island City Mixed Use District for mixed residential and commercial use.

1.2 SITE HISTORY

A number of investigations and assessments have been performed at the Site between 2011 and 2014. These investigations consisted of limited subsurface assessments conducted by various consultants on behalf of the Site owner or the New York State Department of Environmental Conservation (NYSDEC). Integral has been provided the following investigation reports:

- Limited Sub-Surface Site Investigation, Long Island Laboratories, Inc., dated September 2011
- Site Characterization Report, Ecology and Environmental Engineering, P.C., May 2012
- Remedial Investigation Report, TechSolutions Engineering, P.C., June 2014 (most recent version)

According to the June 2014 Remedial Investigation Report (RIR) prepared by TechSolutions Engineering, P.C. (TechSolutions) (Appendix A)[2], the Site was used as a dry cleaner from 1997 until about 2011. Other historical uses included warehousing and distribution. Figure 3 depicts the current Site layout.

The RIR summarized soil, groundwater, and soil vapor results from investigations performed at the Site between September 2011 and February 2014. Elevated tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations were found in groundwater and soil vapor samples collected within and nearby the Site. PCE and TCE were identified in soil samples at the Site, but did not exceed NYSDEC Unrestricted Soil Cleanup Objectives (SCOs).

A soil investigation conducted by Integral in December 2014, identified concentrations of PCE above the Unrestricted SCO, but below the Industrial SCO, in four soil samples collected from

[2] This RIR was rejected by the NYSDEC in a letter dated September 10, 2014, though it has been utilized in this Work Plan for reference.

beneath the northern corner of the building. Pursuant to an NYSDEC-approved Remedial Investigation Proposal dated November 11, 2014, a total of five soil samples, inclusive of one duplicate, were collected during the installation of two soil borings (SB-6 and SB-7). Samples collected from SB-06 were defined as SB-06(11.5'-12') and SB-06(17.5-18.5'); samples collected from SB-07 were defined as SB-07(0-4') and SB-07(15-17.5'); a duplicate collected from SB-07(0-4') designated DUPLICATE (12-30-14). In samples SB-06(11.5'-12'), SB-07(0-4'), DUPLICATE (12-30-14), and SB-07(15-17.5'), PCE was the only analyte detected, and was identified above the Unrestricted SCO and the Protection of Groundwater SCO (to the extent the Protection of Groundwater SCO is applicable to this Site), both 1.3 mg/kg, but below the Industrial SCO of 300 mg/kg. DUPLICATE (12-30-14) contained the maximum observed concentration of PCE at 9.6 mg/kg. Integral's Data Evaluation Report, dated July 1, 2015 (Appendix B) discusses the results from this investigation.

Figure 4, Figure 5, and Figure 6 depict the combined soil, groundwater, and soil vapor sampling results, respectively, for PCE and its degradation products.

1.3 PURPOSE

The purpose of this IRM Design Document is to accomplish the following:

- Provide an evaluation of the pilot test data and resulting conclusions; and,
- Present the remediation system design for the focused remediation of chlorinated volatile organic compounds (VOCs) and for mitigation of soil vapor intrusion.

2 BACKGROUND

2.1 PHYSICAL SETTING

The Site incorporates approximately 0.17 acres of fairly level land situated in Long Island City, Queens, New York. The Site is mapped on the Central Park, NY-NJ and Brooklyn Quadrant 7.5 Minute Topographic Map, published by the U.S. Geological Survey (USGS). Review of the topographic map indicates that the Site is located approximately 40 ft above sea level (National Geodetic Vertical Datum 1988).

2.1.1 Geologic Setting

Previous reports have characterized the soil beneath the Site as medium or fine sand with trace silt. Bedrock geology in the vicinity of the Site is characterized from the RIR as:

> At the regional level, the subsurface geological units of Queens County consist of sequences of unconsolidated sediments of Late Cretaceous and Pleistocene pre-Sangamon and Sangamon ages. The unconsolidated sediments are underlain by crystalline bedrock of Precambrian age and overlain mostly by glacial upper Pleistocene deposits of Wisconian age but also to a lesser extent by Holocene deposits (Soren, USGS, 1978). From grade to bedrock, the primary geologic units in the region are artificial fill / surficial deposits, upper Pleistocene deposits, Gardiners Clay (where present), Jameco Gravel (not be present in the vicinity of the Site), Monmouth Group and Magothy Formation, and the Raritan Formation.
>
> Natural surficial glacial deposits in Queens County consist mostly of ground moraine in the northern part of Queens County near the [Site] and outwash in the southern portions of the county. However, artificial fill has been used in many places to extend and reinforce shorelines and to fill swampy areas in preparation for development. The surficial deposits are underlain by the upper Pleistocene deposits which range in thickness from 0 to 300 feet and are primarily composed of glacial drift material such as till, lacustrine deposits and outwash sand and gravel (Soren, USGS, 1978). Regionally, the upper Pleistocene deposits are unconformably underlain by the Gardiners Clay which is located in primarily the central and southern parts of Queens County. The Gardiners Clay consists of mostly grayish green and less commonly dark gray clay intercalated with sand and gravelly beds. The thickness of the Gardiners Clay varies widely and is absent in some sections of Queens County (i.e., Glendale, Woodhaven, Ozone Park areas) but generally ranges to a maximum of 150 feet thick. Importantly, the Gardiners Clay serves to confine water in the underlying

> Jameco Gravel regionally where present and Magothy-Matawan Formation (Soren, USGS, 1978) in much of the region.
>
> The Jameco Gravel is believed to have been deposited by streams in Queens County and unconformable underlies the Gardiners Clay where present. The Jameco deposits are mostly coarse sand and granule to cobble gravel with boulders having been reported by some drillers. The thickness of the Jameco Gravel ranges from 0 to 250 feet regionally; however, it is generally absent in the vicinity of the [Site] which is located north of the most-widely accepted extent of the Jameco Gravel…
>
> Underlying the Jameco Gravel (where present) is the Monmouth Group and the Magothy- Matawan Formation which ranges from 0 to 450 feet thick in Queens County. Magothy- Matawan strata may be missing in northern and northwestern Queens County and is typically present between 0 and 200 feet in thickness near the [Site]. The Raritan Formation underlies the Magothy-Matawan formation where present and consists of a clay and sand member. Bedrock is typically not encountered to a depth of between 100 and 200 feet in the vicinity of the [Site]. (TechSolutions 2014)

2.1.2 Hydrogeologic Setting

Groundwater has been measured at approximately twenty ft bgs at the Site. According to the RIR:

> The regional aquifer system in the general vicinity of the Site includes the following system from shallow to deep: the upper glacial aquifer which is underlain by the Magothy Aquifer. The Raritan clay unit then separates the Magothy Aquifer from the underlying Lloyd Aquifer which overlies bedrock. (TechSolutions 2014)

3 CONCEPTUAL SITE MODEL

The conceptual site model (CSM) reflects that there are residual chlorinated hydrocarbons in the unsaturated subsurface near the northern corner of the building potentially causing secondary impacts to groundwater. This residual material may have discharged from a boiler drain in the northern corner of the building, and while there is a small concrete patch in this area, there is no evidence that a drain existed in the building. The CSM also must consider the possibility that a release occurred off-Site and is contributing to the observed conditions. The magnitude of the release, whether on-Site or off-Site (or both), is unknown, though the chlorinated hydrocarbon concentrations identified in the unsaturated on-Site soil lead to the conclusion that any on-Site release was minor.

Below is additional supporting information to the CSM:

- The groundwater at the Site, based on previous reports, generally flows from north to south. PCE concentrations in groundwater ranged from 176 to 340 µg/L, and were within the same order of magnitude across the Site, although slightly higher to the south.
- Soil vapor concentrations of PCE ranged from 21,400 to 668,000 $\mu g/m^3$ across the Site. The larger concentrations were found in the northern portion of the building, indicating potential residual source material nearby (in unsaturated soil).
- A boiler room was historically present in the northern corner of the building. In the past, it was not uncommon for buildings to construct a drain (dry well) for boiler condensate blow-down. No evidence of a drain or dry well has been observed or provided, although there appears to be a small concrete patch in this area.
- PCE was identified in soil samples collected from the northern corner of the Site building with a maximum concentration of 9.6 mg/kg, which is below the Industrial SCO of 300 mg/kg, but above the Unrestricted Use and Protection of Groundwater SCOs of 1.3 mg/kg, to the extent the Protection of Groundwater SCO is applicable to this Site. (Integral, 2015)

4 PILOT TEST

This section presents the results of the pilot test that was performed to inform the design of an AS/SVE remediation system and vapor intrusion mitigation system at the Site.

4.1 TESTING OBJECTIVES

The overall objective of the testing program is to provide for the design of a remediation and protective system in light of the concentrations of PCE and other VOCs in the soil, groundwater, or soil vapors beneath the slab of the building.

Aquifer testing [slug and modified (between well) slug tests] were done to:

- Evaluate hydraulic conductivities for the purpose of controlling groundwater if necessary and/or evaluating intrinsic permeability which can be derived from hydraulic conductivities,
- Assess the ability of air sparging techniques to enhance the remediation and protective systems to be designed, and,
- Evaluate the effects of underground structures on the capture of contaminated soil vapors.

The steady-state SVE tests were done to provide necessary data for the design of soil vapor extraction from beneath the building slab. An AS/SVE system uses one or more blowers to induce airflow through the subsurface (unsaturated zones) to volatilize contaminants for exhaust to the atmosphere, in addition to the introduction of air into the saturated zone to allow for mass transfer of dissolved contaminants into the vapor phase (for collection by the SVE).

The air sparging tests were conducted to evaluate the efficacy of air sparging to enhance the remediation by removing contaminants from the groundwater so that they could be captured by the SVE system.

Lastly, laboratory analytical testing results of soil vapors from the recovery well (RW-01) and vacuum monitoring point (VMP) VM-02 were used to evaluate the need for air treatment on the discharge of the SVE system.

4.2 OVERVIEW OF TESTS AND EQUIPMENT

Groundwater pressure responses in the five monitoring wells (GW-1 through GW-5) and one air sparging well (AI-01R) were recorded throughout the tests using pressure transducers recording at one minute intervals (Figure 3 shows the site layout; Appendix C contains boring

logs for the wells and VMPs installed for the pilot test[3]; Appendix D contains cross-sections with the pilot test well and VMP installations). The pressure transducers were In-Situ data loggers (Aqua TROLL 200) and a barometric pressure logger (Schlumberger Baro-Diver) for a calibration to barometric pressure if necessary.

Transducer records were calibrated by depth to groundwater measurements made both before and after the recording periods. Depth to groundwater (DGW) measurements were obtained at the time of deployment of the pressure transducer or when the transducer was removed from the well. Survey and depth to groundwater data provided by Donald R. Stedge, P.L.S., were used to calculate groundwater elevations, and distances to wells containing transducers.

Dissolved oxygen levels, temperature, and other parameters were measured using meters (YSI Model 550) installed in the groundwater monitoring wells.

Differential pressures were periodically measured via digital manometers, and pressure gauges in the groundwater monitoring wells, VMPs, and select soil boring locations where tubes remain to allow access to the subsurface.

Slug tests and modified (between wells) slug tests were conducted using AI-01R as the pressurized well. Pressure changes (slugs) were created by pressurizing AI-01R then suddenly releasing the pressure to create the slug. Responses were measured using pressure transducers in the slug well and the four remaining monitoring wells within the building.

Steady state SVE tests were conducted using RW-01 as the extraction well. Extraction was done using three different negative pressures (vacuum) and volumetric flows at RW-01. Responses to these three extraction rates were measured in the groundwater monitoring wells, vacuum monitoring probes, and a select number of soil (vapor) probe locations where tubes to the subsurface remained.

Air sparging tests were conducted by pressurizing AI-01R sufficiently to create a flow of air into the well and out into the formation. Responses to the flow of air into the formation were measured in the groundwater monitoring wells; specifically, dissolved oxygen levels and changes to groundwater elevations were measured.

After an initial period of air sparging, SVE was added at RW-01 as before. This allowed for the field testing of vapors in the discharge from RW-01 using a photoionization detector (PID).

[3] The boring log for AI-01 is included instead of the boring log for AI-01R as no subsurface soil descriptions were collected for AI-01R. AI-01R is similarly constructed to AI-01.

Contaminant concentrations in extracted and potentially extracted vapors were evaluated using PID measurements of the extracted air from RW-01, and via laboratory-analyzed air samples collected from RW-01 and VMP VM-02 (results discussed in Section 4.6).

Analysis methods for the pilot test data were based on theoretical equations developed initially by Theis and modified by others to accommodate a particular aquifer test.

4.3 SLUG TEST AND MODIFIED (BETWEEN WELL) SLUG TEST

Two slug tests were done in AI-01R, one following the other. AI-01R is a two inch well screened between 34 and 35 feet below ground. At the time of the test, groundwater was 20 feet below ground surface providing a water column in the well of approximately 14 feet.

The aquifer was stressed by pressurizing the slug test well to approximately 30 pounds per square inch (psig) until a stable condition had been reached. The pressure was rapidly released and the well's recovery tracked by pressure transducers recording on one minute intervals.

The modified slug tests were done at the same time as the slug tests. The water pressure differential created by the slug test was recorded in other nearby wells as a pressure wave propagated through the aquifer.

4.3.1 Slug Test

The slug tests in AI-01R were analyzed using the Bouwer and Rice method. The governing equation is

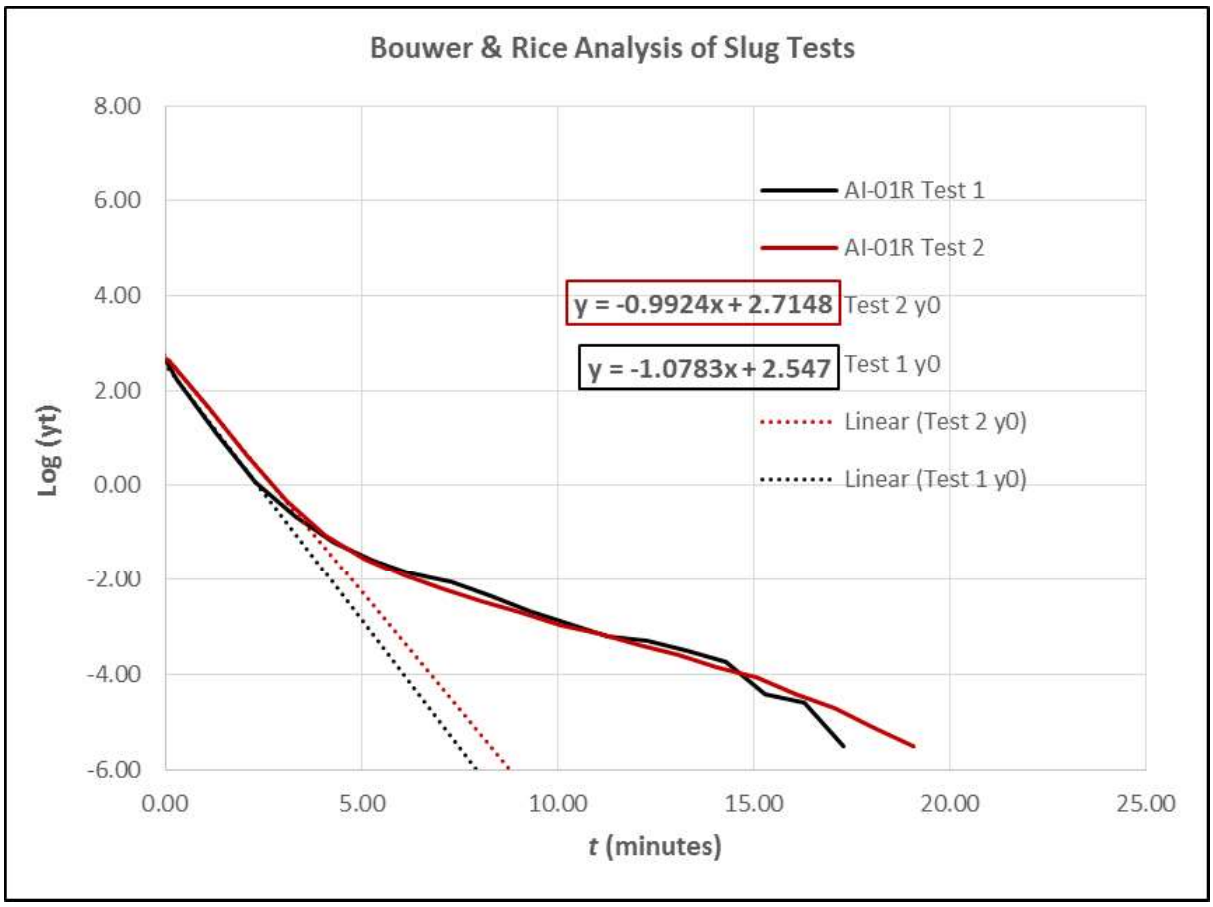
$$K = \frac{r_c^2 \cdot Ln(R_e/r_w)}{2L_e} \cdot \frac{1}{t}$$ where

- **K =** Hydraulic conductivity
- **L_e =** Length of screened portion of well
- **r_c =** Radius of the casing
- **R_e =** Effective radial distance over which y is dissipated
- **r_w =** Radial distance to undisturbed portion of aquifer from center line
- **t =** Time
- **y =** Difference between water level in well and water level outside well
- **y_0 =** y at time zero
- **y_t =** y at time t.

The method involves calculating the most representative slopes of the water recovery curve in the plot of the slug recovery (feet) and time (minutes). Because of the shortness of the screen

(one foot) and the bentonite sealing of the annular space between the well casing and the outer portions of the disturbed area (the dimensions of the drill hole) for the entire length of the well above the screen, the most representative portion of the recovery curve occurred in the first five minutes. These slopes are shown in Figure 7 below.

Figure 7 Slug Test Bouwer & Rice Analysis



Detailed calculations are provided in Appendix E. Results are as follows:

Table 1 Hydraulic Conductivity

K	Test 1	Test 2
ft/min	0.0037	0.0034
GPD/ft^2	40.2	37.0

4.3.2 Modified Slug Tests

Modified slug tests involve the detection of pressure signals from the slug test well in other wells in the formation. The analysis is in accordance with basic propagation theory as

developed by Theis from heat transfer theory, using the one parameter solution for heat propagation:

$$s(x,t) = 1/\sqrt{4\pi Tt} \cdot e^{(-x^2/4KTt)}$$ where

$s(x,t)$ is the amplitude of the pressure signal,
T is transmissivity,
x is distance between the slug test well and the observation well, and,
t is time.

K can be estimated from T by

$$K = \frac{T}{b \cdot S_s}$$ where

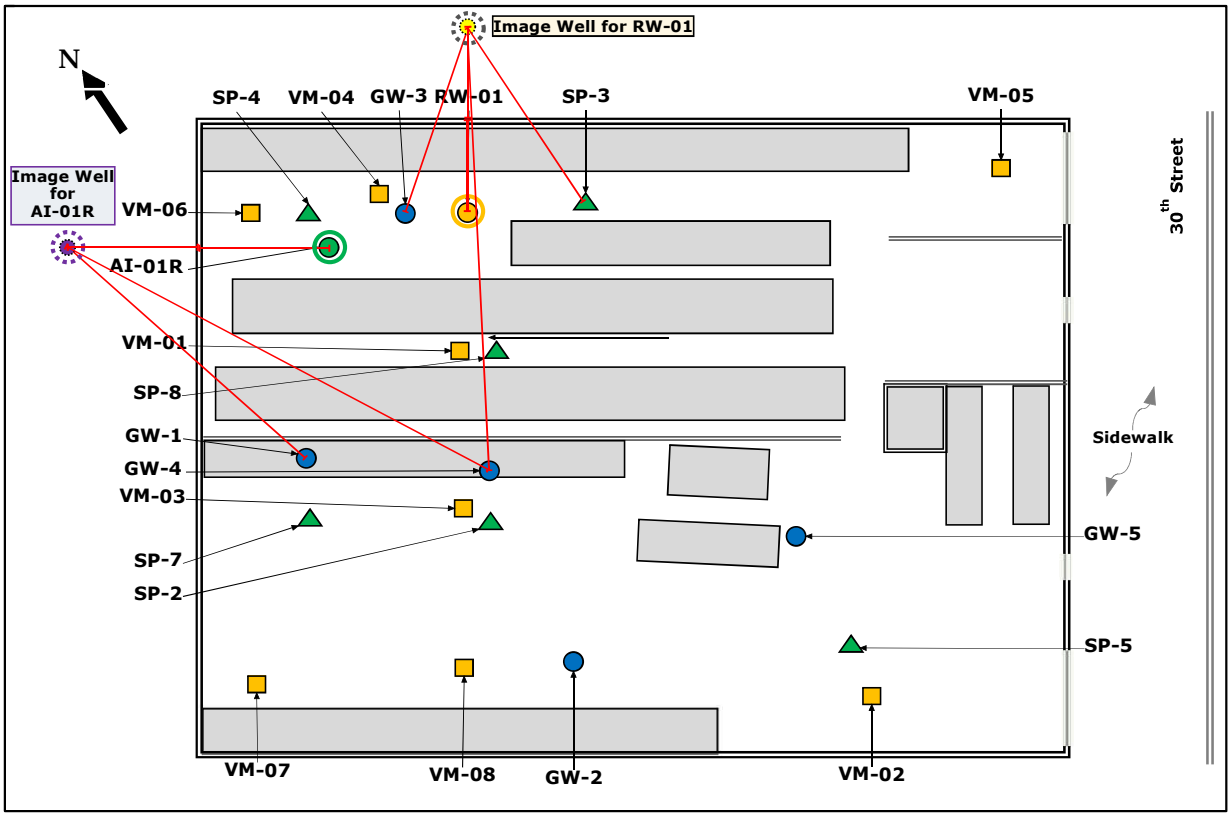
b = Aquifer depth, and,
S_s = Specific Storage or Elastic Storage.

As the remote wells respond to a pressure wave from the slug well, and there is little actual movement of groundwater in the remote wells since the Specific Storage, S_s , is reflecting the elasticity component of Storativity, as opposed to the water drainage component. Therefore, the parameter is appropriate even for unconfined conditions. This assumption may not be true for the responses in GW-3, however, as some water movement is apparent.

For the modified slug test, the amplitude, period, and arrival times of the pressure waves at remote wells were identified. Hydraulic conductivities were determined by calculating the best fit K and S values across all tests using least squares regression techniques.

The above calculations are also used to look for inconsistencies in the data that indicate hydraulic barriers. The principle of superimposition is used to estimate the location of the boundaries indicated by the calculations. Further, ***K*** values are adjusted to account for the effects of these boundaries. An image well (shown on Figure 8 below) was used to take into account a partial boundary apparent at about the location of the building's northwestern foundation.

Figure 8 Slug Test Image Well Locations



The K values were calculated from the modified slug tests:

Table 2 Hydraulic Conductivity from Modified Slug Tests

Test Number	Well Designation	*r* ft	K ft/min	K GPD/ft^2
1	GW-3	9.7	0.0031	34
1	GW-1	24.4	0.0041	
1	GW-1 Image	40.0	0.0041	
1	GW-1 Combined	24.4	0.0041	44
1	GW-4	31.8	0.0036	39

Test Number	Well Designation	*r* ft	K ft/min	K GPD/ft^2
	Test 1 Averages		0.0036	39
2	GW-3	9.7	0.0046	50
2	GW-1	24.4	0.0038	
2	GW-1 Image	40.0	0.0038	
2	GW-1 Combined	24.4	0.0038	41
2	GW-4	31.8	0.0021	
2	GW-4 Image	50.0	0.0021	
2	GW-4 Combined	31.8	0.0021	22
	Test 2 Averages		0.0035	38

The slug and modified slug tests result in similar hydraulic conductivities ranging from 0.0034 to 0.0037 ft/min (37 to 40 GPD/ft^2). The modified slug test also provides information on hydraulic barriers that can be used to evaluate the radius of influence of SVE capture and the negative pressures (suction/vacuum) required to be placed on recovery wells.

4.4 SVE STEADY STATE TESTS

4.4.1 Intrinsic Permeability

Intrinsic permeability was calculated using the Cooper-Jacob Approximation

$$k_i = \frac{Q_v \mu}{\pi b P_s \cdot [(1 - P_{atm}/P_s)^2]} \ln\left(\frac{r_s}{r_{ROI}}\right)$$ where

b = Aquifer thickness
P_{atm} = Atmospheric pressure
P_s = Pressure at the screen
Q_v = Volumetric Flow rate
r_{ROI} = Radius of influence
r_S = Radius of screen
μ = Dynamic Viscosity

The radius of influence (ROI) is calculated as the distance from the well where the absolute pressure equals atmospheric pressure. Figure 9, below, shows graphically this calculation for

Tests 1 and 3 in the radial direction to the southeast toward the furthest, remote corner of the building (Table 3, below, provides the tabulated data)[4]. The resulting ROI values can be confirmed by comparing to the measured values in the well nearest the calculated ROI, GW-5. Net pressure increases due to the extraction is greater in GW-5 than 0.010 iwc[5] defined to calculate the pilot test ROI, confirming the calculated extent of the pilot test ROI.

Figure 9 SVE Pilot Test Radius of Influence

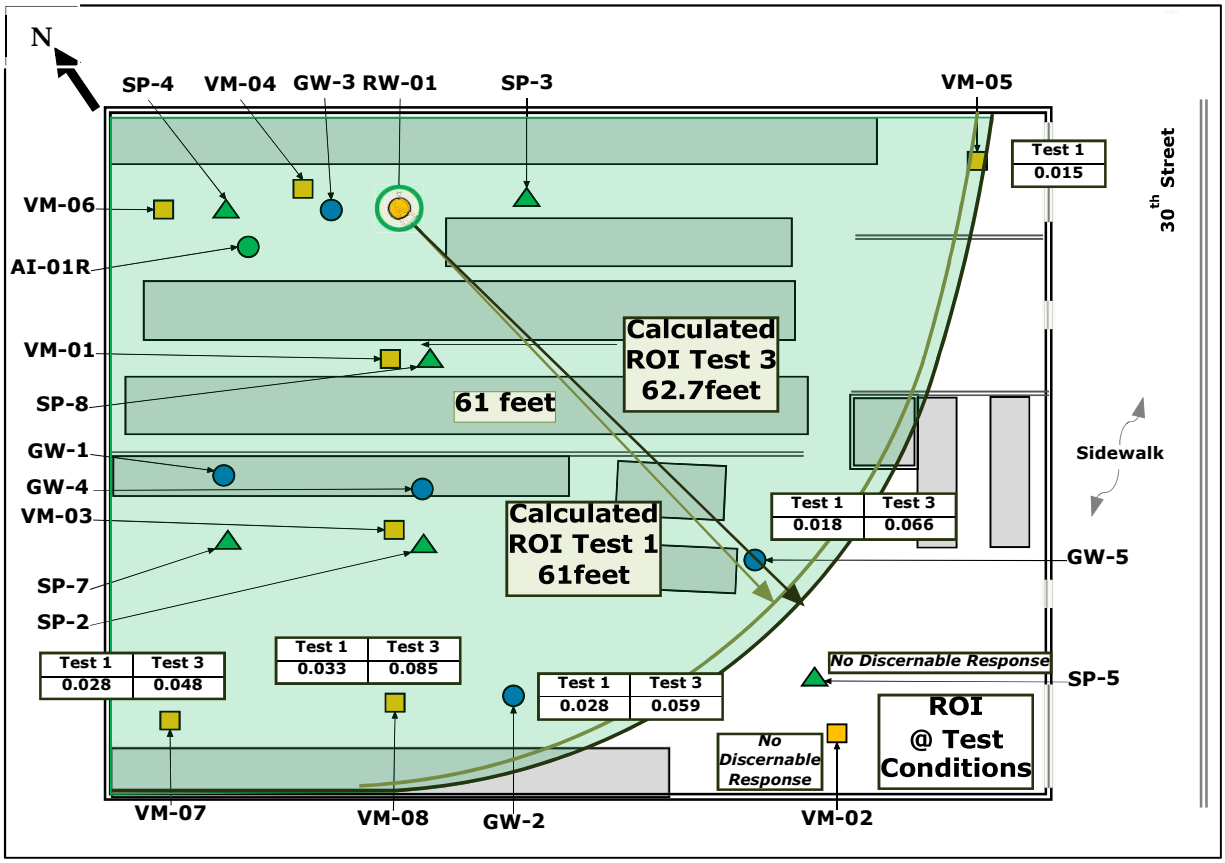


Table 3 SVE Pilot Test Radius of Influence

Test Number	Radial Direction	ROI ΔP iwc	ROI ft	k_i cm^2	K ft/min	ΔP in GW-2 53 ft South	ΔP in GW-5 52.8 ft Southeast
Test 1	Southeast	0.010	61.0	2.3E-06	0.436	0.028	0.018

[4] Test 2 is not shown as the results would be between Test 1 and Test 3. Test 2 was conducted with similar negative pressure at the blower as Test 3. Test 2 was conducted with 30.0 iwc and Test 3 was conducted with 33.5 iwc. Comparing Test 1 (conducted with 20.0 iwc) with Test 3 provides a larger magnitude difference for evaluation.

[5] The ROI for the SVE pilot test was based on 0.010 iwc; however, the SVE design presented in Section 5 is based on ROI at 0.10 iwc.

Test Number	Radial Direction	ROI ΔP iwc	ROI ft	k_i cm^2	K ft/min	ΔP in GW-2 53 ft South	ΔP in GW-5 52.8 ft Southeast
Test 3	Southeast	0.010	62.7	2.1E-06	0.399	0.059	0.066

Also shown is Test 3 to the south toward GW-2. The boundary along the northwestern foundation affects the calculations to the south (and southwest). Radial directions affected by the foundation walls have relatively higher pressures due to the boundary effects, resulting in lower ROI values and higher k_i values than would be calculated in the absence of the boundary. However, in all three SVE tests, the measured pressure increase in GW-2 is above 0.010 iwc. This is true of all wells at the perimeter of the measurements, confirming that the system influenced all areas under the slab with the exception of the area to the southeast, as shown in Figure 9. Table 4, below, lists the pressure differentials for all measured wells.

Table 4 SVE Pilot Test Measured Pressure Differentials

		ΔP Test 1	ΔP Test 2	ΔP Test 3
	Blower Pressure (iwc):	**20.0**	**30.0**	**33.5**
	Well Head Pressure (iwc):	**11.0**	**14.6**	**15.8**
	Flow (CFM)	**82.1**	**101.6**	**107.8**
Measured Location	**Distance from RW-1 feet**	**ΔP Test 1 iwc**	**ΔP Test 2 iwc**	**ΔP Test 3 iwc**
GW-1 ΔP	33.64	0.172	0.228	0.270
GW-2 ΔP	53.08	0.028	0.066	0.059
GW-3 ΔP	7.27	1.900	2.566	2.837
GW-4 ΔP	29.69	0.228	0.363	0.379
GW-5 ΔP	52.83	0.018	0.060	0.066
SP-2 ΔP	35.58	- -	0.095	0.093
SP-3 ΔP	13.59	0.218	0.297	0.329
SP-4 ΔP	18.23	0.228	0.304	0.338
SP-5 ΔP	66.40	0.002	- -	0.007
SP-7 ΔP	39.71	0.038	0.757	0.063
SP-8 ΔP	15.98	0.616	0.793	0.885
VM-1 ΔP	15.77	0.846	1.090	1.215
VM-3 ΔP	34.04	0.221	0.176	0.184
VM-4 ΔP	10.26	- -	1.676	1.820
VM-5 ΔP	61.12	0.015	0.011	- -
VM-6 ΔP	24.69	0.239	0.340	0.357
VM-7 ΔP	59.49	0.028	0.034	0.048

		ΔP Test 1	ΔP Test 2	ΔP Test 3
VM-8 ΔP	52.37	0.033	0.057	0.085

4.4.2 Modeled SVE Pressure Distribution from Recovery Well

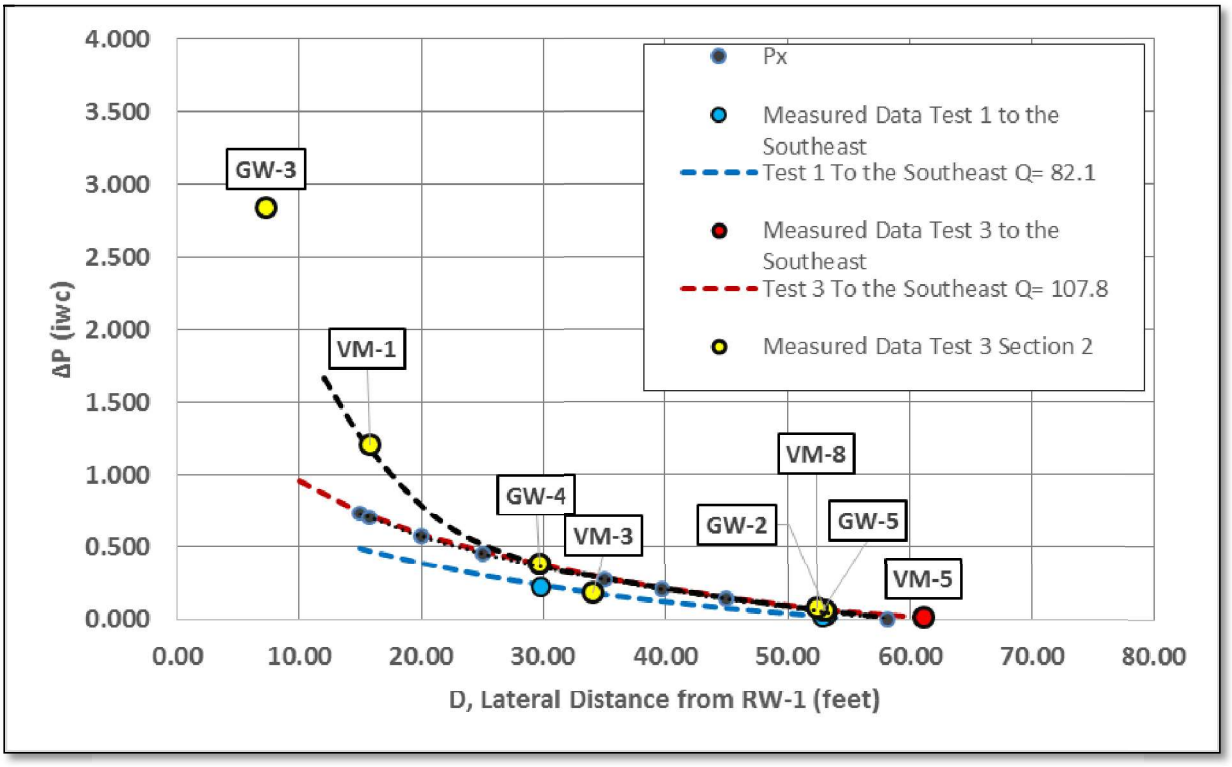
Rearranging the Cooper-Jacob Approximation used above allows us to model directly the pressure gradients extending from the recovery well. The rearranged equation is

$$P_{r_x}^2 = P_{r_w}^2 - [Q_v \cdot P_s \cdot \mu/(\pi \cdot b \cdot k_i)] \cdot Ln(r_w/r_x)$$ where

k_i = Intrinsic permeability,
r_w = Effective radius of the screen,
r_x = Radius of differential pressure,
P_s, P_{rx} = differential pressures at screen and at r_x, respectively,
Q_v = Volumetric flow rate, and,
b = thickness of zone available for air flow.

Calculations using this form of the equation allows us to better fit the measured data, and thereby fine tune the influence extraction will have on the subsurface vapors. It also allows us to evaluate the directionality of the extraction influence (Figure 10, below).

Figure 10 SVE Pilot Test Differential Pressure vs. Distance



The calculations to the south and southwest include the same super-imposition principle applied to the modified slug tests, resulting in the distribution of suction pressure over a greater distance.

Evaluating the data in this fashion still allowed us to evaluate the effects of the air leakage identified in RW-01. The leakage caused a loss of suction between the wellhead and the screen. Based on these calculations, the suction pressure on the screen could have been as low as 20% of the suction pressure at the wellhead. We believe the leak is between the concrete plug and the PVC casing at the surface of the ground. This can be remedied with a polyurethane sealant or with bituthene liquid membrane during remedial construction. For design purposes, we will be looking at the lower screen suction pressures as well as the anticipated pressures that would be achieved with a repair of the leaking recovery well. Equipment will be specified to cover conditions in between.

4.5 AIR SPARGE AND AIR SPARGE WITH SVE TESTS

The aquifer was stressed by pressurizing the air sparging well (AI-01R) until the applied pressure is stabilized at approximately 30 psig. AI-01R is a two-inch well screened between 34 and 35 feet below ground. During the test, groundwater levels and dissolved oxygen concentrations were measured in the groundwater monitoring wells. After approximately 30 minutes, the SVE testing system was activated and PID readings in its discharge were added to the data collection.

Given the relatively low hydraulic conductivity values measured, the thinness of the groundwater zone to be treated, and the silty / fine sand nature of the soils, Site conditions are conducive to air sparging. Silty sand and fine sand with low hydraulic conductivities generally have relatively low porosity and, in turn, relatively high capillary pressures. As air sparging must displace water in the formation, it must overcome the groundwater's capillary pressures resisting the displacement. Once air is displaced in the immediate vicinity of the well from the well screen to the surface, the pressure applied to the screen is relieved by vertical flow of air, limiting the lateral spread of air.

Calculations (provided in Appendix F) quantify the above concepts. The screen is pressurized (P_s) and a flow out the screen is created (Q_{air}). Groundwater is displaced both laterally and vertically; however, as the head differential is much larger in the vertical direction, the displacement of water is greater vertically until the air reaches the unsaturated zone. The applied pressure, P_s, is dissipated immediately outside the screen as air flows vertically. Thereafter, of course, air will flow preferentially through the column of soil from which water has been displaced to the surface. It will not spread as the surrounding groundwater's hydraulic and capillary pressures will prevent the air from entering the water filled pores surrounding the column of air filled pores. This is the steady state condition that is set up almost immediately, after the air has displaced the water in the vertical direction.

At steady state, the screen pressure is relieved by the vertical flow of air. The resulting air pressure at any point in the air column next to the sparge well is equal to the groundwater's pressure preventing lateral flow. The size of the column of air filled pores can be estimated by calculating the area needed to pass the flow, Q_{air}. This is readily done using Darcy's Equation modified for air as the fluid

$$Q_{air} = A \cdot \frac{k_i \cdot \rho \cdot g}{\mu} \cdot \frac{\Delta h}{\Delta L}$$ where

A = Area at depth $\Delta L = \pi r^2 - \pi r_w^2$, r = radius of air column, r_w = radius of drill hole,
k_i = Intrinsic permeability (cm^2),
ρ = Density of air (varies with pressure),
Δh = Head difference between depth of ΔL and the unsaturated zone,

μ = Dynamic viscosity, and,
ΔL = Depth below unsaturated zone.

Assuming a flow of 40 cfm, applying the intrinsic permeability values from above, and using the lower values of capillary pressure, we calculate that air sparging would drive air approximately 0.5 ft around the screen, and up to a maximum of 2.0 feet once the unsaturated zone is reached:

Figure 11 Calculated Air Spread During Air Sparge

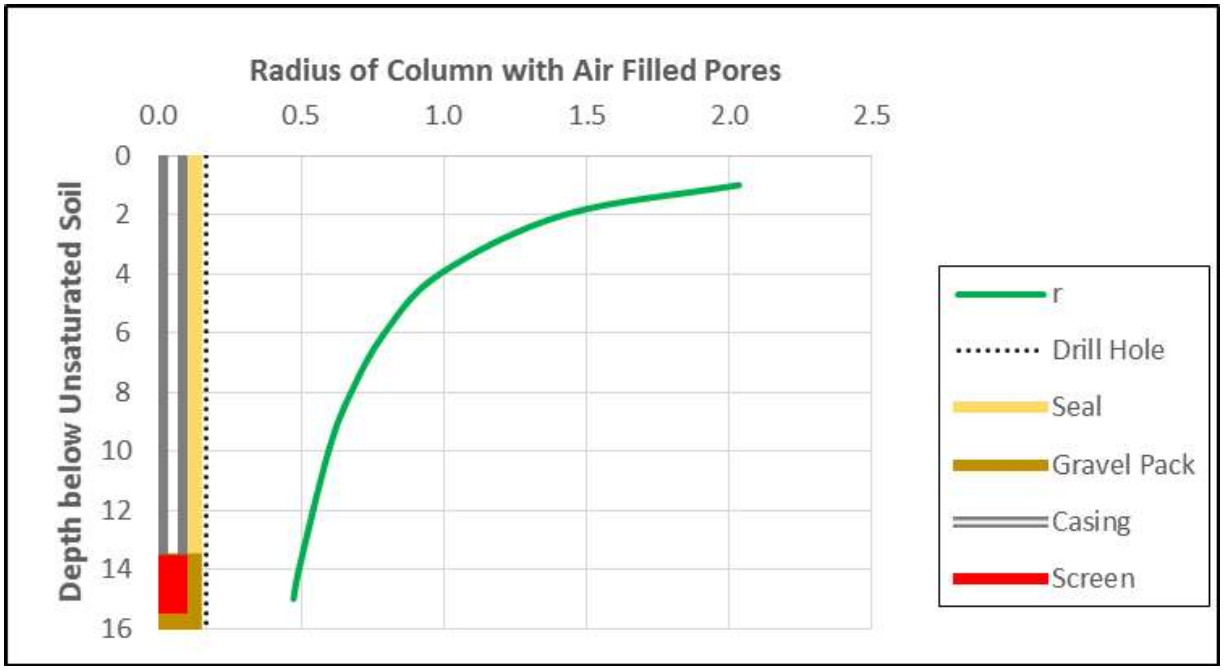
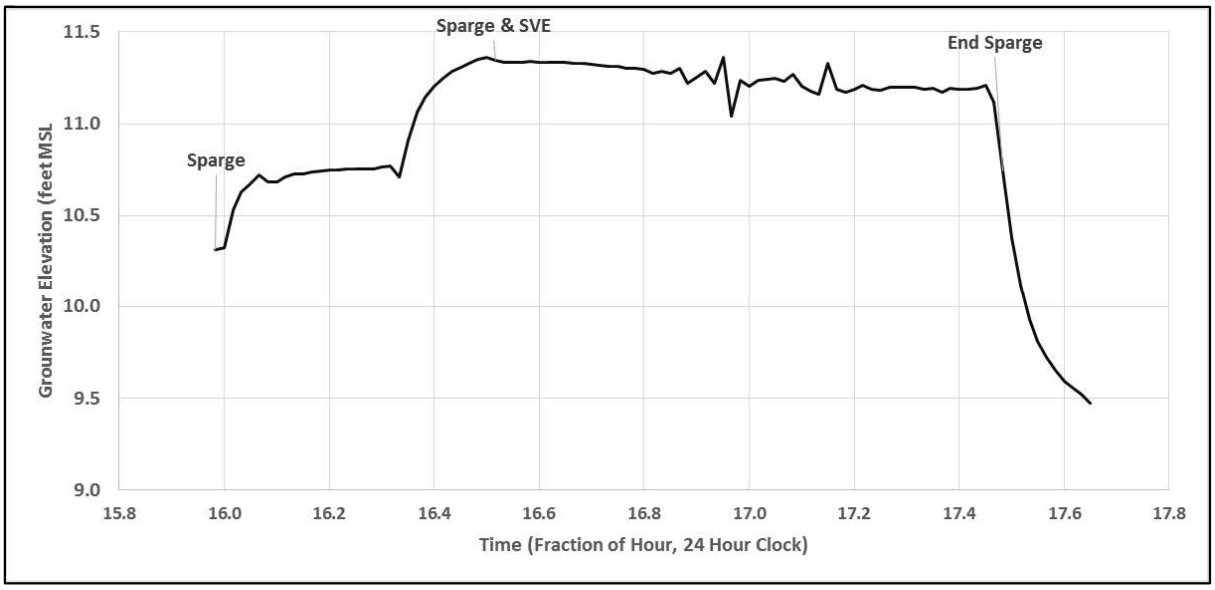


Figure 12, below, shows the pressure transducer response in monitoring well GW-3 during the course of the air sparging tests[6]. At the beginning of the test, as AI-01R is pressurized, the recorded groundwater level in GW-03 increases until an approximately steady level is reached at hour 16.5. Therefore, between its static level and the level reached during the air sparging, GW-03 was raised approximately 1.8 feet. (The jog in this rise at approximately 16.35 hours is due to an increase in the pressurization of AI-01R done to re-stabilize the pressure at 30 psig.) After this initial rise in groundwater elevation, the elevation in GW-03 slowly declined until the end of the sparging test when it rapidly returned back to its static level.

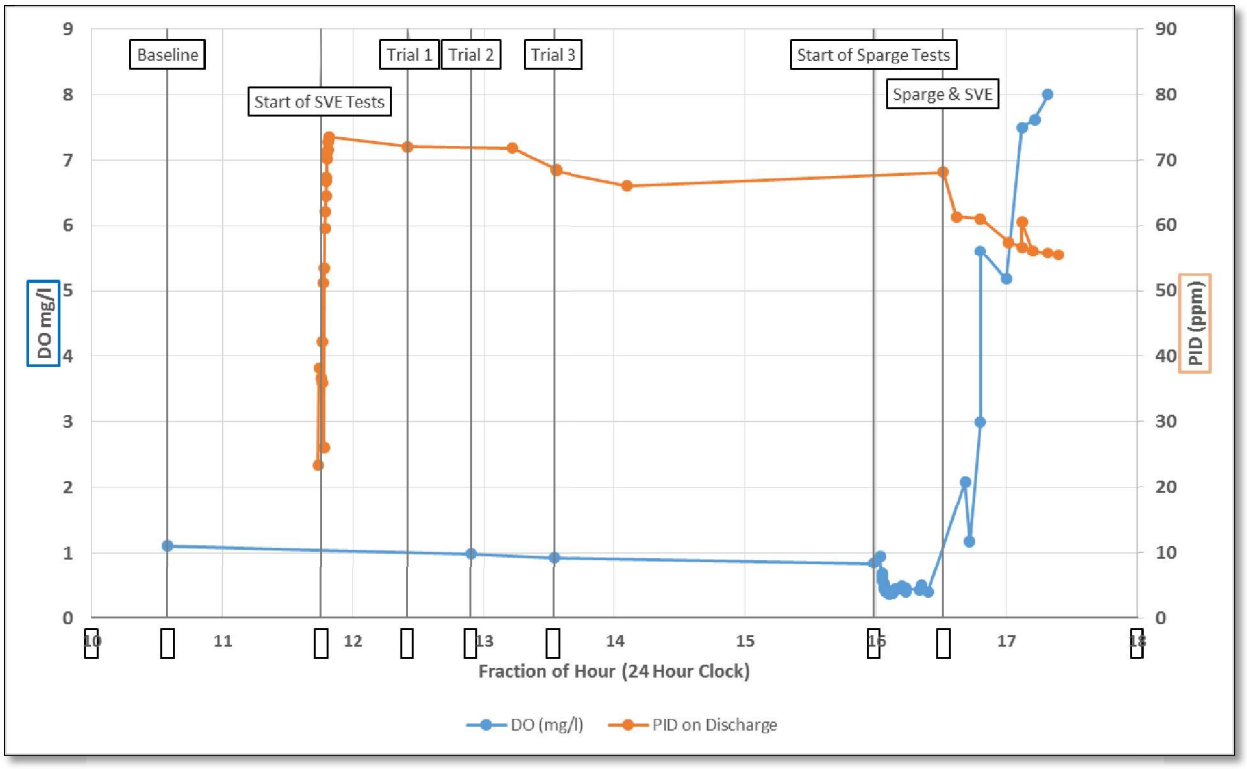
Figure 12 GW-3 Elevation During Air Sparge



[6] GW-3 had a base elevation of 9.47ft to which it returned at the end of the air sparging tests. Figure 12 shows the well not quite recovered from prior testing.

Figure 13, below, shows the levels of dissolved oxygen (DO) in GW-3 and the PID readings in the discharge of the SVE system. The figure covers the entire period of testing. The PID readings are represented by the upper orange line. The dissolved oxygen readings are represented by the lower blue line.

Figure 13 Dissolved Oxygen in GW-3 During Air Sparge



A little before noon, the SVE test system was started. The PID level increases rapidly due to the SVE beginning to pull vapors from the undisturbed area around RW-01. Thereafter, the PID readings begin a slow decline, likely due to cleaner air being pulled in from farther away.

Turning on the air sparging system may have increased the vapor concentrations as the sample at about 4:30PM (16.50 hrs) is slightly increased. Thereafter, however, the PID returns to its decay pattern until the end of the test. This observation is consistent with the above calculations that tell us that only a small column of water was affected by the pilot test injection of the air, resulting in an equivalently-small release of contaminants picked up by the PID in the SVE discharge.

The DO in GW-3 initially drops when the air sparging test begins, probably due to the air sparging causing a small groundwater gradient and, in turn, an addition of groundwater from the undisturbed area around the well that has a lower DO concentration. After the initial drop, the DO dramatically increases in GW-3.

The substantial rise in groundwater elevation in GW-3 would only occur if, by the act of injecting air at the location of AI-01R, water was pushed to GW-3 at a rate faster than would occur with Darcian flow in the saturated zone. Rather, injecting air into AI-01R apparently pushed groundwater into the unsaturated zone, where it could travel to GW-3 much faster than in the saturated zone. This resulted in the rapid 1.83 foot increase in the groundwater level in GW-3. In turn, as this water was oxygenated by the air injection, it resulted in a rapid increase of the DO concentration in GW-3.

4.6 VAPOR LABORATORY ANALYTICAL TESTS

Two vapor samples were collected and analyzed, and, based on an analysis of the results and relevant regulations, Integral has concluded that no vapor treatment is necessary. Integral collected one vapor sample from RW-01 during the SVE pilot test and one vapor sample from VM-2, previously assuming that future vapor extraction may occur near VM-2. Below are the results (the laboratory report is included as Appendix G).

Table 5 SVE Pilot Test Soil Vapor Sample Results

Constituent	RW-1 µg/m^3	VM-2 µg/m^3	Maximum[a] µg/m^3	Maximum lb/ft^3
cis-1,2-Dichloroethylene	384	ND[b] (587)	587	3.66e-8
Isopropanol	ND (349)	398,000	398,000	2.48e-5
Tetrachloroethylene	226,000	55,400	220,000	1.37e-5
Trichloroethylene	1,100	ND (795)	1,100	6.87e-8
Vinyl Chloride	ND (147)	ND (378)	378	2.36e-8
Total			*620,065*	*3.87e-5*

[a] Non-detect concentrations at the reporting limit shown where applicable
[b] ND (349) – Not Detected (at the given reporting limit)

Conservatively using the maximum concentrations (including non-detect concentrations at the reporting limit) above and applying the entire estimated flow (with a clean filter) of 122.7 CFM, the discharge would be 0.28 lbs/hr.

Vapor emissions treatment is not necessary for this discharge. According to NYSDEC DAR-1 *Guidelines for the Control of Toxic Ambient Air Contaminants*, emissions treatment is necessary for sources emitting greater than 3.5 lbs/hr of VOCs (the design discharge for the proposed SVE is 0.28 lbs/hr, an order of magnitude lower). NYSDEC has also indicated that carbon treatment is required "if an emission point exceeds 0.5 lb/hr of VOCs"; however, the proposed SVE discharge is less than this threshold. Further, according to 6 NYCRR 201-3.3(c)(29), the proposed SVE system is defined as a "trivial activity" for which no treatment is necessary as the system is a soil vent operated under an agreement (the Brownfield Cleanup Agreement) with,

and under the supervision of, NYSDEC[7]. We, therefore, conclude that no emissions treatment is necessary for the proposed system.

The detection of isopropanol in the one soil vapor sample is anomalous as isopropanol is not known to be used in the Site operations. Isopropanol in soil vapor may originate off-Site.

[7] The Administrative Code of the City of New York 24-153 refers to 6 NYCRR 212, which provides the exemption for a "trivial activity" under 6 NYCRR 201-3.3(c)(29).

5 REMEDIATION SYSTEM DESIGN

Based on the results of the pilot test, we have designed the AS/SVE remediation system with one blower that will extract soil vapor from two locations along the centerline of the building with an air sparge well in between. An AS/SVE system uses one or more blowers to induce airflow through the subsurface (unsaturated zones) to volatilize contaminants for exhaust to the atmosphere, in addition to the introduction of air into the saturated zone to allow for mass transfer of dissolved contaminants into the vapor phase (for collection by the SVE). Monitoring wells are well situated around this location to monitor the effects of air sparging. For this Site, the AS/SVE system will also serve to create negative differential pressure beneath the Site building's slab relative to the pressure above the building's slab, thereby mitigating the infiltration of sub-slab vapors into the building. The AS/SVE process flow diagram (PFD), layouts, elevations, and equipment schedule are provided in Appendix H.

5.1 SOIL VAPOR EXTRACTION

5.1.1 SVE Design Basis

A design criterion of 0.10 iwc was utilized for the SVE system design. The SVE system will provide a minimum of 0.10 iwc of negative pressure (suction) or greater at all locations in the vadose zone under the building.

5.1.2 SVE Layout

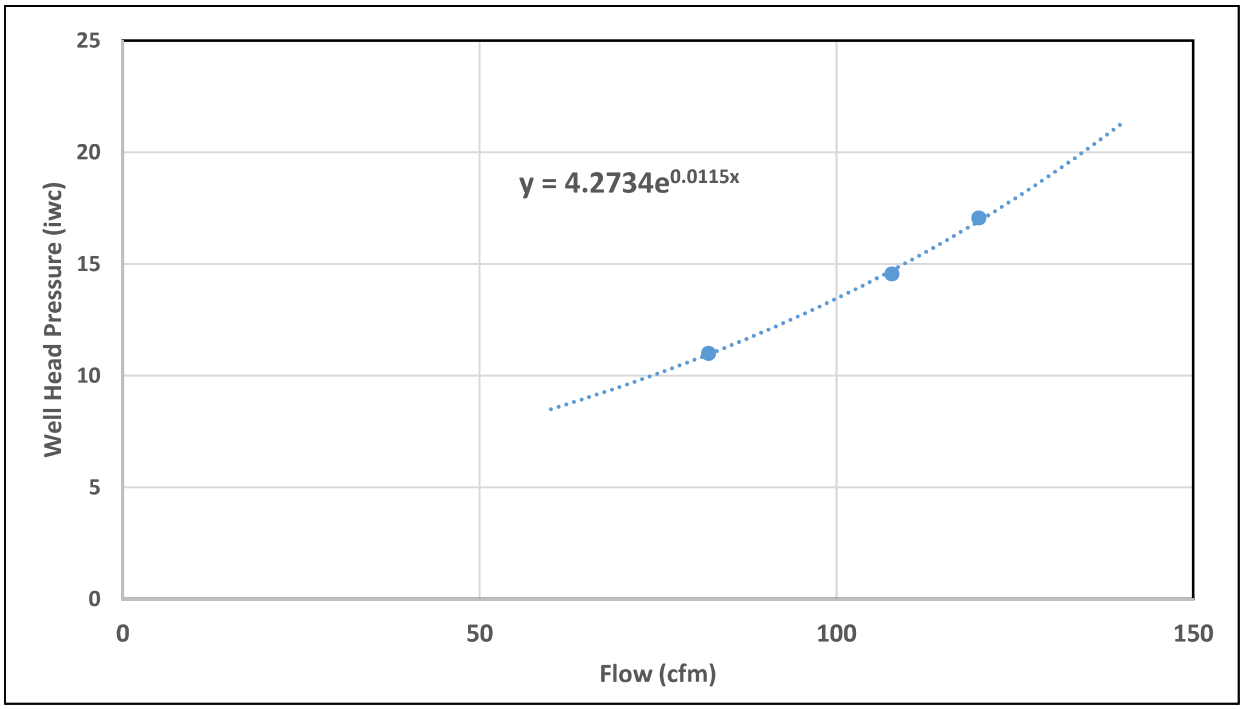
The SVE blower will extract vapors from two new wells, RW-2 and RW-3, to be located along the centerline of the building (the PFD is located in Appendix H). The building is rectangular, 100 ft long by 75 ft wide. Two extraction wells positioned along the centerline of the building are the most efficient means of reaching all areas in the vadose zone. Therefore, we selected this configuration then calculated the negative pressure and flow that would need to be applied to each well to create the 0.10 iwc criterion at all areas in the vadose zone. The two risers from the two SVE recovery wells will bend at the ceiling, connect, and run along the interior demising wall (the AS/SVE layout is provided in Appendix H). The combined risers will penetrate the roof and connect to the roof-mounted AS/SVE skid. The exhaust point of the stack will be three ft above the roof parapet wall, if any.

5.1.3 SVE System Curve

A differential pressure of 0.10 iwc at a specified distance from the recovery well can be created by different combinations of flow and wellhead pressure. The following figure shows the relationship between flow and applied (well head) differential pressure that would create 0.10

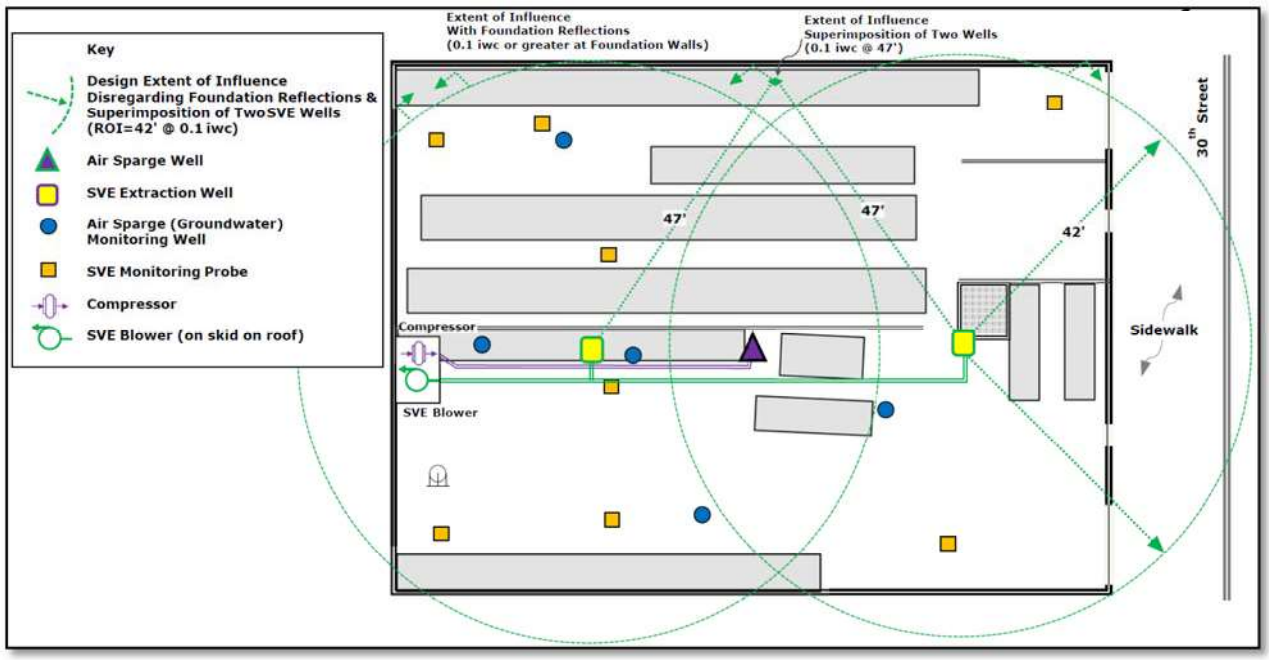
iwc at 42 feet from the recovery well, based on the pilot test. The 42-foot range is adequate to cover all areas in the vadose zone as is discussed below.

Figure 14 Differential Pressure of 0.10 iwc at 42 Ft



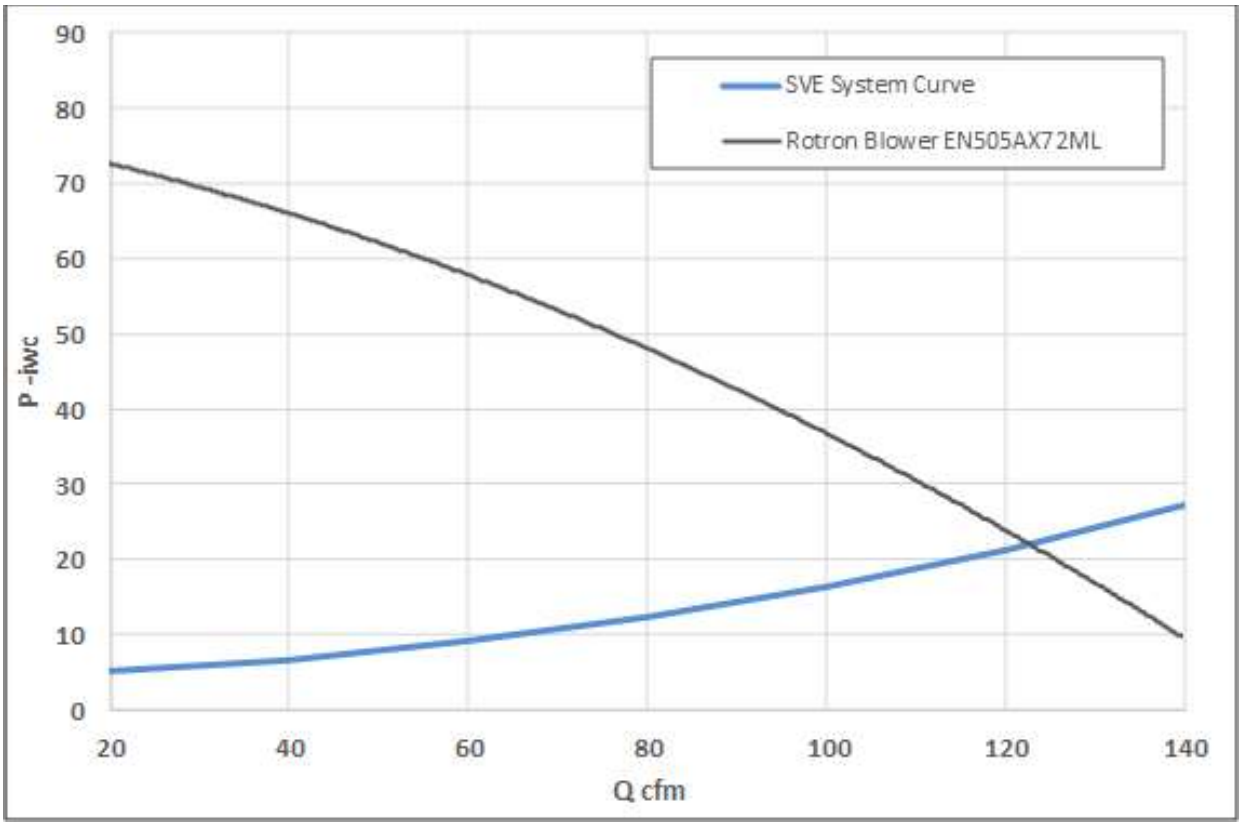
The two SVE recovery wells will work in tandem to create 0.10 iwc in all areas in the vadose zone. The principle of superimposition is used to calculate the influence of two wells working together. Briefly stated, where the areas of influence from each well overlap, both wells contribute to the differential pressure at the points of overlap. Additionally, the reflection effects of the foundation walls identified during the pilot test are considered. Again, this is done using the principle of superimposition. By applying these principles and laying out the influences from the recovery wells, 42 ft was selected as the necessary ROI from each recovery well to achieve 0.10 iwc at each point in the vadose zone.

Figure 15 SVE Radius of Influence



To select the correct blower that will apply adequate well head pressure to, and handle the resulting flow from, each recovery well, the distribution of flow between the wells and the pressure losses in the piping and skid need to be considered. The results of combining these pressure losses and flow divisions with the pressure/flow relationship at each well results in a curve expressing flow versus applied pressure at the blower. This is the system curve (shown below in blue).

Figure 16 System and Blower Curves



The blower curve for a Rotron EN505AX72ML, the selected blower, is also plotted on the above figure in dark gray. Where these two curves meet (22.0 iwc, 122.7 CFM) is the operating point at which the SVE system will operate, given the Site conditions. Based on the expected flow rate, we anticipate an air discharge temperature increase of 15˚C or 27˚F. Assuming a subsurface temperature of 50˚F, the exhaust discharge temperature would be approximately 77˚F.

5.1.4 SVE Air Exchanges

The SVE system operating at 122.7 CFM (flow at the blower with a clean filter) will provide an average turnover of the air in the vadose zone of approximately 7.0 hours. This is equivalent to

3.4 turnovers per 24 hour period. This calculation is based on a porosity of 0.3, average depth to groundwater of 20.7 ft and building dimensions of 100 ft by 75 ft.

5.1.5 SVE Recovery Well Design

RW-2 and RW-3 will be installed consistent with RW-1: four-inch PVC Sch 40, 0.020-inch slot from 1.5-18 ft bgs[8]. The annular space around the wells will be filled with sand from the end of the boring to six inches above the top of the screen. Above the sand, the annuli will be filled with concrete to grade. The seal between the risers and the concrete will be enhanced with the application of a chemically-resistant sealant such as bituthene liquid membrane. The boreholes will be completed with a well cover.

5.2 AIR SPARGE

5.2.1 Air Sparge Layout

The air sparge well will be located between the two SVE wells to maximize the capture of vapors generated by air sparging and to minimize the risk to building inhabitants of vapors crossing the floor slab (Appendix H). Additionally, several groundwater monitoring wells proximal to the proposed air sparging well can be used to evaluate the effectiveness of the air sparging. In particular, GW-5 is located within approximately 19.8 ft of the proposed air sparge well. As this well had the highest concentrations of groundwater contaminants in past testing, the changes in concentrations in the well will provide a good means of evaluating effectiveness.

5.2.2 Air Sparge Design

A single vertical air sparge well will be connected to the air compressor skid via a 2 inch PVC. The sparge well will have the following components:

- A ball valve for flow rate control, a differential pressure gauge, and a pitot tube-type flow sensor located in the immediate vicinity of the sparge well.
- 2-inch casing and screen (Schedule 40 PVC).
- 1-foot screen interval at the base of the well (34 – 35 ft bgs).
- 4-foot annular sand pack from the base of the well to 2 feet above the screen interval (32 ft bgs).
- A grout seal placed above the sand pack (to a depth of 32 ft bgs).

[8] The extraction wells will be screened above and below the silty clay layer expected to be present 6.0-9.5 ft bgs to maintain functionality.

The design parameters for the air sparge well are listed Table 6, below.

Table 6 Design Parameters for Air Sparge Well

Design Parameter	Minimum	Maximum
Air Sparge Flow Rate (CFM)	0	40.0
Air Sparge Pressure (PSI)	6.5	30

The design parameters were based upon the following criteria:

- The minimum and maximum flow rates are based on guidance documents (NAVFAC 2001; USACE 2013).
- The minimum air pressure was calculated based on the minimum pressure required to overcome the hydrostatic head.
- The maximum pressure was determined from the pilot study and the pressure at which a secondary permeability in the aquifer may be created (a function of soil density and the depth of the well completion).

5.3 AS/SVE INSTRUMENTATION & CONTROLS

The AS/SVE system will contain various equipment to refine and direct the pressure/flow. Pressure indicators/transmitters and pitot tubes will be installed to assess the pressure and flow conditions within the system. (The previously-installed vacuum monitoring points will be used to monitor subsurface pressure field extension.) Butterfly valves and a variable frequency drive (VFD) will be installed to control the pressure/flow within the system (see Appendix H for the equipment schedule and proposed locations).

Some of the AS/SVE monitoring and control equipment will be located in an electrical panel located on the first floor. We intend to transmit the pressure/flow readings from the roof-mounted AS/SVE skid to the first floor control panel to limit the need for roof access (there is no access at the moment). The VFD will also be located in the control panel so the SVE system can be balanced using the VFD and butterfly valves, all located on the first floor.

5.4 SSDS DESIGN CRITERION

A design criterion of 0.010 iwc was utilized for the SSDS portion of the design (as opposed to the 0.10 iwc design criterion for the SVE portion of the design); meaning, the SSDS is designed to provide a minimum of 0.010 iwc of differential pressure across the slab (vacuum, defined as a lower pressure beneath the slab than above the slab). United States Environmental Protection Agency (USEPA) Radon Mitigation Standards recommend at least 0.004 iwc of pressure differential across the building slab. We have designed to a higher pressure differential to add a

factor of safety to the design and to take into account that a radon type fan operates at lower pressures; however, differential pressure of 0.004 iwc across the slab is acceptable, according to USEPA. Should the SVE system be no longer effective as an SVE, the pressures will be lowered and the SVE will operate as an SSDS only to achieve 0.010 iwc pressure differential across the slab in the VMPs.

6 PRE- AND POST-CONSTRUCTION ACTIVITIES

6.1 PRE-CONSTRUCTION SAMPLING

Prior to constructing the remediation system, groundwater and soil vapor samples will be collected. Groundwater samples will be collected from the on-Site wells and from three nearby wells [MW-1, MW-2, and MW-5 (Figure 17)]. Soil vapor samples will be collected (in Tedlar bags) from all sub-slab and vacuum monitoring points. Groundwater and soil vapor samples will be analyzed for PCE, TCE, 1,2-DCE, VC, and isopropanol.

6.2 MONITORING DURING SYSTEM STARTUP

A series of measurements will be collected at the startup of the remediation system. Immediately prior to starting the SVE system, groundwater levels and DO concentrations will be recorded. Pressure measurements will be collected from all sub-slab points and VMPs. Upon SVE system startup, flow rate and pressure at the SVE risers will be recorded, and pressure measurements from all sub-slab points and VMPs will be collected. After the air sparge is initiated, pressure measurements, groundwater levels, and DO concentrations will continue to be monitored on a recurring basis until two consistent sets of results are obtained.

A log sheet for the measurements collected during system startup is provided in Appendix I.

6.3 POST-CONSTRUCTION ACTIVITIES

6.3.1 Post-Construction Vacuum Monitoring

Pressure measurements will be collected from all sub-slab and vacuum monitoring points to evaluate the effectiveness of the AS/SVE system achieving the design pressure of 0.10 iwc.

6.3.2 Post-Construction Sampling

6.3.2.1 Groundwater & Soil Vapor

On a quarterly basis, groundwater and soil vapor samples will be collected following the same procedure as described above in the Pre-Construction Sampling section (Section 6.1). The data collected from these events will be used to quantify contaminant reductions and to evaluate overall system effectiveness.

Once the quarterly grab samples have indicated a sustained reduction in contaminant levels, sub-slab and indoor air samples will be collected and analyzed to evaluate treatment

effectiveness. Upon authorization by NYSDEC, the AS/SVE system will be temporarily shut down and air samples will then be collected. The air samples will be collected in stainless-steel canisters for an eight-hour duration and analyzed for PCE, TCE, 1,2-DCE, VC, and isopropanol.

6.3.2.2 Knockout Tank Water

Prior to disposal, the knockout tank water will be sampled and analyzed. The knockout tank water will be disposed of in accordance with applicable Federal, State, and Local laws and regulations.

7 SCHEDULE

Below is a schedule for the installation of the remediation system. We have included provisions for a Comfort Letter from NYSDEC in the schedule. The Comfort Letter is intended to provide the Volunteer with NYSDEC's agreement on the remediation approach and system design. Having NYSDEC's agreement in principle will allow the Volunteer to spend money on the remediation prior to the end of the public notice period with a reasonable assurance that its implementation as proposed will be approved by NYSDEC, thereby permitting a shortening of the schedule.

Table 7. Schedule

Task	Task Duration	Date Completed / Scheduled
NYSDEC/NYSDOH Approval of IRM WP	--	5/29/2015
Install SVE Recovery Well, Monitoring Points, and Air Injection Well	--	8/8/2015
Conduct SVE Pilot Test & Air Injection Pilot Test (Attempted)	--	10/3/2015
Reinstall Air Injection Well	--	10/16/2015
Conduct SVE Pilot Test & Air Injection Pilot Test	--	11/2/2015
Design SVE (with Air Injection) System	--	11/23/2015
Prepare Design Document	--	11/30/2015
Submit Draft Results of Pilot Test and Draft IRM Design	--	11/30/2015
Receive Comments from NYSDEC on Draft IRM Design	--	1/21/2016
Volunteer & NYSDEC Agree on Proposed Remedial Approach	--	2/10/2016
Submit Revised Draft IRM Design Document	--	3/4/2016
NYSDEC Review of Revised Draft IRM Design Document		3/22/2016
Finalize IRM Design Document		3/29/2016
Preparation of Fact Sheet (NYSDEC)	1 Week	4/5/2016
Translation of Fact Sheet to Spanish (Volunteer)	2 Weeks	4/15/2016
Public Notice of IRM Design (Start)	--	4/18/2016
Receive a Comfort Letter from NYSDEC re: Design Agreement	--	4/29/2016
Public Notice of IRM Design (End)	45 Days	6/2/2016
Compilation of Public Comments & NYSDEC Approval	1 Week	6/10/2016

Task	Task Duration	Date Completed / Scheduled
Contracting / Procurement	4 Weeks[9]	7/8/2016
System Installation	2 Weeks[10]	7/22/2016
System Start-up & Balancing	1 Week	7/29/2016
Prepare AS/SVE Operations & Maintenance Manual	4 Weeks	8/26/2016

We will notify NYSDEC at least one week prior to installing the system.

[9] We may be able to reduce the contracting and procurement time, depending upon the availability of the contractor and of the system components, and upon the receipt of the Comfort Letter.

[10] Weather and conditions permitting

8 KEY PROJECT CONTACT LIST

Table 8. Key Contact List

Name	Title	Phone Number	E-mail
Ruth Curley	NYSDEC Project Manager	(518) 402-9480	ruth.curley@dec.ny.gov
Christopher Doroski	NYSDOH Project Manager	(518) 402-7870	christopher.doroski@health.ny.gov
Keith Brodock, P.E.	Integral Project Manager	(212) 440-6702	kbrodock@integral-corp.com
Zhong Chuang Properties LLC	Volunteer		
James J. Periconi, Esq.	Attorney for Volunteer	(212) 213-5500	jpericoni@periconi.com

9 BIBLIOGRAPHY

Freeze, R. Allan and John A. Cherry. 1979. Groundwater. Prentice Hall, Inc. Upper Saddle River, NJ.

Integral Engineering, P.C. 2015. Data Evaluation Report. Former Bridge Cleaners, 39-26 30th St, Long Island City, NY. BCP Site No. C241127. July 1, 2015.

Kuo, Jeff. 1998. Practical design calculations for groundwater and soil remediation. Lewis Publishers, an imprint of CRC Press LLC.

NAVFAC. 2001. NFESC Technical Report TR-2193-ENV. Final Air Sparging Guidance Document. Contract N47408-95-D-0730. Delivery Order No. 0090/0123. Prepared for Naval Facilities Engineering Service Center, 1100 23rd Avenue, Port Hueneme, California 93043. Prepared by Battelle 505 King Avenue, Columbus OH 43201-2693. August 31, 2001.

NYSDEC. 1991. Guidelines for the Control of Toxic Ambient Air Contaminants (DAR-1). New York State Department of Environmental Conservation, Division of Air Resources.

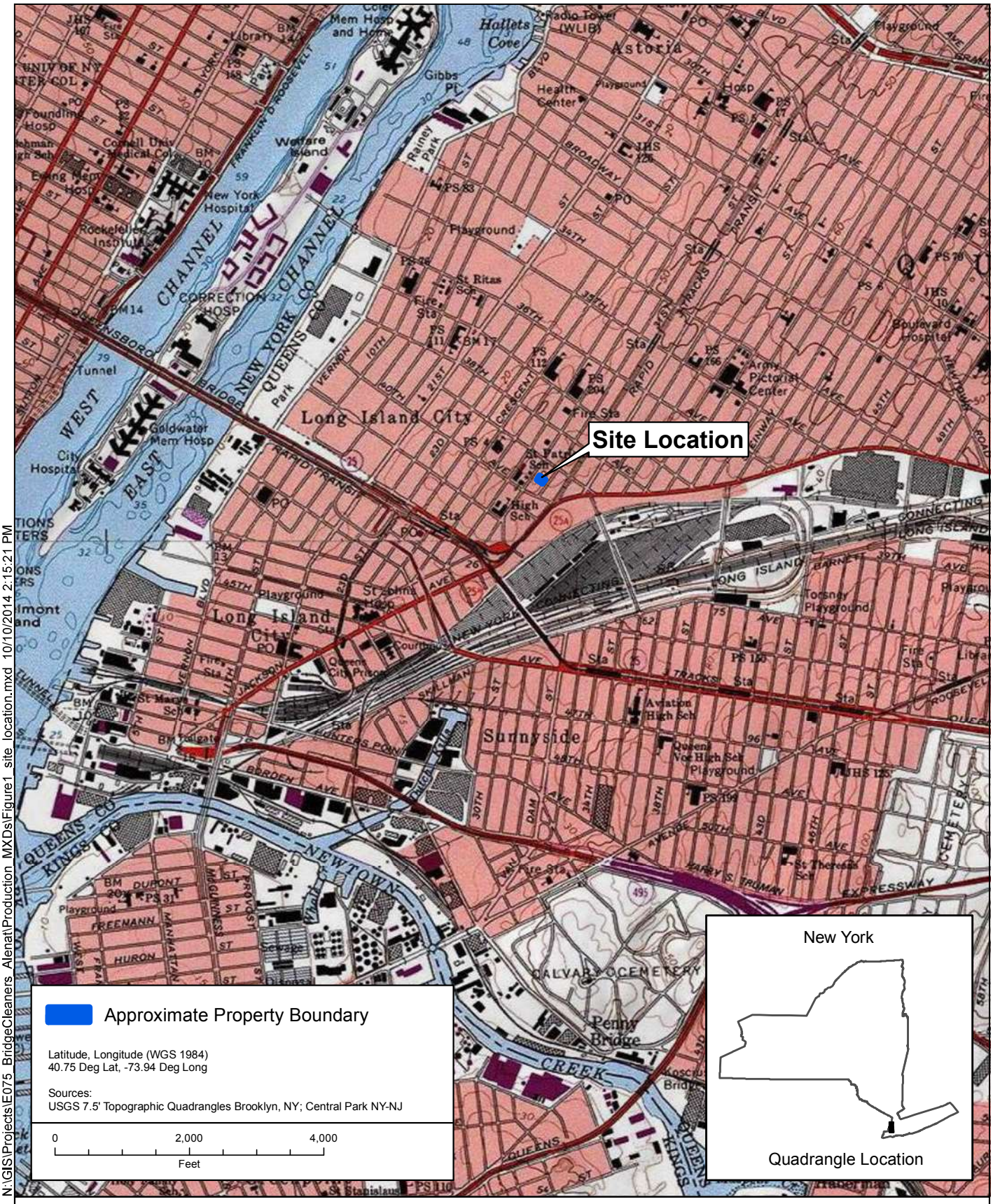
NYSDEC. 2010. Technical guidance for site investigation and remediation (DER-10). New York State Department of Environmental Conservation, Division of Environmental Remediation.

Soren, Julian. 1978. Subsurface geology and paleogeography of Queens County, Long Island, New York. U.S. Geological Survey. February 1978.

TechSolutions Engineering, P.C. 2014. Remedial Investigation Report. Former Bridge Cleaners. June 2014.

USACE. 2013. In-Situ Air Sparging Engineer Manual. EM 200-1-19. United States Army Corps of Engineers, Washington, DC. December 2013.

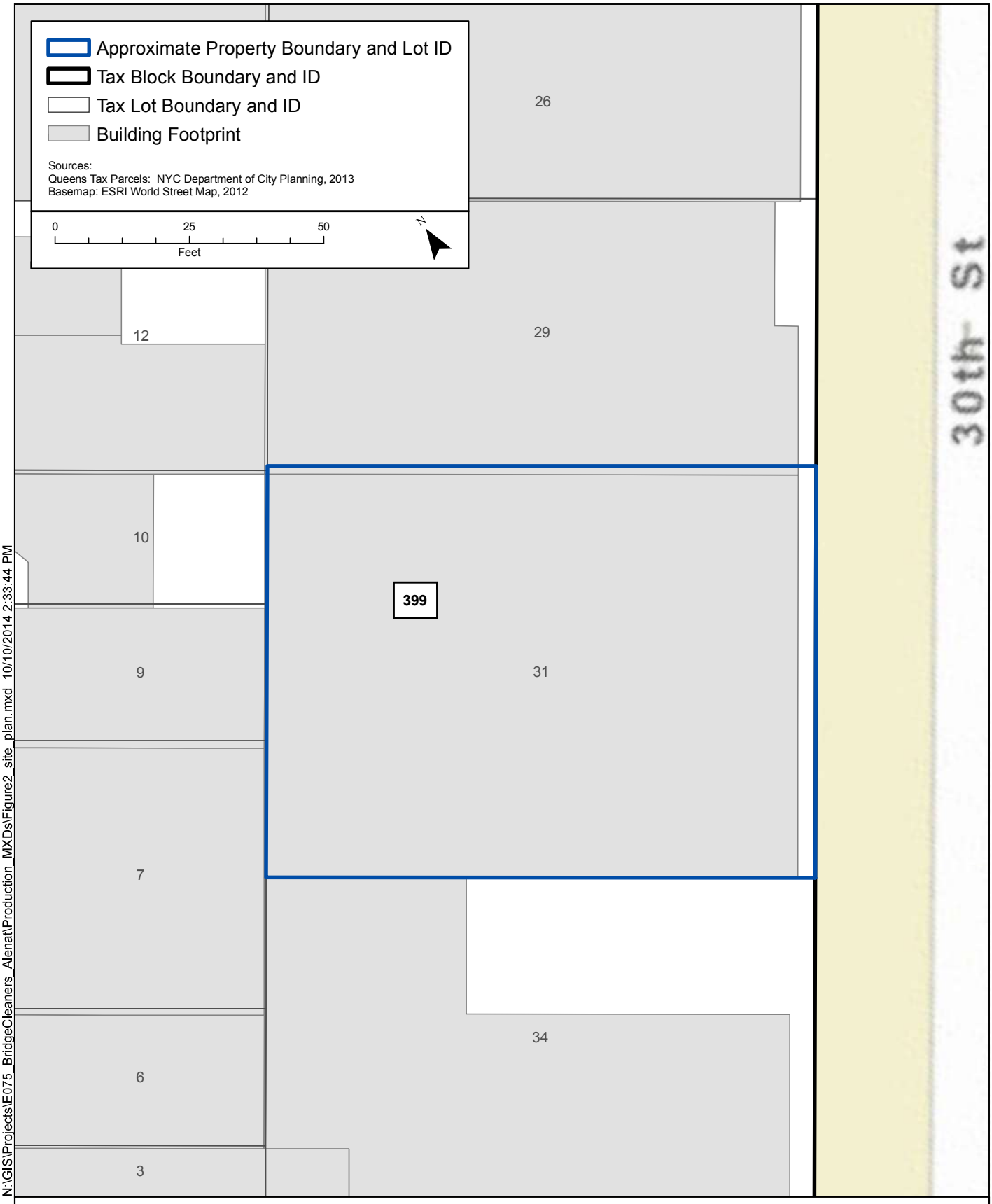
FIGURES



N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\Figure1_site_location.mxd 10/10/2014 2:15:21 PM

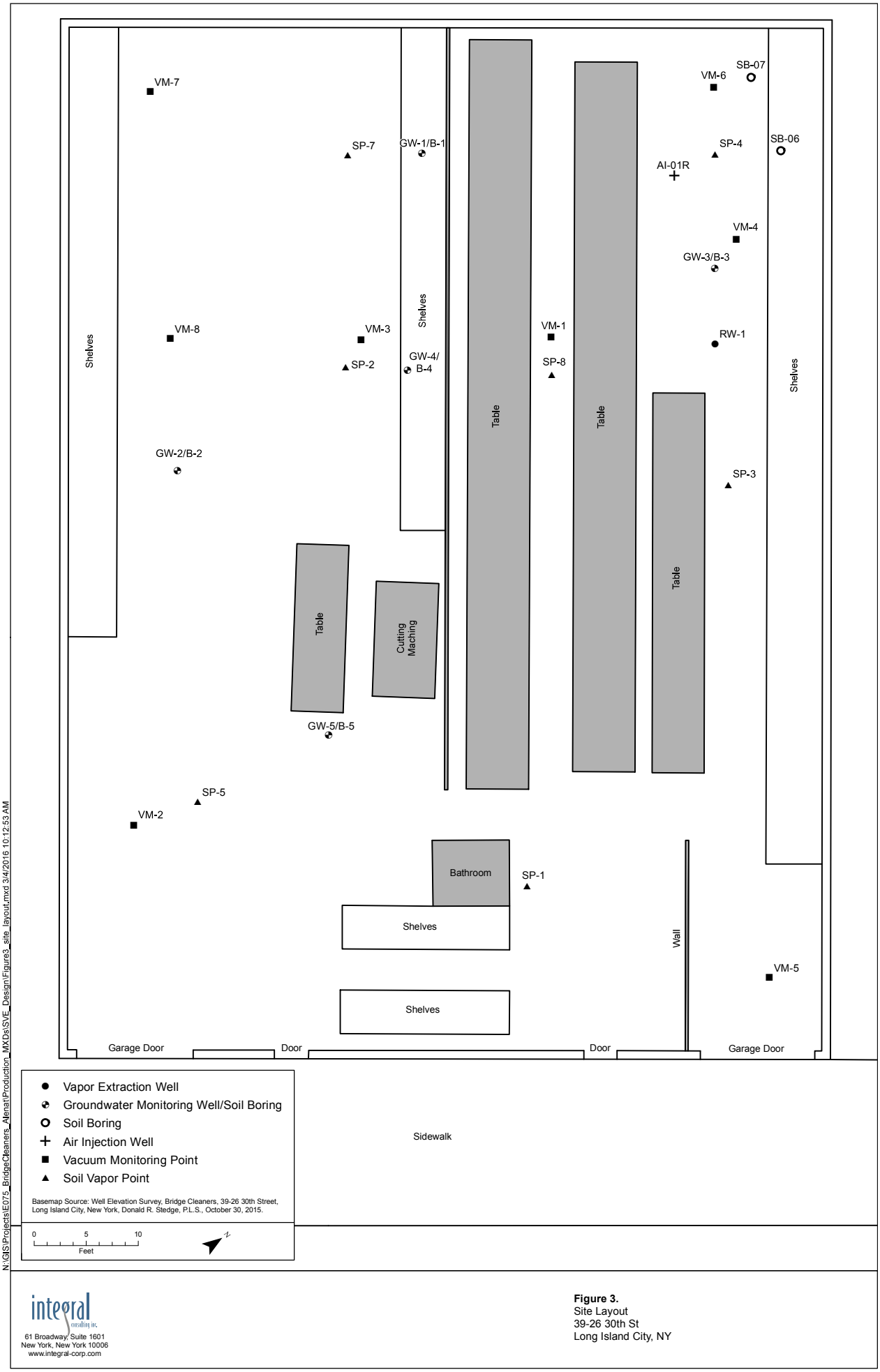
integral engineering p.c.
61 Broadway, Suite 1601
New York, New York 10006
www.integral-corp.com

Figure 1.
Site Location Map
39-26 30th St.
Long Island City, NY



integral engineering p.c.
61 Broadway, Suite 1601
New York, New York 10006
www.integral-corp.com

Figure 2.
Site Plan
39-26 30th St
Long Island City, NY



N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\SVE_Design\Figure3_site_layout.mxd 3/4/2016 10:12:53 AM

integral consulting inc.
61 Broadway, Suite 1601
New York, New York 10006
www.integral-corp.com

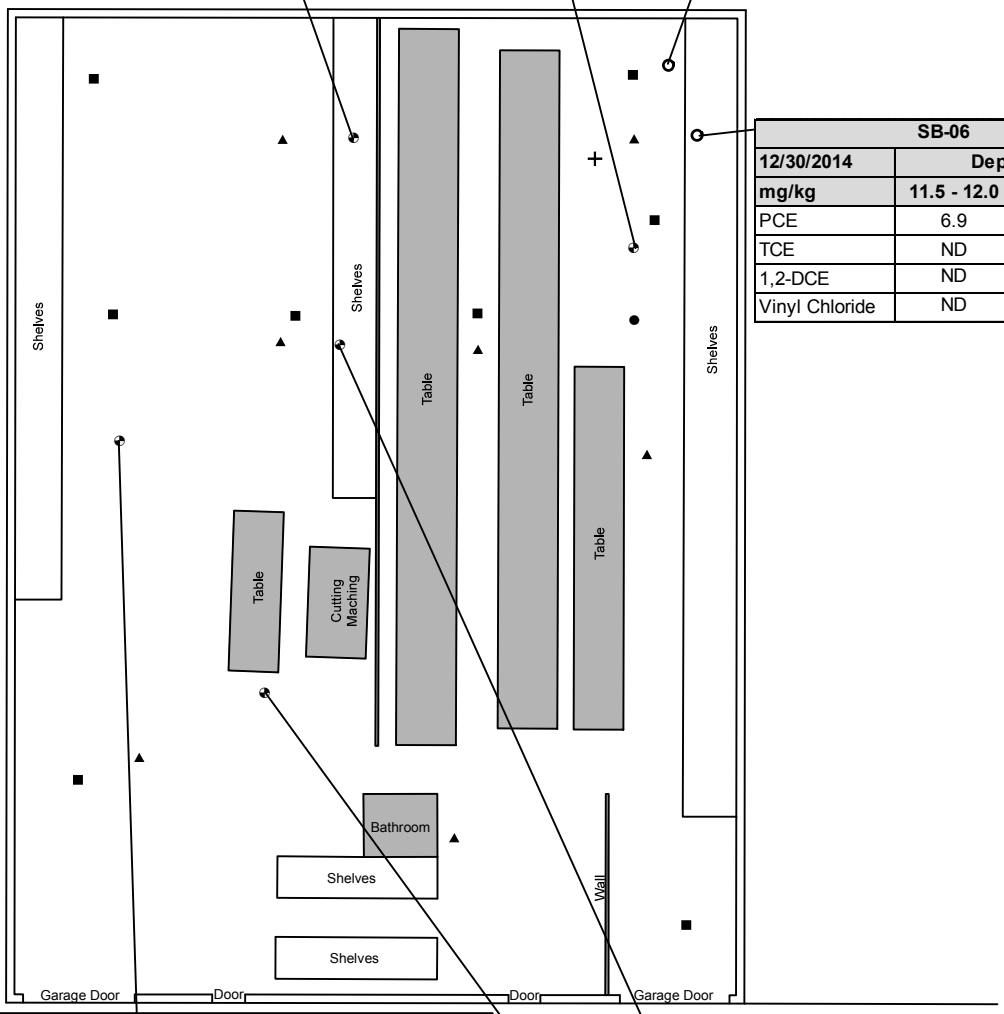
Figure 3.
Site Layout
39-26 30th St
Long Island City, NY

B-3				
1/13/2014	Depth (ft)			
mg/kg	2.5 - 3.0	8.0 - 8.5	13.0 - 13.5	17.5 - 18.0
PCE	0.0086	0.0069	0.0022J	0.0023J

B-1				
1/13/2014	Depth (ft)			
mg/kg	4.5 - 5.0	9.5 - 10.0	14.5 - 15.0	19.5 - 20.0
PCE	0.0033J	0.0037J	0.0039J	0.153
TCE	ND	ND	ND	0.0092J
1,2-DCE	ND	ND	ND	0.0011J

SB-07			
12/30/2014	Depth (ft)		
mg/kg	0 - 4	0-4 (dup)	15.0 - 17.5
PCE	4.8	9.6	1.8
TCE	ND	ND	ND
1,2-DCE	ND	ND	ND
Vinyl Chloride	ND	ND	ND

SB-06		
12/30/2014	Depth (ft)	
mg/kg	11.5 - 12.0	17.5 - 18.5
PCE	6.9	0.087
TCE	ND	ND
1,2-DCE	ND	ND
Vinyl Chloride	ND	ND



B-2				
1/13/2014	Depth (ft)			
mg/kg	3.0 - 3.5	8.0 - 8.5	13.0 - 13.5	19.5 - 20.0
PCE	0.208	0.0058J	0.0035J	0.0013J
TCE	0.0043J	ND	ND	ND

B-4				
1/13/2014	Depth (ft)			
mg/kg	3.0 - 3.5	8.0 - 8.5	13.5 - 14.0	19.5 - 20.0
PCE	0.0033J	0.0124	0.0071J	0.0077

B-5				
1/13/2014	Depth (ft)			
mg/kg	4.5 - 5.0	9.5 - 10.0	13.0 - 13.5	18.5 - 19.0
PCE	0.0085	0.00092J	0.0012J	0.00095J

- Vapor Extraction Well
- Groundwater Monitoring Well/Soil Boring
- Soil Boring
- Air Injection Well
- Vacuum Monitoring Point
- Soil Vapor Point

Basemap Source: Well Elevation Survey, Bridge Cleaners, 39-26 30th Street, Long Island City, New York, Donald R. Stedge, P.L.S., October 30, 2015.

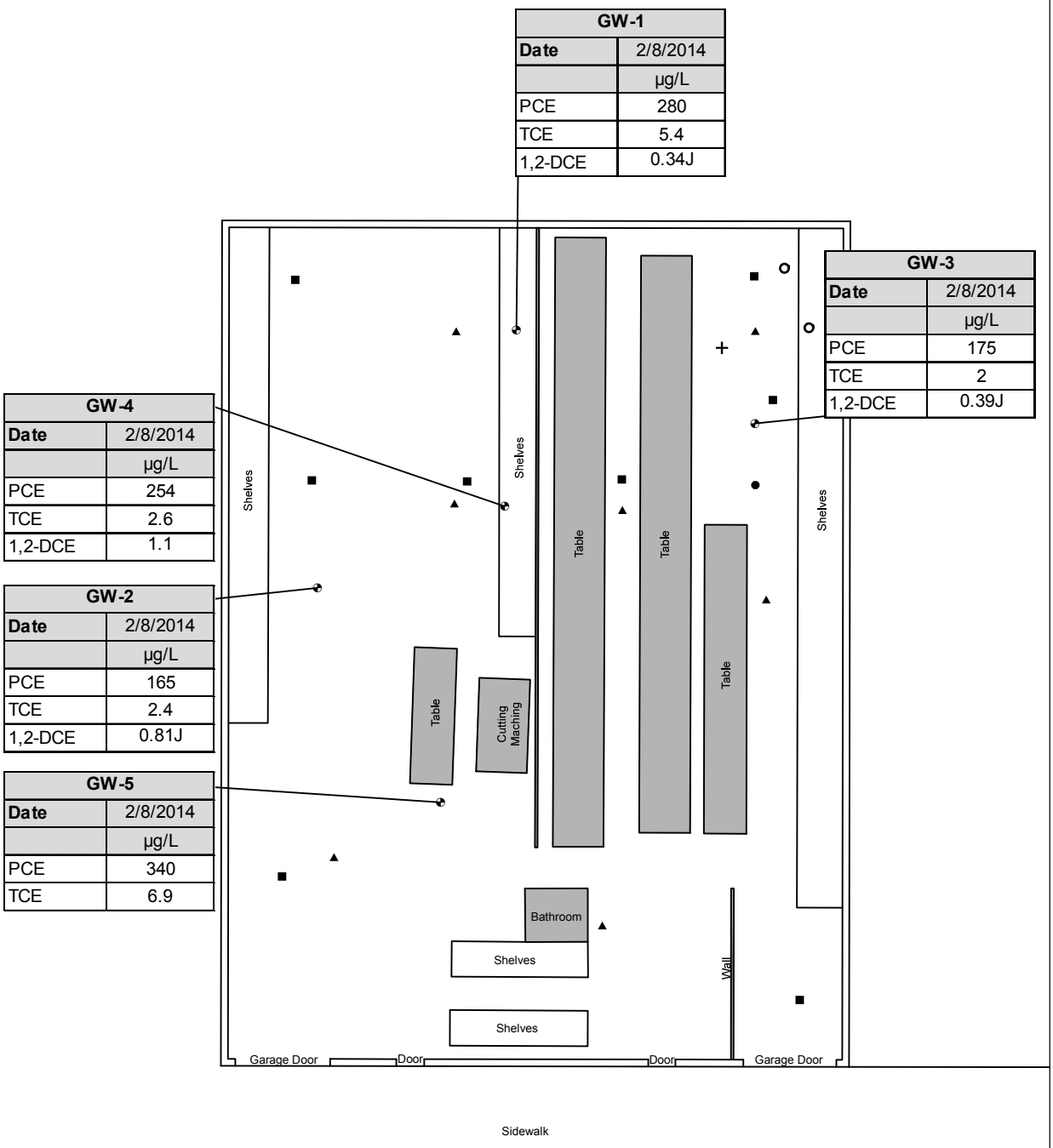
0 10 20
Feet

N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\SVE_Design\Figure4_Soil_Results.mxd 3/4/2016 9:58:29 AM

integral consulting inc.
61 Broadway, Suite 1601
New York, New York 10006
www.integral-corp.com

PCE = Tetrachloroethene
TCE = Trichloroethene
1,2-DCE = cis-1,2-Dichloroethene
ND = Not detected

Figure 4.
Soil Sampling Results
39-26 30th St
Long Island City, NY



- Vapor Extraction Well
- Groundwater Monitoring Well/Soil Boring
- Soil Boring
- Air Injection Well
- Vacuum Monitoring Point
- Soil Vapor Point

Basemap Source: Well Elevation Survey, Bridge Cleaners, 39-26 30th Street, Long Island City, New York, Donald R. Stedge, P.L.S., October 30, 2015.

0 10 20
Feet

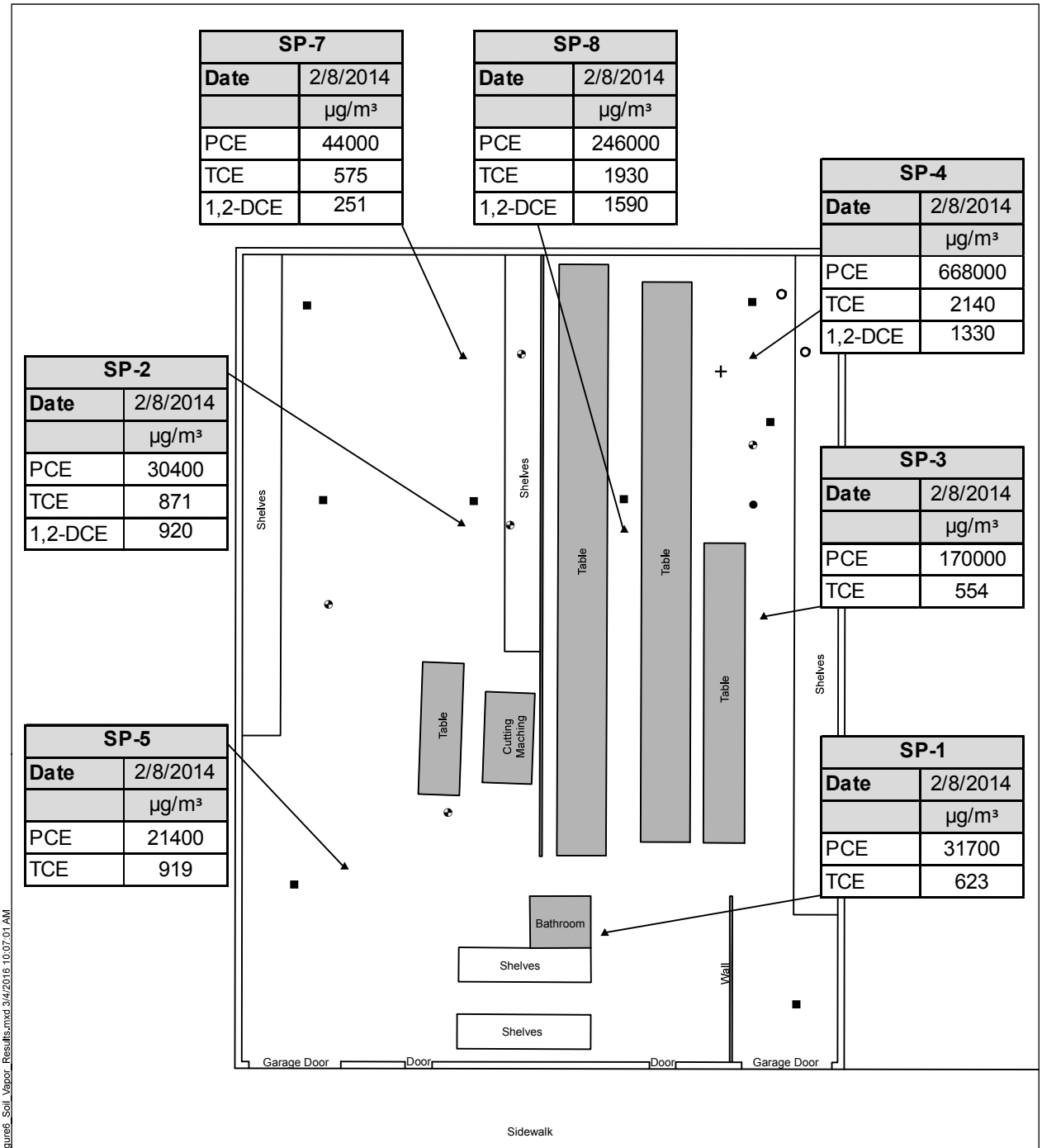
N

N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\SVE_Design\Figure5_GW_Results.mxd 3/4/2016 10:04:01 AM

integral consulting inc.
61 Broadway, Suite 1601
New York, New York 10006
www.integral-corp.com

PCE = Tetrachloroethene
TCE = Trichloroethene
1,2-DCE = cis-1,2-Dichloroethene (Not detected results not shown)

Figure 5.
Groundwater Sampling Results
39-26 30th St
Long Island City, NY



- Vapor Extraction Well
- Groundwater Monitoring Well/Soil Boring
- Soil Boring
- Air Injection Well
- Vacuum Monitoring Point
- Soil Vapor Point

Basemap Source: Well Elevation Survey, Bridge Cleaners, 39-26 30th Street, Long Island City, New York, Donald R. Stedge, P.L.S., October 30, 2015.

0 10 20
Feet

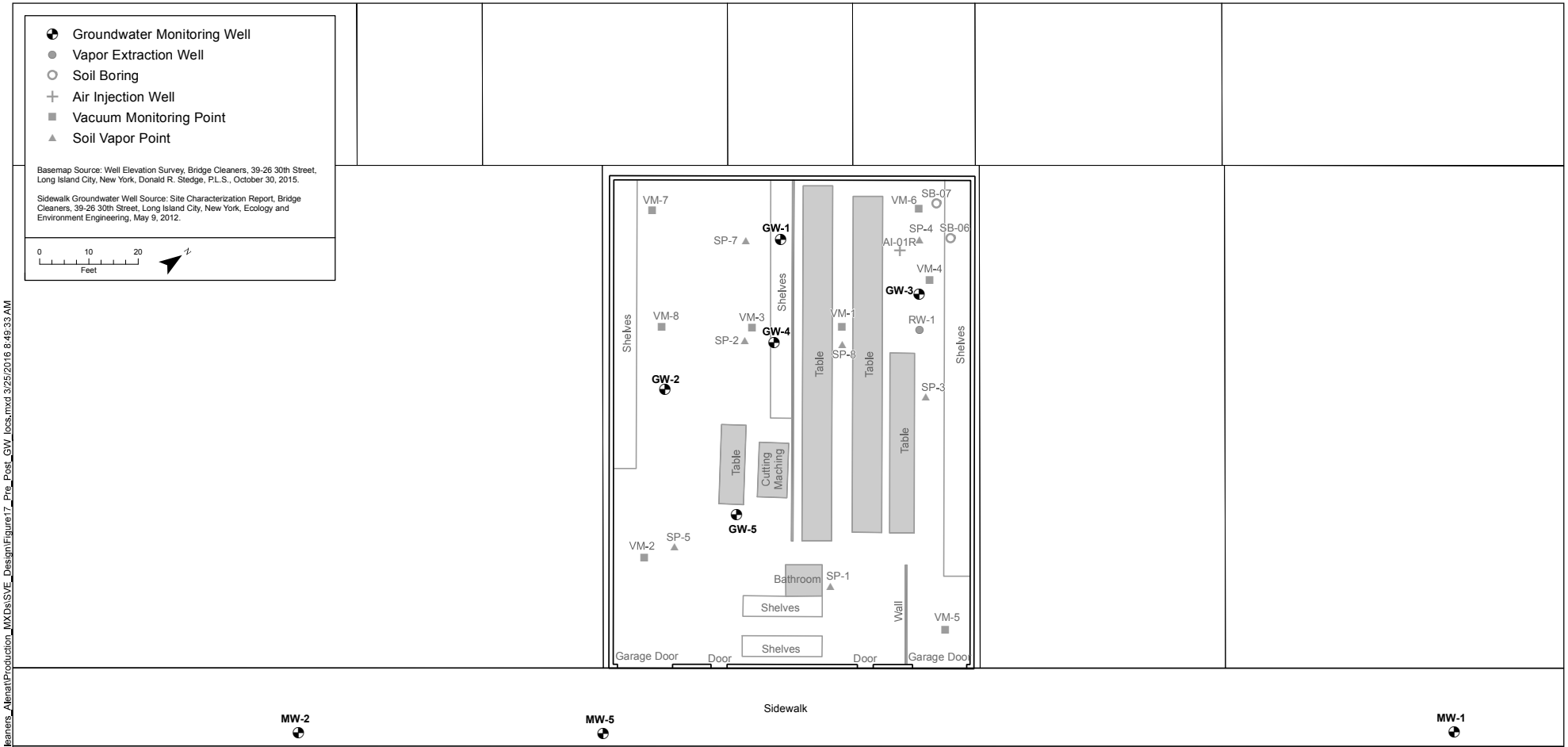
N

N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\SVE_Design\Figure6_Soil_Vapor_Results.mxd 3/4/2016 10:07:01 AM

integral consulting inc.
61 Broadway, Suite 1601
New York, New York 10006
www.integral-corp.com

PCE = Tetrachloroethene
TCE = Trichloroethene
1,2-DCE = cis-1,2-Dichloroethene (Not detected results not shown)

Figure 6.
Soil Vapor Sampling Results
39-26 30th St
Long Island City, NY



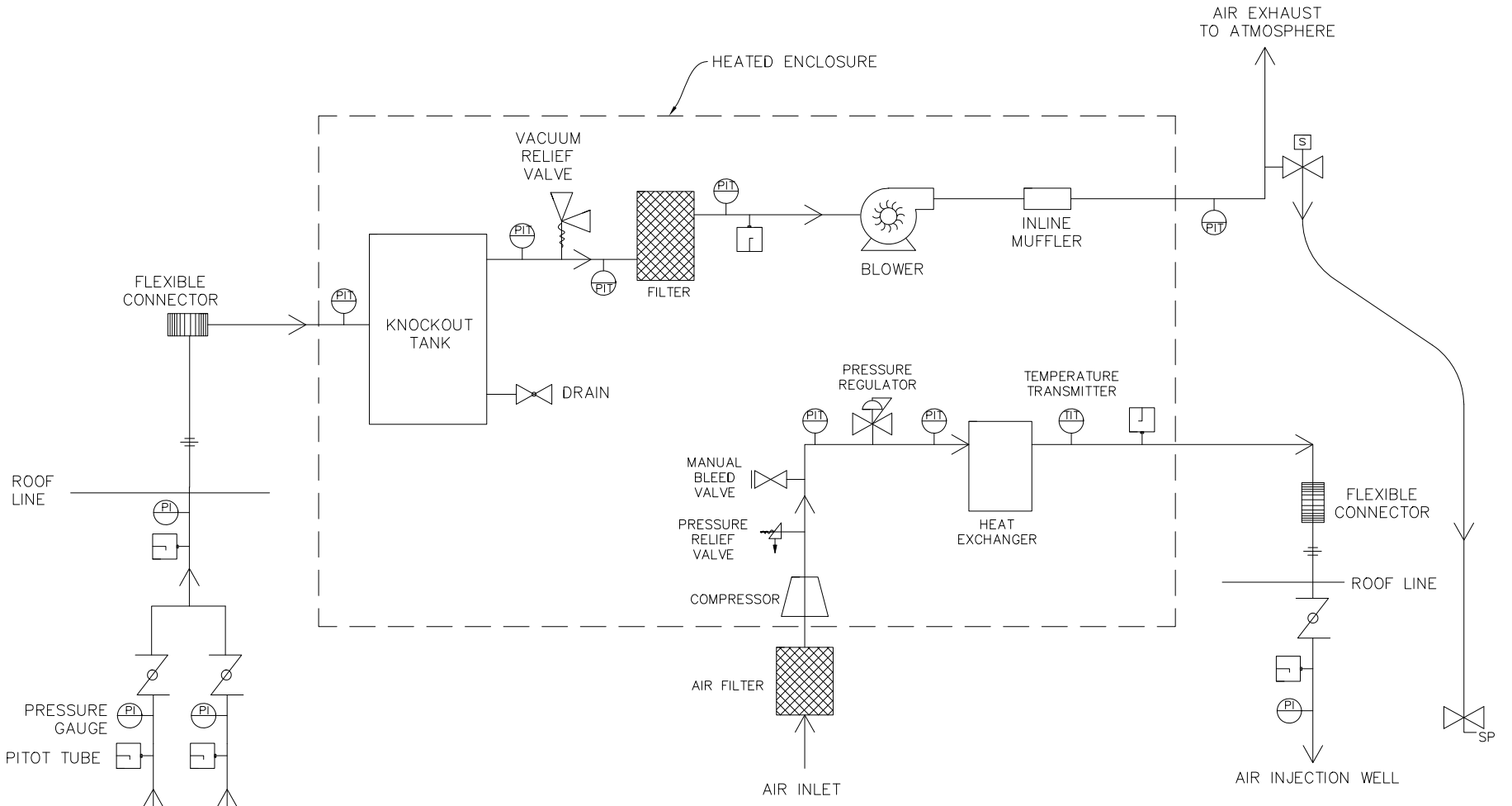
N:\GIS\Projects\E075_BridgeCleaners_Alenat\Production_MXDs\SVE_Design\Figure17_Pre_Post_GW_locs.mxd 3/25/2016 8:49:33 AM

integral consulting inc.
61 Broadway, Suite 1601
New York, New York 10006
www.integral-corp.com

Figure 17.
Pre- and Post-Construction Groundwater Sampling Locations
39-26 30th St
Long Island City, NY

APPENDIX H

AS/SVE DESIGN PLANS & ELEVATIONS



NOT TO SCALE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

STATE OF NEW YORK
KEITH P. BRODOCK
089004
LICENSED PROFESSIONAL ENGINEER

KEITH P. BRODOCK P.E. 3/29/2016
NYSPE No. 089004 DATE

REV	DATE	DESCRIPTION	APP
0	3-29-2016	AS/SVE FOR REGULATORY APPROVAL	

DRN	CHK	APP'D
MM	KPB	KPB
3-29-2016	3-29-2016	3-29-2016
NOT TO SCALE		
H1_PFD.dwg		
E075		

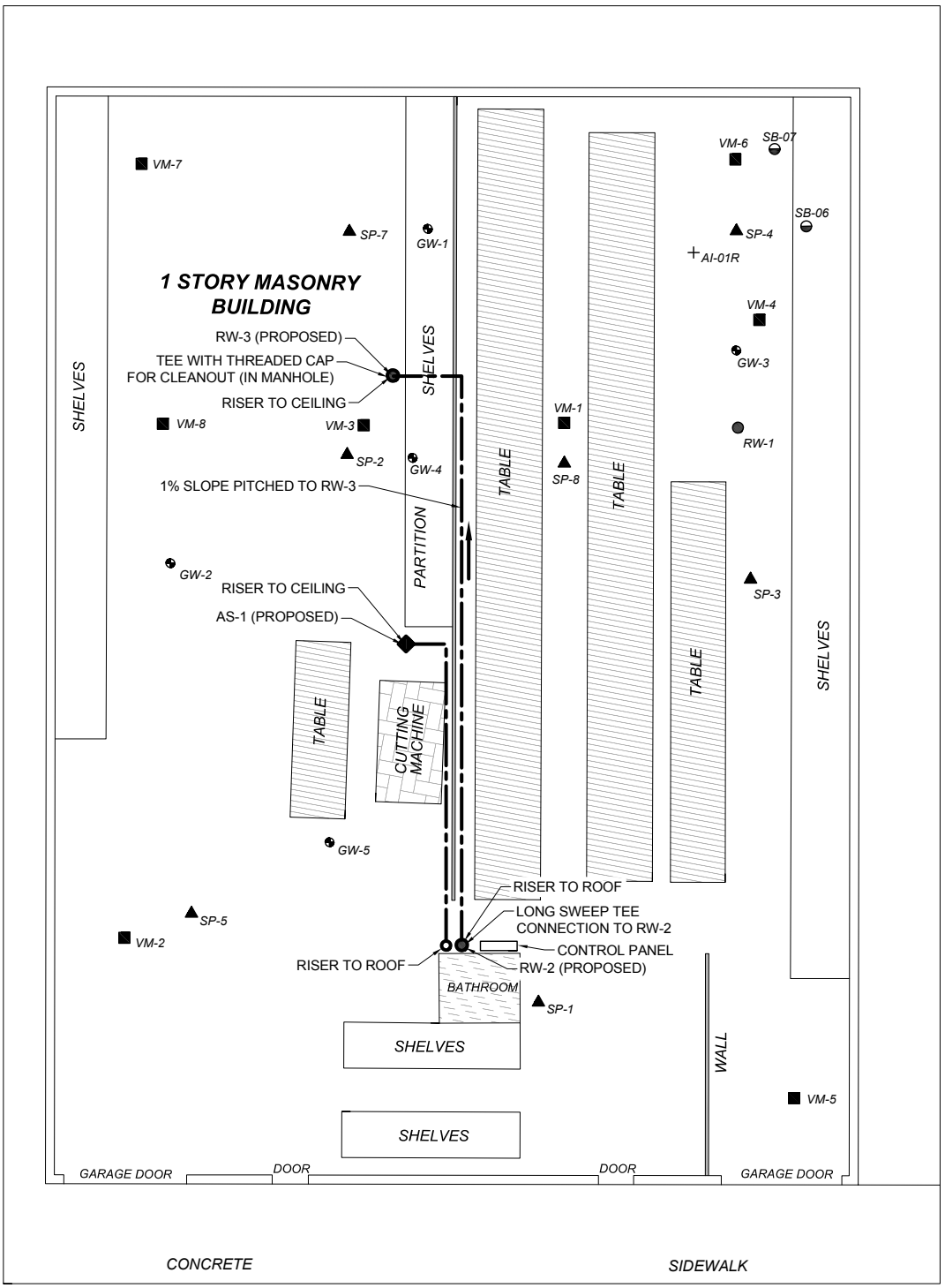
integral engineering p.c.
61 BROADWAY, SUITE 1601
NEW YORK, NEW YORK 10007
www.integral-corp.com

ZHONG CHUANG PROPERTIES LLC
BRIDGE CLEANERS SITE
39-26 30th ST
LONG ISLAND CITY NEW YORK

PROCESS FLOW DIAGRAM

SHEET **H1**
OF **4** REV **0**

N:\GIS\Projects\E075_BridgeCleaners_Alenat\CAD\Production Drawings\SVE_Design\H1_PFD.dwg 3/29/2016 4:44:59 PM



PVC PIPE
AIR SPARGE WELL
VAPOR EXTRACTION WELL
GROUNDWATER MONITORING WELL/SOIL BORING
SOIL BORING
AIR INJECTION WELL
VACUUM MONITORING POINT
SOIL VAPOR POINT

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

0 2.5 5 10 Feet
THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

STATE OF NEW YORK
KEITH P. BRODOCK
LICENSED PROFESSIONAL ENGINEER
089004

KEITH P. BRODOCK, P.E.
NYSPE No. 089004
3/29/2016
DATE

REV	DATE	DESCRIPTION	APP
0	3-29-2016	AS/SVE FOR REGULATORY APPROVAL	

DRAWN	DATE	SCALE	FILE
SB	3-29-2016	1" = 10'	H2_1st_Floor_Layout.dwg
CHK	DATE	SCALE	REF
KPB	3-29-2016		E075

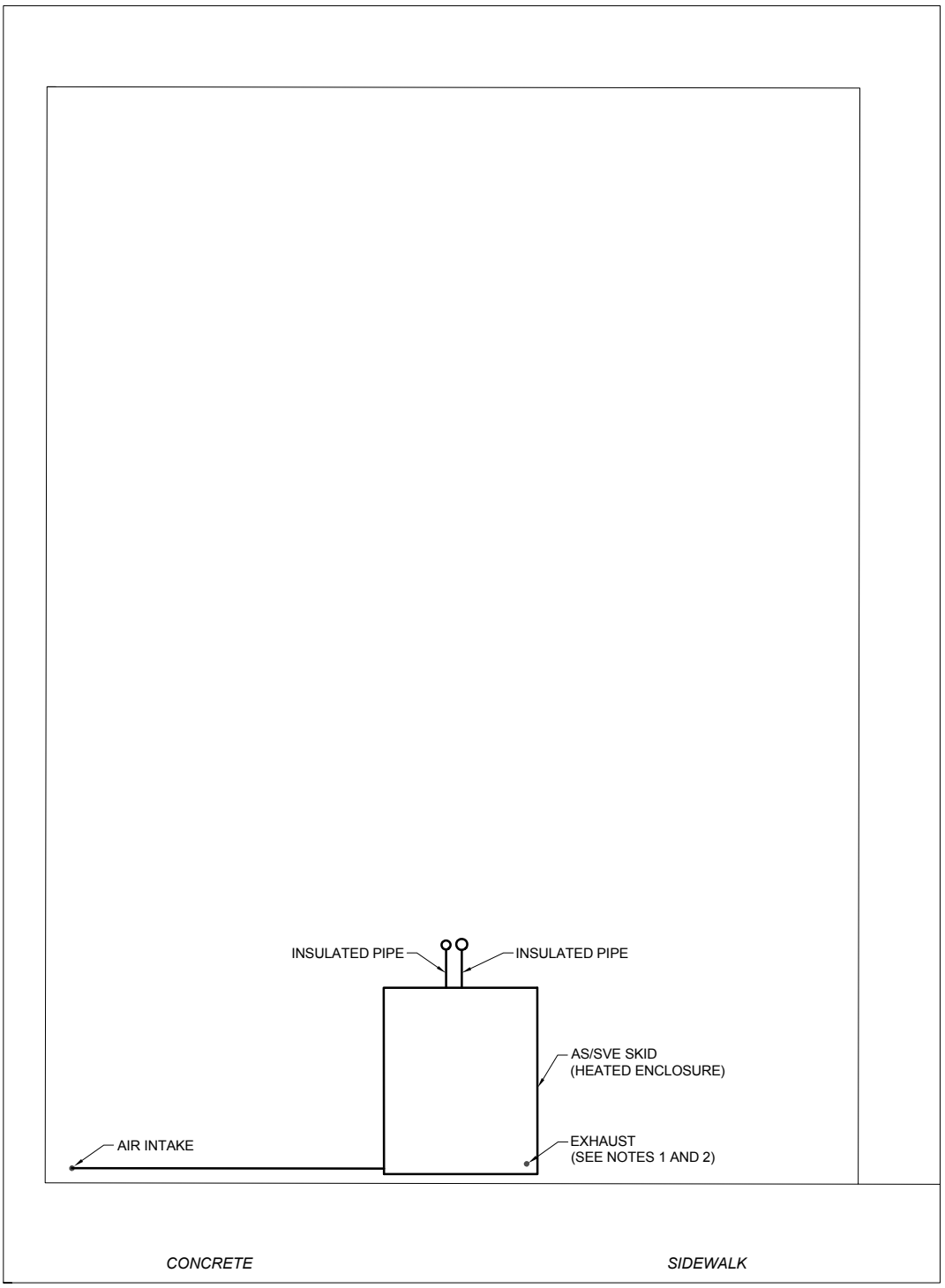
integral engineering p.c.
61 BROADWAY, SUITE 1601
NEW YORK, NEW YORK 10007
www.integral-corp.com

ZHONG CHUANG PROPERTIES LLC
BRIDGE CLEANERS SITE
39-26 30th ST
LONG ISLAND CITY NEW YORK

1st FLOOR PLAN

SHEET **H2**
OF **4** REV **0**

N:\GIS\Projects\E075_BridgeCleaners_Alenat\CAD\Production Drawings\SVE_Design\H2_1st_Floor_Layout.dwg 3/29/2016 4:45:31 PM



APP	DESCRIPTION	DATE	REV
	AS/SVE FOR REGULATORY APPROVAL	3-29-2016	0

DRAWN	SB	3-29-2016	
DES'D	MM	3-29-2016	
CHK'D	KPB	3-29-2016	
ZONE/ SCALE		1" = 10'	
SHEET REF.		H3_Roof.dwg	
PROJECT NO.		E075	

integral engineering p.c.
61 BROADWAY, SUITE 1601
NEW YORK, NEW YORK 10007
www.integral-corp.com

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY, NEW YORK

ROOF LAYOUT

SHEET **H3**

OF **4** REV **0**

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

NOTES:

1. SVE EXHAUST SHALL BE LOCATED AT LEAST 25 FT AWAY FROM ANY OPERABLE WINDOW.
2. SVE EXHAUST DISCHARGE SET AT 3 FT ABOVE ROOFLINE.

0 2.5 5 10 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

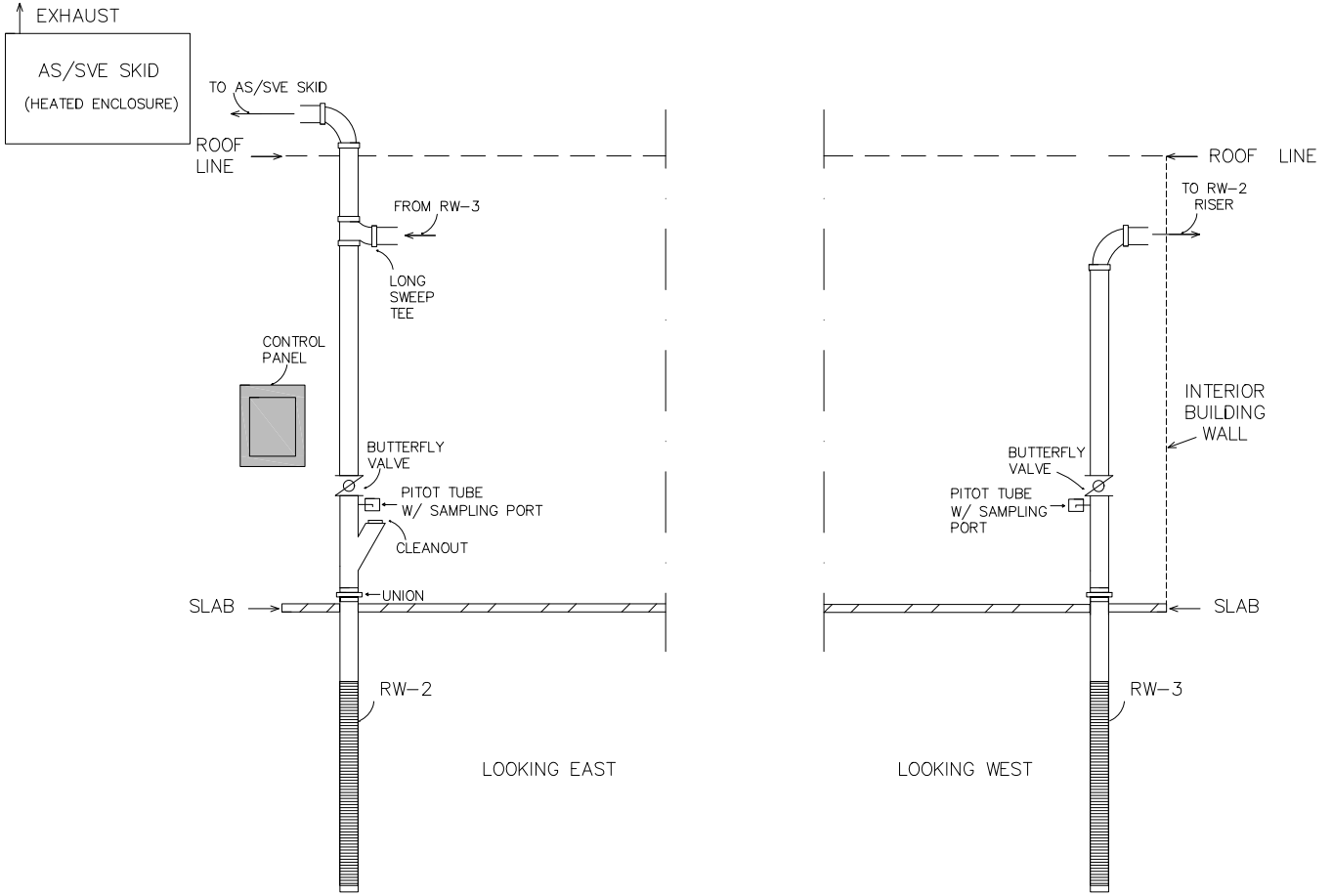
STATE OF NEW YORK
KEITH P. BRODOCK
089004
LICENSED PROFESSIONAL ENGINEER

3/29/2016
DATE

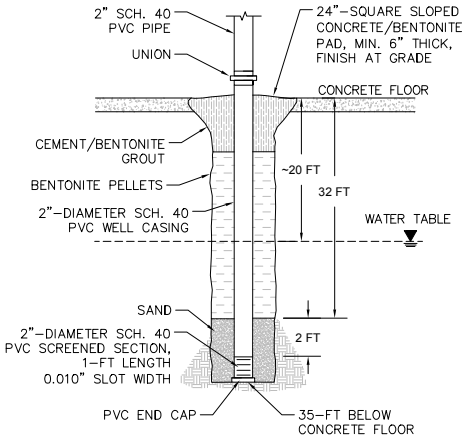
KEITH P. BRODOCK, P.E.
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

N:\ GIS\ Projects\ E075_BridgeCleaners_Alenat\ CAD\ Production Drawings\ SVE_Design\ H3_Roof.dwg 3/29/2016 4:46:08 PM



NOT TO SCALE



AIR SPARGE WELL DETAIL

NOT TO SCALE

REV	DATE	DESCRIPTION	APP
0	3-29-2016	AS/SVE FOR REGULATORY APPROVAL	

DATE	DATE	DATE	
3-29-2016	3-29-2016	3-29-2016	H4_SVE Elevations.dwg
MM	KPB	KPB	NOT TO SCALE
DRN	CHK	APVD	PROJ # E075

integral engineering pc
61 BROADWAY, SUITE 1601
NEW YORK, NEW YORK 10007
www.integral-corp.com

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST
LONG ISLAND CITY NEW YORK

AS/SVE SYSTEM ELEVATIONS

SHEET **H4**
OF 4 REV 0

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

STATE OF NEW YORK
KEITH P. BRODOCK
089004
LICENSED PROFESSIONAL ENGINEER

KEITH P. BRODOCK, P.E.
NYSPE No. 089004

8/29/2016
DATE

N:\GIS\Projects\E075_BridgeCleaners_Alenat\CAD\Production Drawings\SVE_Design\H4_SVE Elevations.dwg 3/29/2016 4:46:38 PM

APPENDIX B

NON-HAZARDOUS MANIFEST FOR INSTALLATION WASTE DISPOSAL

AARCO Environmental Services Corp.

DAILY JOB REPORT

Customer: Integral Date: 6-8-18 Weather: Sunny 80°

Job Location: 39-26 30th St. Job #: 15-233161. Day of Week: Friday

Description of Work: Picked up 11 Drums on Box Truck. On Site 8AM to 9:30AM. Sealed Air Leak In SUE well. Inspected System.

Manifest # 66489 Approval # _____ Gallons/Yards 11 Drums

Manifest # NA Approval # NA Gallons/Yards NA

Start Time: 5AM Leave Shop: 5:30AM.

Arrive on Job Site: 7:45 AM. Leave Job Site (1): 11 AM Total Hrs On-Site: _____

Arrive at Shop: _____ Clock Out Time: _____ Total Hrs for Day: _____

Overtime approved by: _____

Employee:	Prevailing Wage Yes or No:	PW Category:
Ray Tedaga	NO	-
Rob Corey	NO	-
Jarid Desantiago	NO	-
(On Site 8AM to)		

Equipment Used:		Material Used:	
1- Box Truck	B-312 8AM to 9:30AM		
1- Field Truck	Ray's		

Aarco Signature: X _____ *Client Signature*: X Patrick Hilton

50 Gear Avenue, Lindenhurst, NY 11757 Phone (631) 586-5900 Fax (631) 586-5910

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS MANIFEST

1. Generator's US EPA ID No. . . . . | Manifest Doc. No. 66489 | 2. Page 1 of

GENERATOR

3. Generator's Name and Mailing Address: Spring Cuttings Inc
39-26 32nd St. LIC, NY
4. Generator's Phone ( )

5. Transporter 1 Company Name: **AARCO ENVIRONMENTAL SERVICES CORP.** | 6. US EPA ID Number: N.Y.R.0.0.0.1.0.7.3.2.6 | A. Transporter's Phone: **631-586-5900**

7. Transporter 2 Company Name | 8. US EPA ID Number | B. Transporter's Phone

9. Designated Facility Name and Site Address: **DALE TRANSFER CORP. 129 DALE STREET WEST BABYLON, NY 11704** | 10. US EPA ID Number: **N/A** | C. Facility's Phone: **631-393-2882**

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. **NON-HAZARDOUS WASTE SOLID** Soil cuttings	10		5500	P
b. **NON-HAZARDOUS WASTE LIQUID** purge water	1		100	G
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY PHONE # 631-586-5900 JB#15-233161

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Patrick McGee | Signature | Month 6 | Day 8 | Year 15

TRANSPORTER

17. Transporter 1 Acknowledgment of Receipt of Materials
Printed/Typed Name: Mr. Corey | Signature | Month 10 | Day 8 | Year 15

18. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR'S COPY

APPENDIX C

LABORATORY REPORTS

ANALYTICAL REPORT

Lab Number:	L1628504
Client:	Integral Consulting, Inc. 61 Broadway Suite 1601 New York, NY 10006-2756
ATTN:	Sara Barbuto
Phone:	(212) 962-4301
Project Name:	BRIDGE CLEANERS
Project Number:	E028-0502
Report Date:	09/19/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1628504-01	MW-5	WATER	LONG ISLAND CITY, NY	09/09/16 09:16	09/09/16
L1628504-02	MW-2	WATER	LONG ISLAND CITY, NY	09/09/16 10:21	09/09/16
L1628504-03	MW-1	WATER	LONG ISLAND CITY, NY	09/09/16 11:21	09/09/16
L1628504-04	GW-2	WATER	LONG ISLAND CITY, NY	09/09/16 12:16	09/09/16
L1628504-05	GW-3	WATER	LONG ISLAND CITY, NY	09/09/16 09:22	09/09/16
L1628504-06	GW-1	WATER	LONG ISLAND CITY, NY	09/09/16 10:27	09/09/16
L1628504-07	DUP1	WATER	LONG ISLAND CITY, NY	09/09/16 00:00	09/09/16
L1628504-08	GW-4	WATER	LONG ISLAND CITY, NY	09/09/16 11:47	09/09/16
L1628504-09	GW-5	WATER	LONG ISLAND CITY, NY	09/09/16 13:17	09/09/16
L1628504-10	TRIP BLANK	WATER	LONG ISLAND CITY, NY	09/09/16 00:00	09/09/16

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1628504
Project Number:	E028-0502	**Report Date:**	09/19/16

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1628504-01 through -10: The analysis of the following compound was quantitated from a one-point calibration: Isopropyl Alcohol.

The WG933164-6/-7 MS/MSD recoveries, performed on L1628504-08, are below the acceptance criteria for isopropyl alcohol (0%/0%) due to the concentration of this compound falling below the reported detection limit.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 09/19/16

ORGANICS

VOLATILES

Project Name: BRIDGE CLEANERS **Lab Number:** L1628504

Project Number: E028-0502 **Report Date:** 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-01
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 15:16
Analyst: MM

Date Collected: 09/09/16 09:16
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	22		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.59		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1628504

Project Number: E028-0502 **Report Date:** 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-02
Client ID: MW-2
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 15:44
Analyst: MM

Date Collected: 09/09/16 10:21
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	41		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.8		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1628504
Project Number: E028-0502
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-03
Client ID: MW-1
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 16:12
Analyst: MM

Date Collected: 09/09/16 11:21
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	10		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.69		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.19	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1628504

Project Number: E028-0502 **Report Date:** 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-04
Client ID: GW-2
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 16:40
Analyst: MM

Date Collected: 09/09/16 12:16
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	200		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	14		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.31	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	13	J	ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1628504

Project Number: E028-0502 **Report Date:** 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-05
Client ID: GW-3
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 17:08
Analyst: MM

Date Collected: 09/09/16 09:22
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	44		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.2		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.25	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	8.5	J	ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1628504
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-06
Client ID: GW-1
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 17:36
Analyst: MM

Date Collected: 09/09/16 10:27
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	140		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.6		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.43	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1628504

Project Number: E028-0502 **Report Date:** 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-07
Client ID: DUP1
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 18:04
Analyst: MM

Date Collected: 09/09/16 00:00
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	140		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.6		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.43	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1628504
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-08
Client ID: GW-4
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 18:32
Analyst: MM

Date Collected: 09/09/16 11:47
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	90		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.5		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.24	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1628504

Project Number: E028-0502 **Report Date:** 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-09
Client ID: GW-5
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 19:00
Analyst: MM

Date Collected: 09/09/16 13:17
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	95		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	2.8		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.39	J	ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	97		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1628504

Project Number: E028-0502 **Report Date:** 09/19/16

SAMPLE RESULTS

Lab ID: L1628504-10
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/16/16 14:48
Analyst: MM

Date Collected: 09/09/16 00:00
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Isopropyl Alcohol	ND		ug/l	100	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1628504
Report Date: 09/19/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/16/16 11:04
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG933164-5					
Tetrachloroethene	ND		ug/l	0.50	0.18
Vinyl chloride	ND		ug/l	1.0	0.07
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16
Trichloroethene	ND		ug/l	0.50	0.18
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Isopropyl Alcohol	31	J	ug/l	100	8.5

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	95		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1628504

Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG933164-3 WG933164-4								
Methylene chloride	99		96		70-130	3		20
1,1-Dichloroethane	95		94		70-130	1		20
Chloroform	94		92		70-130	2		20
Carbon tetrachloride	87		86		63-132	1		20
1,2-Dichloropropane	95		92		70-130	3		20
Dibromochloromethane	97		93		63-130	4		20
1,1,2-Trichloroethane	94		92		70-130	2		20
2-Chloroethylvinyl ether	**60**	Q	**64**	Q	70-130	6		20
Tetrachloroethene	95		92		70-130	3		20
Chlorobenzene	94		93		75-130	1		25
Trichlorofluoromethane	89		85		62-150	5		20
1,2-Dichloroethane	92		92		70-130	0		20
1,1,1-Trichloroethane	93		91		67-130	2		20
Bromodichloromethane	94		92		67-130	2		20
trans-1,3-Dichloropropene	95		94		70-130	1		20
cis-1,3-Dichloropropene	93		91		70-130	2		20
1,1-Dichloropropene	92		91		70-130	1		20
Bromoform	97		97		54-136	0		20
1,1,2,2-Tetrachloroethane	96		95		67-130	1		20
Benzene	92		91		70-130	1		25
Toluene	94		93		70-130	1		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1628504

Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG933164-3 WG933164-4								
Ethylbenzene	91		91		70-130	0		20
Chloromethane	100		98		64-130	2		20
Bromomethane	120		120		39-139	0		20
Vinyl chloride	95		92		55-140	3		20
Chloroethane	97		94		55-138	3		20
1,1-Dichloroethene	91		88		61-145	3		25
trans-1,2-Dichloroethene	95		93		70-130	2		20
Trichloroethene	90		89		70-130	1		25
1,2-Dichlorobenzene	96		93		70-130	3		20
1,3-Dichlorobenzene	97		95		70-130	2		20
1,4-Dichlorobenzene	96		94		70-130	2		20
Methyl tert butyl ether	92		91		63-130	1		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	90		90		70-130	0		20
cis-1,2-Dichloroethene	94		92		70-130	2		20
Dibromomethane	96		91		70-130	5		20
1,4-Dichlorobutane	96		95		70-130	1		20
Iodomethane	110		100		70-130	10		20
1,2,3-Trichloropropane	84		83		64-130	1		20
Styrene	85		85		70-130	0		20
Dichlorodifluoromethane	90		85		36-147	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1628504

Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG933164-3 WG933164-4								
Acetone	86		76		58-148	12		20
Carbon disulfide	86		83		51-130	4		20
2-Butanone	91		73		63-138	**22**	Q	20
Vinyl acetate	97		94		70-130	3		20
4-Methyl-2-pentanone	85		84		59-130	1		20
2-Hexanone	87		86		57-130	1		20
Ethyl methacrylate	93		92		70-130	1		20
Acrolein	100		94		70-130	6		20
Acrylonitrile	82		85		70-130	4		20
Bromochloromethane	98		96		70-130	2		20
Tetrahydrofuran	100		93		58-130	7		20
2,2-Dichloropropane	97		95		63-133	2		20
1,2-Dibromoethane	98		98		70-130	0		20
1,3-Dichloropropane	96		95		70-130	1		20
1,1,1,2-Tetrachloroethane	94		94		64-130	0		20
Bromobenzene	97		96		70-130	1		20
n-Butylbenzene	98		95		53-136	3		20
sec-Butylbenzene	94		92		70-130	2		20
tert-Butylbenzene	95		93		70-130	2		20
o-Chlorotoluene	110		96		70-130	14		20
p-Chlorotoluene	96		94		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1628504

Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG933164-3 WG933164-4								
1,2-Dibromo-3-chloropropane	94		84		41-144	11		20
Hexachlorobutadiene	110		110		63-130	0		20
Isopropylbenzene	96		94		70-130	2		20
p-Isopropyltoluene	95		92		70-130	3		20
Naphthalene	90		96		70-130	6		20
n-Propylbenzene	96		93		69-130	3		20
1,2,3-Trichlorobenzene	92		100		70-130	8		20
1,2,4-Trichlorobenzene	98		97		70-130	1		20
1,3,5-Trimethylbenzene	93		92		64-130	1		20
1,3,5-Trichlorobenzene	100		99		70-130	1		20
1,2,4-Trimethylbenzene	97		94		70-130	3		20
trans-1,4-Dichloro-2-butene	91		89		70-130	2		20
Halothane	92		90		70-130	2		20
Ethyl ether	92		89		59-134	3		20
Methyl Acetate	94		88		70-130	7		20
Ethyl Acetate	86		87		70-130	1		20
Isopropyl Ether	93		90		70-130	3		20
Cyclohexane	86		83		70-130	4		20
Tert-Butyl Alcohol	98		94		70-130	4		20
Ethyl-Tert-Butyl-Ether	90		89		70-130	1		20
Tertiary-Amyl Methyl Ether	90		88		66-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1628504

Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG933164-3 WG933164-4								
1,4-Dioxane	88		86		56-162	2		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	88		84		70-130	5		20
Methyl cyclohexane	86		83		70-130	4		20
p-Diethylbenzene	97		94		70-130	3		20
4-Ethyltoluene	96		94		70-130	2		20
1,2,4,5-Tetramethylbenzene	98		96		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	104		102		70-130
Dibromofluoromethane	98		98		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG933164-6 WG933164-7 QC Sample: L1628504-08 Client ID: GW-4												
Methylene chloride	ND	10	9.5	95		10	100		70-130	5		20
1,1-Dichloroethane	ND	10	9.6	96		9.9	99		70-130	3		20
Chloroform	0.48J	10	10	100		10	100		70-130	0		20
Carbon tetrachloride	ND	10	9.8	98		10	100		63-132	2		20
1,2-Dichloropropane	ND	10	9.6	96		9.8	98		70-130	2		20
Dibromochloromethane	ND	10	9.4	94		10	100		63-130	6		20
1,1,2-Trichloroethane	ND	10	9.2	92		10	100		70-130	8		20
Tetrachloroethene	90	10	96	**60**	Q	94	**40**	Q	70-130	2		20
Chlorobenzene	ND	10	9.4	94		9.6	96		75-130	2		25
Trichlorofluoromethane	ND	10	10	100		10	100		62-150	0		20
1,2-Dichloroethane	ND	10	9.4	94		10	100		70-130	6		20
1,1,1-Trichloroethane	ND	10	10	100		10	100		67-130	0		20
Bromodichloromethane	ND	10	9.4	94		10	100		67-130	6		20
trans-1,3-Dichloropropene	ND	10	9.2	92		9.9	99		70-130	7		20
cis-1,3-Dichloropropene	ND	10	9.0	90		9.7	97		70-130	7		20
1,1-Dichloropropene	ND	10	10	100		10	100		70-130	0		20
Bromoform	ND	10	8.8	88		9.6	96		54-136	9		20
1,1,2,2-Tetrachloroethane	ND	10	8.9	89		10	100		67-130	12		20
Benzene	ND	10	9.5	95		9.7	97		70-130	2		25
Toluene	ND	10	9.3	93		9.5	95		70-130	2		25
Ethylbenzene	ND	10	9.2	92		9.3	93		70-130	1		20

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG933164-6 WG933164-7 QC Sample: L1628504-08 Client ID: GW-4												
Chloromethane	ND	10	9.6	96		9.8	98		64-130	2		20
Bromomethane	ND	10	5.2	52		7.4	74		39-139	**35**	Q	20
Vinyl chloride	ND	10	10	100		11	110		55-140	10		20
Chloroethane	ND	10	11	110		11	110		55-138	0		20
1,1-Dichloroethene	ND	10	9.8	98		10	100		61-145	2		25
trans-1,2-Dichloroethene	ND	10	9.7	97		10	100		70-130	3		20
Trichloroethene	1.5	10	11	95		11	95		70-130	0		25
1,2-Dichlorobenzene	ND	10	9.4	94		9.8	98		70-130	4		20
1,3-Dichlorobenzene	ND	10	9.4	94		9.5	95		70-130	1		20
1,4-Dichlorobenzene	ND	10	9.1	91		9.2	92		70-130	1		20
Methyl tert butyl ether	ND	10	9.4	94		10	100		63-130	6		20
p/m-Xylene	ND	20	18	90		18	90		70-130	0		20
o-Xylene	ND	20	18	90		18	90		70-130	0		20
cis-1,2-Dichloroethene	0.24J	10	9.6	96		9.9	99		70-130	3		20
Dibromomethane	ND	10	9.5	95		9.9	99		70-130	4		20
1,4-Dichlorobutane	ND	10	9.1	91		9.7	97		70-130	6		20
Iodomethane	ND	10	6.4	**64**	Q	7.2	72		70-130	12		20
1,2,3-Trichloropropane	ND	10	8.2	82		8.8	88		64-130	7		20
Styrene	ND	20	17	85		18	90		70-130	6		20
Dichlorodifluoromethane	ND	10	9.1	91		9.8	98		36-147	7		20
Acetone	ND	10	9.0	90		8.6	86		58-148	5		20

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG933164-6 WG933164-7 QC Sample: L1628504-08 Client ID: GW-4												
Carbon disulfide	ND	10	9.0	90		9.4	94		51-130	4		20
2-Butanone	ND	10	8.5	85		10	100		63-138	16		20
Vinyl acetate	ND	10	9.5	95		10	100		70-130	5		20
4-Methyl-2-pentanone	ND	10	9.1	91		11	110		59-130	19		20
2-Hexanone	ND	10	7.8	78		8.9	89		57-130	13		20
Ethyl methacrylate	ND	10	9.3	93		10	100		70-130	7		20
Acrolein	ND	10	8.0	80		9.2	92		70-130	14		20
Acrylonitrile	ND	10	8.2	82		9.1	91		70-130	10		20
Bromochloromethane	ND	10	9.8	98		10	100		70-130	2		20
Tetrahydrofuran	ND	10	9.5	95		11	110		58-130	15		20
2,2-Dichloropropane	ND	10	9.7	97		9.8	98		63-133	1		20
1,2-Dibromoethane	ND	10	9.6	96		10	100		70-130	4		20
1,3-Dichloropropane	ND	10	9.3	93		10	100		70-130	7		20
1,1,1,2-Tetrachloroethane	ND	10	9.3	93		9.6	96		64-130	3		20
Bromobenzene	ND	10	9.4	94		9.5	95		70-130	1		20
n-Butylbenzene	ND	10	9.3	93		9.4	94		53-136	1		20
sec-Butylbenzene	ND	10	9.3	93		9.2	92		70-130	1		20
tert-Butylbenzene	ND	10	9.6	96		9.4	94		70-130	2		20
o-Chlorotoluene	ND	10	9.5	95		10	100		70-130	5		20
p-Chlorotoluene	ND	10	9.3	93		9.2	92		70-130	1		20
1,2-Dibromo-3-chloropropane	ND	10	9.0	90		11	110		41-144	20		20

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG933164-6 WG933164-7 QC Sample: L1628504-08 Client ID: GW-4												
Hexachlorobutadiene	ND	10	9.5	95		10	100		63-130	5		20
Isopropylbenzene	ND	10	9.4	94		9.3	93		70-130	1		20
p-Isopropyltoluene	ND	10	9.4	94		9.2	92		70-130	2		20
Naphthalene	ND	10	11	110		14	**140**	Q	70-130	**24**	Q	20
n-Propylbenzene	ND	10	9.4	94		9.2	92		69-130	2		20
1,2,3-Trichlorobenzene	ND	10	11	110		14	**140**	Q	70-130	**24**	Q	20
1,2,4-Trichlorobenzene	ND	10	10	100		12	120		70-130	18		20
1,3,5-Trimethylbenzene	ND	10	9.1	91		9.1	91		64-130	0		20
1,3,5-Trichlorobenzene	ND	10	9.8	98		10	100		70-130	2		20
1,2,4-Trimethylbenzene	ND	10	9.3	93		9.2	92		70-130	1		20
trans-1,4-Dichloro-2-butene	ND	10	7.5	75		8.4	84		70-130	11		20
Halothane	ND	10	9.9	99		10	100		70-130	1		30
Ethyl ether	ND	10	9.0	90		10	100		59-134	11		20
Methyl Acetate	ND	10	8.4J	**0**	Q	9.5J	**0**	Q	70-130	12		20
Ethyl Acetate	ND	10	8.5J	**0**	Q	9.2J	**0**	Q	70-130	8		20
Isopropyl Ether	ND	10	9.4	94		9.9	99		70-130	5		20
Cyclohexane	ND	10	9.2J	**0**	Q	9.5J	**0**	Q	70-130	3		20
Tert-Butyl Alcohol	ND	50	37	74		55	110		70-130	**39**	Q	20
Ethyl-Tert-Butyl-Ether	ND	10	9.3	93		10	100		70-130	7		20
Tertiary-Amyl Methyl Ether	ND	10	9.0	90		10	100		66-130	11		20
1,4-Dioxane	ND	500	260	**52**	Q	620	124		56-162	**82**	Q	20

Matrix Spike Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG933164-6 WG933164-7 QC Sample: L1628504-08 Client ID: GW-4												
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	9.2J	**0**	Q	9.6J	**0**	Q	70-130	4		20
Methyl cyclohexane	ND	10	9.0J	**0**	Q	9.4J	**0**	Q	70-130	4		20
Isopropyl Alcohol	ND	50	36J	**0**	Q	63.J	**0**	Q	70-130	**55**	Q	20
p-Diethylbenzene	ND	10	9.4	94		9.4	94		70-130	0		20
4-Ethyltoluene	ND	10	9.4	94		9.2	92		70-130	2		20
1,2,4,5-Tetramethylbenzene	ND	10	9.5	95		9.8	98		70-130	3		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		100		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	100		99		70-130
Toluene-d8	101		100		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1628504-01A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-01B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-01C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-02A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-02B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-02C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-03A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-03B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-03C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-04A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-04B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-04C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-05A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-05B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-05C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-06A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-06B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-06C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-07A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-07B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-07C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08A1	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08A2	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08B1	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08B2	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-08C1	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)

*Values in parentheses indicate holding time in days

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1628504
Report Date: 09/19/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1628504-08C2	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-09A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-09B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-09C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-10A	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-10B	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)
L1628504-10C	Vial HCl preserved	A	N/A	5.3	Y	Absent	8260(14)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1628504
Project Number:	E028-0502	**Report Date:**	09/19/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1628504
Project Number:	E028-0502	**Report Date:**	09/19/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1628504
Project Number:	E028-0502	**Report Date:**	09/19/16

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: ***EPA 3050B***

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/10/16

ALPHA Job #: L1628504

Project Information

Project Name: Bridge Cleaners

Project Location: Long Island City, NY

Project #: E028-0502

Project Manager: Sarah Baruto

ALPHA Quote #:

Client Information

Client: Integral Consulting, Inc

Address: 6 Foster St, Suite 8

Wakefield, MA 01880

Phone: 781.863.0988

Fax:

Email: sbarbuto@integral-corp.com

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☐ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NY	Category B data deliverable

Other Project Specific Requirements/Comments/Detection Limits:
Category B data deliverable

Sampled by EST Associates

ANALYSIS

PCE, TCE, 1,2-DCE, VC, isopropanol

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's initials	PCE, TCE, 1,2-DCE, VC, isopropanol	Sample Specific Comments	TOTAL # BOTTLES
L1628504 -01	MW-5	9-9-16	916	GW	RB	☒		3
-02	MW-2	9-9-16	1021	GW	RB	☒		3
-03	MW-1	9-9-16	1121	GW	RB	☒		3
-04	GW-2	9-9-16	1216	GW	RB	☒		3
-05	GW-3	9-9-16	922	GW	CB	☒		3
-06	GW-1	9-9-16	1027	GW	CB	☒		3
-07	Dup1	9-9-16	—	GW	CB	☒		3
-08	GW-4	9-9-16	1147	GW	CB	☒	MS/MSD	9
-09	GW-5	9-9-16	1317	GW	CB	☒		3
-10	TRIP BLANK	9-8-16	—	AQ	LAB	☒		2

Container Type	V	A	P	P	P	-	-	-	-	-	-	-
Preservative	B	A	C	A	A	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time
	9-9-16 17:00	Daniel Fischer AAL	9/9/16 17:00
Daniel Fischer AAL	9/9/16 2145	Al Williams	9-9-16 2145
Al Williams	9-10-16 0210		9/10/16 0210

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01-01(I-NJ)
(rev. 29-APR-09)

ANALYTICAL REPORT

Lab Number:	L1628529
Client:	Integral Consulting, Inc. 61 Broadway Suite 1601 New York, NY 10006-2756
ATTN:	Sara Barbuto
Phone:	(212) 962-4301
Project Name:	BRIDGE CLEANERS
Project Number:	E075
Report Date:	09/19/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1628529-01	SP1-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 12:35	09/09/16
L1628529-02	SP2-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 12:21	09/09/16
L1628529-03	SP3-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 09:36	09/09/16
L1628529-04	SP4-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 10:02	09/09/16
L1628529-05	SP5-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 11:48	09/09/16
L1628529-06	SP7-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 11:03	09/09/16
L1628529-07	SP8-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 10:33	09/09/16
L1628529-08	VM1-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 10:41	09/09/16
L1628529-09	VM2-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 12:03	09/09/16
L1628529-10	VM2-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 11:55	09/09/16
L1628529-11	VM3-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 12:15	09/09/16
L1628529-12	VM4-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 09:50	09/09/16
L1628529-13	VM5-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 09:10	09/09/16
L1628529-14	VM6-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 10:14	09/09/16
L1628529-15	VM7-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 11:18	09/09/16
L1628529-16	VM8-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 11:35	09/09/16
L1628529-17	DUP-090916	SOIL_VAPOR	39-26, 30TH STREET, LIC	09/09/16 00:00	09/09/16

Project Name: BRIDGE CLEANERS **Lab Number:** L1628529
Project Number: E075 **Report Date:** 09/19/16

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: BRIDGE CLEANERS **Lab Number:** L1628529
Project Number: E075 **Report Date:** 09/19/16

Case Narrative (continued)

Volatile Organics in Air

Samples L1628529-01 through -17: Samples were transferred from a Tedlar bag into a fused silica lined canister upon receipt in order to extend the holding time for analysis.

Samples L1628529-01, -03 through -09, and -11 through -17: The samples were diluted and re-analyzed to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

Samples L1628529-01 through -17: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 09/19/16

AIR

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-01 D
Client ID: SP1-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 19:03
Analyst: MB

Date Collected: 09/09/16 12:35
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	17.3	--	ND	44.2	--		86.6
Isopropanol	ND	43.3	--	ND	106	--		86.6
trans-1,2-Dichloroethene	ND	17.3	--	ND	68.6	--		86.6
cis-1,2-Dichloroethene	ND	17.3	--	ND	68.6	--		86.6
Trichloroethene	222	17.3	--	1190	93.0	--		86.6
Tetrachloroethene	23500	17.3	--	159000	117	--	E	86.6

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	96		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-01 D2
Client ID: SP1-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 21:00
Analyst: RY

Date Collected: 09/09/16 12:35
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	16600	86.6	--	113000	587	--		433

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	88		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	89		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-02 D
Client ID: SP2-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 19:34
Analyst: MB

Date Collected: 09/09/16 12:21
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	146.	--	ND	373	--		729.5
Isopropanol	ND	365	--	ND	897	--		729.5
trans-1,2-Dichloroethene	ND	146.	--	ND	579	--		729.5
cis-1,2-Dichloroethene	352	146	--	1400	579	--		729.5
Trichloroethene	697	146	--	3750	785	--		729.5
Tetrachloroethene	70000	146	--	475000	990	--		729.5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	91		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	94		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-03 D
Client ID: SP3-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 20:35
Analyst: MB

Date Collected: 09/09/16 09:36
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	110.	--	ND	281	--		549
Isopropanol	ND	274	--	ND	674	--		549
trans-1,2-Dichloroethene	ND	110.	--	ND	436	--		549
cis-1,2-Dichloroethene	ND	110.	--	ND	436	--		549
Trichloroethene	181	110	--	973	591	--		549
Tetrachloroethene	58100	110	--	394000	746	--	E	549

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	88		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	90		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-03 D2
Client ID: SP3-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 08:36
Analyst: MB

Date Collected: 09/09/16 09:36
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	47900	220	--	325000	1490	--		1098

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	83		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	83		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-04 D
Client ID: SP4-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 21:06
Analyst: MB

Date Collected: 09/09/16 10:02
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	17.5	--	ND	44.7	--		87.53
Isopropanol	ND	43.8	--	ND	108	--		87.53
trans-1,2-Dichloroethene	ND	17.5	--	ND	69.4	--		87.53
cis-1,2-Dichloroethene	ND	17.5	--	ND	69.4	--		87.53
Trichloroethene	36.3	17.5	--	195	94.0	--		87.53
Tetrachloroethene	13200	17.5	--	89500	119	--	E	87.53

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	87		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	90		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-04 D2
Client ID: SP4-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 09:07
Analyst: MB

Date Collected: 09/09/16 10:02
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	9570	43.8	--	64900	297	--		218.8

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	82		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	84		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-05 D
Client ID: SP5-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 21:37
Analyst: MB

Date Collected: 09/09/16 11:48
Date Received: 09/09/16
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	25.1	--	ND	64.2	--		125.5
Isopropanol	ND	62.8	--	ND	154	--		125.5
trans-1,2-Dichloroethene	ND	25.1	--	ND	99.5	--		125.5
cis-1,2-Dichloroethene	ND	25.1	--	ND	99.5	--		125.5
Trichloroethene	581	25.1	--	3120	135	--		125.5
Tetrachloroethene	29400	25.1	--	199000	170	--	E	125.5

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	92		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-05 D2
Client ID: SP5-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 21:30
Analyst: RY

Date Collected: 09/09/16 11:48
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	18700	176	--	127000	1190	--		878.7

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	86		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	88		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-06 D
Client ID: SP7-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 22:08
Analyst: MB

Date Collected: 09/09/16 11:03
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	11.1	--	ND	28.4	--		55.3
Isopropanol	ND	27.6	--	ND	67.8	--		55.3
trans-1,2-Dichloroethene	ND	11.1	--	ND	44.0	--		55.3
cis-1,2-Dichloroethene	36.1	11.1	--	143	44.0	--		55.3
Trichloroethene	80.3	11.1	--	432	59.7	--		55.3
Tetrachloroethene	8260	11.1	--	56000	75.3	--	E	55.3

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	90		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-06 D2
Client ID: SP7-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 10:08
Analyst: MB

Date Collected: 09/09/16 11:03
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	5380	44.2	--	36500	300	--		221.2

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	83		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	83		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-07 D
Client ID: SP8-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 22:39
Analyst: MB

Date Collected: 09/09/16 10:33
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	145.	--	ND	371	--		723.8
Isopropanol	ND	362	--	ND	890	--		723.8
trans-1,2-Dichloroethene	ND	145.	--	ND	575	--		723.8
cis-1,2-Dichloroethene	ND	145.	--	ND	575	--		723.8
Trichloroethene	405	145	--	2180	779	--		723.8
Tetrachloroethene	80100	145	--	543000	983	--	E	723.8

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	86		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	89		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-07 D2
Client ID: SP8-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 10:39
Analyst: MB

Date Collected: 09/09/16 10:33
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	61200	434	--	415000	2940	--		2172

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	80		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	84		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-08 D
Client ID: VM1-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 23:10
Analyst: MB

Date Collected: 09/09/16 10:41
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	34.0	--	ND	86.9	--		170.1
Isopropanol	ND	85.0	--	ND	209	--		170.1
trans-1,2-Dichloroethene	ND	34.0	--	ND	135	--		170.1
cis-1,2-Dichloroethene	75.5	34.0	--	299	135	--		170.1
Trichloroethene	179	34.0	--	962	183	--		170.1
Tetrachloroethene	38200	34.0	--	259000	231	--	E	170.1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	86		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	89		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-08 D2
Client ID: VM1-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 22:01
Analyst: RY

Date Collected: 09/09/16 10:41
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	24000	170	--	163000	1150	--		850.3

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	87		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-09 D
Client ID: VM2-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/14/16 23:41
Analyst: MB

Date Collected: 09/09/16 12:03
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	11.0	--	ND	28.1	--		55.11
Isopropanol	ND	27.6	--	ND	67.8	--		55.11
trans-1,2-Dichloroethene	ND	11.0	--	ND	43.6	--		55.11
cis-1,2-Dichloroethene	ND	11.0	--	ND	43.6	--		55.11
Trichloroethene	99.2	11.0	--	533	59.1	--		55.11
Tetrachloroethene	8130	11.0	--	55100	74.6	--	E	55.11

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	86		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	88		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-09 D2
Client ID: VM2-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 22:32
Analyst: RY

Date Collected: 09/09/16 12:03
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	5430	44.1	--	36800	299	--		220.5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	85		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-10 D
Client ID: VM2-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 08:06
Analyst: MB

Date Collected: 09/09/16 11:55
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	17.5	--	ND	44.7	--		87.53
Isopropanol	ND	43.8	--	ND	108	--		87.53
trans-1,2-Dichloroethene	ND	17.5	--	ND	69.4	--		87.53
cis-1,2-Dichloroethene	ND	17.5	--	ND	69.4	--		87.53
Trichloroethene	120	17.5	--	645	94.0	--		87.53
Tetrachloroethene	7010	17.5	--	47500	119	--		87.53

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	90		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-11 D
Client ID: VM3-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 00:11
Analyst: MB

Date Collected: 09/09/16 12:15
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	28.4	--	ND	72.6	--		142.3
Isopropanol	ND	71.1	--	ND	175	--		142.3
trans-1,2-Dichloroethene	ND	28.4	--	ND	113	--		142.3
cis-1,2-Dichloroethene	151	28.4	--	599	113	--		142.3
Trichloroethene	250	28.4	--	1340	153	--		142.3
Tetrachloroethene	30400	28.4	--	206000	193	--	E	142.3

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	87		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-11 D2
Client ID: VM3-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 23:03
Analyst: RY

Date Collected: 09/09/16 12:15
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	20300	85.4	--	138000	579	--		426.8

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	88		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-12 D
Client ID: VM4-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 00:42
Analyst: MB

Date Collected: 09/09/16 09:50
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	4.34	--	ND	11.1	--		21.69
Isopropanol	ND	10.8	--	ND	26.5	--		21.69
trans-1,2-Dichloroethene	ND	4.34	--	ND	17.2	--		21.69
cis-1,2-Dichloroethene	7.70	4.34	--	30.5	17.2	--		21.69
Trichloroethene	12.9	4.34	--	69.3	23.3	--		21.69
Tetrachloroethene	3780	4.34	--	25600	29.4	--	E	21.69

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	84		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	87		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-12 D2
Client ID: VM4-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/16/16 00:35
Analyst: RY

Date Collected: 09/09/16 09:50
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	1920	10.9	--	13000	73.9	--		54.34

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	84		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	89		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-13 D
Client ID: VM5-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 01:13
Analyst: MB

Date Collected: 09/09/16 09:10
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	4.32	--	ND	11.0	--		21.59
Isopropanol	ND	10.8	--	ND	26.5	--		21.59
trans-1,2-Dichloroethene	ND	4.32	--	ND	17.1	--		21.59
cis-1,2-Dichloroethene	ND	4.32	--	ND	17.1	--		21.59
Trichloroethene	13.8	4.32	--	74.2	23.2	--		21.59
Tetrachloroethene	5140	4.32	--	34900	29.3	--	E	21.59

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	83		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	86		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-13 D2
Client ID: VM5-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/16/16 01:06
Analyst: RY

Date Collected: 09/09/16 09:10
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	2500	17.3	--	17000	117	--		86.55

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	84		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	85		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-14 D
Client ID: VM6-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 01:43
Analyst: MB

Date Collected: 09/09/16 10:14
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	4.29	--	ND	11.0	--		21.44
Isopropanol	161	10.7	--	396	26.3	--		21.44
trans-1,2-Dichloroethene	ND	4.29	--	ND	17.0	--		21.44
cis-1,2-Dichloroethene	ND	4.29	--	ND	17.0	--		21.44
Trichloroethene	9.88	4.29	--	53.1	23.1	--		21.44
Tetrachloroethene	3590	4.29	--	24300	29.1	--	E	21.44

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	82		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	86		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-14 D2
Client ID: VM6-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/16/16 01:37
Analyst: RY

Date Collected: 09/09/16 10:14
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	1900	10.7	--	12900	72.6	--		53.71

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	82		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	87		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-15 D
Client ID: VM7-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 02:14
Analyst: MB

Date Collected: 09/09/16 11:18
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	4.34	--	ND	11.1	--		21.68
Isopropanol	ND	10.8	--	ND	26.5	--		21.68
trans-1,2-Dichloroethene	ND	4.34	--	ND	17.2	--		21.68
cis-1,2-Dichloroethene	ND	4.34	--	ND	17.2	--		21.68
Trichloroethene	49.9	4.34	--	268	23.3	--		21.68
Tetrachloroethene	5730	4.34	--	38900	29.4	--	E	21.68

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	83		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	87		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-15 D2
Client ID: VM7-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/16/16 09:49
Analyst: RY

Date Collected: 09/09/16 11:18
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	2600	17.4	--	17600	118	--		86.89

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	87		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	91		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-16 D
Client ID: VM8-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 02:45
Analyst: MB

Date Collected: 09/09/16 11:35
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	22.2	--	ND	56.7	--		111
Isopropanol	ND	55.5	--	ND	136	--		111
trans-1,2-Dichloroethene	ND	22.2	--	ND	88.0	--		111
cis-1,2-Dichloroethene	23.9	22.2	--	94.8	88.0	--		111
Trichloroethene	206	22.2	--	1110	119	--		111
Tetrachloroethene	17400	22.2	--	118000	151	--	E	111

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	82		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	88		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-16 D2
Client ID: VM8-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 23:33
Analyst: RY

Date Collected: 09/09/16 11:35
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	11000	88.8	--	74600	602	--		443.9

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	88		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-17 D
Client ID: DUP-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/15/16 03:15
Analyst: MB

Date Collected: 09/09/16 00:00
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	14.6	--	ND	37.3	--		73.24
Isopropanol	ND	36.6	--	ND	90.0	--		73.24
trans-1,2-Dichloroethene	ND	14.6	--	ND	57.9	--		73.24
cis-1,2-Dichloroethene	40.9	14.6	--	162	57.9	--		73.24
Trichloroethene	95.9	14.6	--	515	78.5	--		73.24
Tetrachloroethene	9890	14.6	--	67100	99.0	--	E	73.24

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	83		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	86		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

SAMPLE RESULTS

Lab ID: L1628529-17 D2
Client ID: DUP-090916
Sample Location: 39-26, 30TH STREET, LIC
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 09/16/16 00:04
Analyst: RY

Date Collected: 09/09/16 00:00
Date Received: 09/09/16
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Tetrachloroethene	6770	43.9	--	45900	298	--		219.7

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	84		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	88		60-140

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 09/14/16 17:14

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-17 Batch: WG931954-4								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 09/15/16 14:53

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01,05,08-09,11-17 Batch: WG931954-9								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-17 Batch: WG931954-3								
Vinyl chloride	118		-		70-130	-		
Ethyl Alcohol	113		-		70-130	-		
iso-Propyl Alcohol	106		-		70-130	-		
1,1-Dichloroethene	118		-		70-130	-		
trans-1,2-Dichloroethene	79		-		70-130	-		
1,1-Dichloroethane	85		-		70-130	-		
cis-1,2-Dichloroethene	118		-		70-130	-		
1,2-Dichloroethane	105		-		70-130	-		
1,1,1-Trichloroethane	122		-		70-130	-		
Trichloroethene	118		-		70-130	-		
Tetrachloroethene	93		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,05,08-09,11-17 Batch: WG931954-8								
Chlorodifluoromethane	98		-		70-130	-		
Propylene	125		-		70-130	-		
Propane	100		-		70-130	-		
Dichlorodifluoromethane	89		-		70-130	-		
Chloromethane	119		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	114		-		70-130	-		
Methanol	109		-		70-130	-		
Vinyl chloride	119		-		70-130	-		
1,3-Butadiene	121		-		70-130	-		
Butane	105		-		70-130	-		
Bromomethane	104		-		70-130	-		
Chloroethane	116		-		70-130	-		
Ethyl Alcohol	117		-		70-130	-		
Dichlorofluoromethane	105		-		70-130	-		
Vinyl bromide	104		-		70-130	-		
Acrolein	105		-		70-130	-		
Acetone	107		-		70-130	-		
Acetonitrile	114		-		70-130	-		
Trichlorofluoromethane	107		-		70-130	-		
iso-Propyl Alcohol	110		-		70-130	-		
Acrylonitrile	110		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,05,08-09,11-17 Batch: WG931954-8								
Pentane	106		-		70-130	-		
Ethyl ether	114		-		70-130	-		
1,1-Dichloroethene	117		-		70-130	-		
tert-Butyl Alcohol	100		-		70-130	-		
Methylene chloride	116		-		70-130	-		
3-Chloropropene	126		-		70-130	-		
Carbon disulfide	116		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	110		-		70-130	-		
trans-1,2-Dichloroethene	75		-		70-130	-		
1,1-Dichloroethane	85		-		70-130	-		
Methyl tert butyl ether	81		-		70-130	-		
Vinyl acetate	98		-		70-130	-		
2-Butanone	111		-		70-130	-		
cis-1,2-Dichloroethene	113		-		70-130	-		
Ethyl Acetate	114		-		70-130	-		
Chloroform	108		-		70-130	-		
Tetrahydrofuran	76		-		70-130	-		
2,2-Dichloropropane	99		-		70-130	-		
1,2-Dichloroethane	105		-		70-130	-		
n-Hexane	128		-		70-130	-		
Isopropyl Ether	112		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E075

Lab Number: L1628529

Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,05,08-09,11-17 Batch: WG931954-8								
Ethyl-Tert-Butyl-Ether	119		-		70-130	-		
1,1,1-Trichloroethane	120		-		70-130	-		
1,1-Dichloropropene	110		-		70-130	-		
Benzene	125		-		70-130	-		
Carbon tetrachloride	120		-		70-130	-		
Cyclohexane	126		-		70-130	-		
Tertiary-Amyl Methyl Ether	113		-		70-130	-		
Dibromomethane	113		-		70-130	-		
1,2-Dichloropropane	127		-		70-130	-		
Bromodichloromethane	129		-		70-130	-		
1,4-Dioxane	122		-		70-130	-		
Trichloroethene	115		-		70-130	-		
2,2,4-Trimethylpentane	**140**	Q	-		70-130	-		
Methyl Methacrylate	103		-		70-130	-		
Heptane	**135**	Q	-		70-130	-		
cis-1,3-Dichloropropene	130		-		70-130	-		
4-Methyl-2-pentanone	**137**	Q	-		70-130	-		
trans-1,3-Dichloropropene	112		-		70-130	-		
1,1,2-Trichloroethane	124		-		70-130	-		
Toluene	111		-		70-130	-		
1,3-Dichloropropane	110		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,05,08-09,11-17 Batch: WG931954-8								
2-Hexanone	120		-		70-130	-		
Dibromochloromethane	112		-		70-130	-		
1,2-Dibromoethane	109		-		70-130	-		
Butyl Acetate	102		-		70-130	-		
Octane	101		-		70-130	-		
Tetrachloroethene	94		-		70-130	-		
1,1,1,2-Tetrachloroethane	99		-		70-130	-		
Chlorobenzene	107		-		70-130	-		
Ethylbenzene	113		-		70-130	-		
p/m-Xylene	114		-		70-130	-		
Bromoform	108		-		70-130	-		
Styrene	113		-		70-130	-		
1,1,2,2-Tetrachloroethane	116		-		70-130	-		
o-Xylene	119		-		70-130	-		
1,2,3-Trichloropropane	108		-		70-130	-		
Nonane (C9)	120		-		70-130	-		
Isopropylbenzene	108		-		70-130	-		
Bromobenzene	108		-		70-130	-		
o-Chlorotoluene	99		-		70-130	-		
n-Propylbenzene	102		-		70-130	-		
p-Chlorotoluene	106		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E075

Lab Number: L1628529

Report Date: 09/19/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01,05,08-09,11-17 Batch: WG931954-8								
4-Ethyltoluene	109		-		70-130	-		
1,3,5-Trimethylbenzene	115		-		70-130	-		
tert-Butylbenzene	111		-		70-130	-		
1,2,4-Trimethylbenzene	121		-		70-130	-		
Decane (C10)	116		-		70-130	-		
Benzyl chloride	**136**	Q	-		70-130	-		
1,3-Dichlorobenzene	110		-		70-130	-		
1,4-Dichlorobenzene	109		-		70-130	-		
sec-Butylbenzene	111		-		70-130	-		
p-Isopropyltoluene	96		-		70-130	-		
1,2-Dichlorobenzene	110		-		70-130	-		
n-Butylbenzene	114		-		70-130	-		
1,2-Dibromo-3-chloropropane	115		-		70-130	-		
Undecane	118		-		70-130	-		
Dodecane (C12)	123		-		70-130	-		
1,2,4-Trichlorobenzene	102		-		70-130	-		
Naphthalene	108		-		70-130	-		
1,2,3-Trichlorobenzene	93		-		70-130	-		
Hexachlorobutadiene	93		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-17 QC Batch ID: WG931954-5 QC Sample: L1628529-02 Client ID: SP2-090916						
Vinyl chloride	ND	ND	ppbV	NC		25
Isopropanol	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	352	328	ppbV	7		25
Trichloroethene	697	654	ppbV	6		25
Tetrachloroethene	70000	72600	ppbV	4		25

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information **Custody Seal**

Cooler
N/A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1628529-01A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-01B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-02A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-02B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-03A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-03B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-04A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-04B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-05A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-05B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-06A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-06B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-07A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-07B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-08A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-08B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-09A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-09B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-10A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-10B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-11A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-11B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-12A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-12B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-13A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-13B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-14A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-14B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-15A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name: BRIDGE CLEANERS
Project Number: E075

Lab Number: L1628529
Report Date: 09/19/16

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1628529-15B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-16A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-16B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-17A	Tedlar Bag 5 liter-Polypropylene	N/A	N/A		Y	Absent	TO15-LL(30)
L1628529-17B	Canister - 2.7 Liter (Split out	N/A	N/A		Y	Absent	TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1628529
Project Number:	E075	**Report Date:**	09/19/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1628529
Project Number:	E075	**Report Date:**	09/19/16

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: BRIDGE CLEANERS
Project Number: E075
Lab Number: L1628529
Report Date: 09/19/16

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: ***EPA 3050B***

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/10/16

ALPHA Job #: L1628529

Client Information

Client: Integral
Address: 61 Broadway, Suite 1601
NY, NY 10006
Phone: 860-705-0620
Fax:
Email: sbarbuto@integral-corp.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Bridge cleaners
Project Location: 39-26 30th St, LIC
Project #: E0075
Project Manager: Sara Barbuto
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
28529-01	SP1-090916	9/9/16	12:32	12:35	3L/min	3L/min	SV	SN				X					* ONLY
-02	SP2-090916		12:18	12:21								X					REPORT
-03	SP3-090916		09:33	09:36								X					PCE, TCE,
-04	SP4-090916		10:00	10:02								X					1,2-DCE,
-05	SP5-090916		11:45	11:48								X					VC &
-06	SP7-090916		11:00	11:03								X					Isopropanol
-07	SP8-090916		10:30	10:33								X					
-08	VM1-090916		10:38	10:41								X					
-09	VM2-090916		12:00	12:03								X					
-10	VM2-090916-MS/MSD	↓	11:52	11:55	↓	↓	↓	↓				X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: 5L Tedlar

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
[illegible] (S.Ny - Integral)	9/9/16 1345	[illegible]	9/9/16 1346
Daniel Fischer AAL	9/9/16 17:00	Daniel Fischer AAL	9/9/16 17:00
Al Williams	9-10-16 03:25	[illegible]	9/10/16 03:25

Form No: 101-02 Rev: (25-Sep-15)

AIR ANALYSIS

PAGE 2 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/10/16

ALPHA Job #: L1628529

Client Information

Client: Integral
Address: 61 Broadway, Suite 1601
NY, NY 10006
Phone: 860-705-0620
Fax:
Email: sbarbuto@integral-corp.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: 39-26 30th St, LIC
Project #: E075
Project Manager: Sara Barbuto
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria

Other Project Specific Requirements/Comments:

All Columns Below Must Be Filled Out

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-14A by TO-15	TO-15	TO-15 SIM	APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
-11	VM3-090916	9/9/16	12:12	12:15	3"/min	3"/min	SV	SN					X						# ONLY
-12	VM4-090916		09:48	09:50									X						REPORT
-13	VM5-090916		09:07	09:10									X						PCE, TCE,
-14	VM6-090916		10:12	10:14									X						1,2-DCE,
-15	VM7-090916		11:15	11:18									X						VC &
-16	VM8-090916		11:32	11:35									X						Isopropanol #
-17	DUP-090916												X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: 5L Tedlar

Relinquished By:	Date/Time	Received By:	Date/Time:
(Sara - Integral)	9/9/16 1345		9/9/16 1396
	9/9/16 17:00	Daniel Fischer AAL	9/9/16 17:00
Daniel Fischer AAL	9/9/16 2120	Al Williams	9-9-16 2120
Al Williams	9-10-16 03:25		9/10/16 03:25

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

ANALYTICAL REPORT

Lab Number:	L1848820
Client:	Integral Consulting, Inc. 1001 6th Avenue Floor 11 New York, NY 10018-5469
ATTN:	Sara Barbuto
Phone:	(212) 962-4301
Project Name:	BRIDGE CLEANERS
Project Number:	E028-0502
Report Date:	12/06/18

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1848820
Report Date: 12/06/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1848820-01	MW-5	WATER	LONG ISLAND CITY, NY	11/28/18 10:56	11/29/18
L1848820-02	MW-2	WATER	LONG ISLAND CITY, NY	11/28/18 11:51	11/29/18
L1848820-03	FIELD BLANK	WATER	LONG ISLAND CITY, NY	11/28/18 13:00	11/29/18
L1848820-04	TRIP BLANK	WATER	LONG ISLAND CITY, NY	11/27/18 09:05	11/29/18
L1848820-05	GW-2	WATER	LONG ISLAND CITY, NY	11/28/18 11:01	11/29/18
L1848820-06	GW-5	WATER	LONG ISLAND CITY, NY	11/28/18 11:56	11/29/18
L1848820-07	GW-1	WATER	LONG ISLAND CITY, NY	11/28/18 12:51	11/29/18
L1848820-08	MW-1	WATER	LONG ISLAND CITY, NY	11/28/18 12:41	11/29/18
L1848820-09	GW-4	WATER	LONG ISLAND CITY, NY	11/28/18 13:41	11/29/18
L1848820-10	GWDUP18	WATER	LONG ISLAND CITY, NY	11/28/18 00:00	11/29/18

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1848820
Project Number:	E028-0502	**Report Date:**	12/06/18

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1848820-05: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 12/06/18

ORGANICS

VOLATILES

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-01
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 10:56
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 16:10
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	31		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.73		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.20	J	ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-01
Client ID: MW-5
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 10:56
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 16:10
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	ND		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-02
Client ID: MW-2
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/28/18 11:51
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 16:39
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	29		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.2		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-02
Client ID: MW-2
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/28/18 11:51
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 16:39
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	ND		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-03
Client ID: FIELD BLANK
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 13:00
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 17:08
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-03
Client ID: FIELD BLANK
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 13:00
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 17:08
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	15	J	ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-04
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/27/18 09:05
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 17:37
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-04
Client ID: TRIP BLANK
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/27/18 09:05
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 17:37
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	ND		ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-05 D
Client ID: GW-2
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/28/18 11:01
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 18:06
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	240		ug/l	1.2	0.45	2.5
Vinyl chloride	ND		ug/l	2.5	0.18	2.5
trans-1,2-Dichloroethene	ND		ug/l	1.9	0.41	2.5
Trichloroethene	5.6		ug/l	1.2	0.44	2.5
cis-1,2-Dichloroethene	ND		ug/l	1.2	0.47	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1848820

Project Number: E028-0502 **Report Date:** 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-05 D
Client ID: GW-2
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/28/18 11:01
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 18:06
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	ND		ug/l	250	8.8	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-06
Client ID: GW-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/28/18 11:56
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 18:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	87		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	3.7		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-06
Client ID: GW-5
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 11:56
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 18:35
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	21	J	ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-07
Client ID: GW-1
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/28/18 12:51
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 19:04
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	74		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.4		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.30	J	ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-07
Client ID: GW-1
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 12:51
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 19:04
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	18	J	ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	102		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-08
Client ID: MW-1
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 12:41
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 19:33
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	37		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	0.62		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.20	J	ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-08
Client ID: MW-1
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/28/18 12:41
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 19:33
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	23	J	ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-09
Client ID: GW-4
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 13:41
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 20:03
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	71		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	1.3		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	0.23	J	ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS
Lab Number: L1848820
Project Number: E028-0502
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-09
Client ID: GW-4
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 13:41
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 20:03
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	16	J	ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	101		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-10
Client ID: GWDUP18
Sample Location: LONG ISLAND CITY, NY
Date Collected: 11/28/18 00:00
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 20:32
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tetrachloroethene	92		ug/l	0.50	0.18	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
Trichloroethene	3.8		ug/l	0.50	0.18	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	100		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1848820

Project Number: E028-0502 **Report Date:** 12/06/18

SAMPLE RESULTS

Lab ID: L1848820-10 Date Collected: 11/28/18 00:00
Client ID: GWDUP18 Date Received: 11/29/18
Sample Location: LONG ISLAND CITY, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/05/18 20:32
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropyl Alcohol	26	J	ug/l	100	3.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	102		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L1848820

Project Number: E028-0502 **Report Date:** 12/06/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/18 15:11
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1186311-5					
Methylene chloride	ND		ug/l	3.0	0.68
1,1-Dichloroethane	ND		ug/l	0.75	0.21
Chloroform	ND		ug/l	0.75	0.22
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
2-Chloroethylvinyl ether	ND		ug/l	10	0.40
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	0.50	0.18
Trichlorofluoromethane	ND		ug/l	2.5	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.24
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.20
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/18 15:11
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1186311-5					
1,2-Dichloroethene (total)	ND		ug/l	0.50	0.16
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19
Methyl tert butyl ether	ND		ug/l	1.0	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylene (Total)	ND		ug/l	1.0	0.33
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Dibromomethane	ND		ug/l	5.0	0.36
1,4-Dichlorobutane	ND		ug/l	5.0	0.46
Iodomethane	ND		ug/l	5.0	0.40
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18
Styrene	ND		ug/l	1.0	0.36
Dichlorodifluoromethane	ND		ug/l	5.0	0.24
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	0.30
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	0.31
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42
2-Hexanone	ND		ug/l	5.0	0.52
Ethyl methacrylate	ND		ug/l	5.0	0.61
Acrolein	ND		ug/l	5.0	0.44
Acrylonitrile	ND		ug/l	5.0	0.43
Bromochloromethane	ND		ug/l	2.5	0.15
Tetrahydrofuran	ND		ug/l	5.0	0.52
2,2-Dichloropropane	ND		ug/l	2.5	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/18 15:11
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1186311-5					
1,3-Dichloropropane	ND		ug/l	2.5	0.21
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16
Bromobenzene	ND		ug/l	2.5	0.15
n-Butylbenzene	ND		ug/l	0.50	0.19
sec-Butylbenzene	ND		ug/l	0.50	0.18
tert-Butylbenzene	ND		ug/l	2.5	0.20
o-Chlorotoluene	ND		ug/l	2.5	0.22
p-Chlorotoluene	ND		ug/l	2.5	0.18
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35
Hexachlorobutadiene	ND		ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	ND		ug/l	2.5	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,3,5-Trichlorobenzene	ND		ug/l	2.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21
Halothane	ND		ug/l	2.5	0.29
Ethyl ether	ND		ug/l	2.5	0.16
Methyl Acetate	ND		ug/l	10	0.23
Ethyl Acetate	ND		ug/l	10	0.72
Isopropyl Ether	ND		ug/l	2.0	0.42
Cyclohexane	ND		ug/l	10	0.27
tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	0.28

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/18 15:11
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1186311-5					
1,4-Dioxane	ND		ug/l	250	61.
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	0.15
Methyl cyclohexane	ND		ug/l	10	0.40
1,4-Diethylbenzene	ND		ug/l	2.0	0.39
4-Ethyltoluene	ND		ug/l	2.0	0.34
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502
Lab Number: L1848820
Report Date: 12/06/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/05/18 15:11
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-10 Batch: WG1186317-5					
Isopropyl Alcohol	ND		ug/l	100	3.5

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1848820

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1186311-3 WG1186311-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	96		98		63-132	2		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	99		100		63-130	1		20
1,1,2-Trichloroethane	100		100		70-130	0		20
2-Chloroethylvinyl ether	100		100		70-130	0		20
Tetrachloroethene	98		98		70-130	0		20
Chlorobenzene	100		100		75-130	0		25
Trichlorofluoromethane	98		99		62-150	1		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	99		100		67-130	1		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	100		100		70-130	0		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
1,1-Dichloropropene	99		100		70-130	1		20
Bromoform	96		98		54-136	2		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	100		100		70-130	0		25
Toluene	99		100		70-130	1		25
Ethylbenzene	100		99		70-130	1		20
Chloromethane	91		91		64-130	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1848820

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1186311-3 WG1186311-4								
Bromomethane	45		48		39-139	6		20
Vinyl chloride	96		98		55-140	2		20
Chloroethane	100		100		55-138	0		20
1,1-Dichloroethene	100		100		61-145	0		25
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	100		100		70-130	0		25
1,2-Dichlorobenzene	98		97		70-130	1		20
1,3-Dichlorobenzene	98		96		70-130	2		20
1,4-Dichlorobenzene	96		94		70-130	2		20
Methyl tert butyl ether	100		110		63-130	10		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	100		110		70-130	10		20
Dibromomethane	100		100		70-130	0		20
1,4-Dichlorobutane	100		100		70-130	0		20
Iodomethane	**27**	Q	**42**	Q	70-130	**43**	Q	20
1,2,3-Trichloropropane	110		98		64-130	12		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	100		100		36-147	0		20
Acetone	110		110		58-148	0		20
Carbon disulfide	97		100		51-130	3		20
2-Butanone	78		81		63-138	4		20
Vinyl acetate	100		110		70-130	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1848820
Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1186311-3 WG1186311-4								
4-Methyl-2-pentanone	95		100		59-130	5		20
2-Hexanone	96		100		57-130	4		20
Ethyl methacrylate	96		98		70-130	2		20
Acrolein	95		100		70-130	5		20
Acrylonitrile	95		99		70-130	4		20
Bromochloromethane	110		110		70-130	0		20
Tetrahydrofuran	100		110		58-130	10		20
2,2-Dichloropropane	100		100		63-133	0		20
1,2-Dibromoethane	100		110		70-130	10		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	99		100		64-130	1		20
Bromobenzene	99		98		70-130	1		20
n-Butylbenzene	97		96		53-136	1		20
sec-Butylbenzene	96		94		70-130	2		20
tert-Butylbenzene	96		94		70-130	2		20
o-Chlorotoluene	93		90		70-130	3		20
p-Chlorotoluene	97		96		70-130	1		20
1,2-Dibromo-3-chloropropane	95		99		41-144	4		20
Hexachlorobutadiene	90		94		63-130	4		20
Isopropylbenzene	96		94		70-130	2		20
p-Isopropyltoluene	98		96		70-130	2		20
Naphthalene	97		100		70-130	3		20
n-Propylbenzene	96		95		69-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1848820

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1186311-3 WG1186311-4								
1,2,3-Trichlorobenzene	96		100		70-130	4		20
1,2,4-Trichlorobenzene	95		97		70-130	2		20
1,3,5-Trimethylbenzene	97		96		64-130	1		20
1,3,5-Trichlorobenzene	96		95		70-130	1		20
1,2,4-Trimethylbenzene	100		98		70-130	2		20
trans-1,4-Dichloro-2-butene	100		83		70-130	19		20
Halothane	99		99		70-130	0		20
Ethyl ether	100		110		59-134	10		20
Methyl Acetate	84		90		70-130	7		20
Ethyl Acetate	92		96		70-130	4		20
Isopropyl Ether	100		100		70-130	0		20
Cyclohexane	95		96		70-130	1		20
tert-Butyl Alcohol	114		126		70-130	10		20
Ethyl-Tert-Butyl-Ether	100		100		70-130	0		20
Tertiary-Amyl Methyl Ether	100		100		66-130	0		20
1,4-Dioxane	104		118		56-162	13		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	98		99		70-130	1		20
Methyl cyclohexane	96		97		70-130	1		20
1,4-Diethylbenzene	98		95		70-130	3		20
4-Ethyltoluene	97		96		70-130	1		20
1,2,4,5-Tetramethylbenzene	98		95		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1848820
Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1186311-3 WG1186311-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		105		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	100		100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1848820

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 Batch: WG1186317-3 WG1186317-4								
Isopropyl Alcohol	85		90		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	99		97		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	100		101		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E028-0502

Lab Number: L1848820

Report Date: 12/06/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1186311-6 WG1186311-7 QC Sample: L1848820-07 Client ID: GW-1												
1,1-Dichloroethane	ND	10	11	110		11	110		70-130	0		20
Tetrachloroethene	74	10	80	**60**	Q	81	70		70-130	1		20
1,2-Dichloroethane	ND	10	10	100		11	110		70-130	10		20
1,1,1-Trichloroethane	ND	10	11	110		11	110		67-130	0		20
Vinyl chloride	ND	10	11	110		11	110		55-140	0		20
1,1-Dichloroethene	ND	10	11	110		11	110		61-145	0		25
trans-1,2-Dichloroethene	ND	10	11	110		11	110		70-130	0		20
Trichloroethene	1.4	10	12	106		12	106		70-130	0		25
cis-1,2-Dichloroethene	0.30J	10	11	110		11	110		70-130	0		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		104		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	100		100		70-130
Toluene-d8	98		100		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1848820
Report Date: 12/06/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1186317-6 WG1186317-7 QC Sample: L1848820-07 Client ID: GW-1												
Isopropyl Alcohol	18J	400	400	100		480	120		70-130	18		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		103		70-130
4-Bromofluorobenzene	97		96		70-130
Dibromofluoromethane	102		102		70-130
Toluene-d8	97		98		70-130

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1848820
Report Date: 12/06/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1848820-01A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-01B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-01C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-01D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-02A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-02B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-02C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-02D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-03A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-03B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-03C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-03D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-04A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-04B	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-04C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-04D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-05A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-05B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-05C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-05D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-06A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-06B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-06C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)

*Values in parentheses indicate holding time in days

Project Name: BRIDGE CLEANERS
Project Number: E028-0502

Lab Number: L1848820
Report Date: 12/06/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1848820-06D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-07A1	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-07A2	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-07B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07B1	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07B2	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07C1	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07C2	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07D1	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-07D2	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-08A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-08B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-08C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-08D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-09A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-09B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-09C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-09D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-10A	Vial unpreserved	A	NA		3.8	Y	Absent		ARCHIVE()
L1848820-10B	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-10C	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)
L1848820-10D	Vial HCl preserved	A	NA		3.8	Y	Absent		8260(14)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1848820
Project Number:	E028-0502	**Report Date:**	12/06/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1848820
Project Number:	E028-0502	**Report Date:**	12/06/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1848820
Project Number:	E028-0502	**Report Date:**	12/06/18

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/30/18

ALPHA Job #: L1848820

Client Information

Client: Integral Consulting, Inc
Address: 1001 6th Ave
New York, NY
Phone: 212-440-6702
Fax:
Email: sbarbuto@integral-corp.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Long Island City, NY
Project #: E028-0502
Project Manager: Sarah Barbuto
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: NY
Criteria: Category B data deliverable

Other Project Specific Requirements/Comments/Detection Limits:
Category B data deliverable

Sampled by EST Associates

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's nitials	PCE,TCE, 1,2-DCE, VC,	isopropanol											Sample Specific Comments	TOTAL # BOTTLES
-01	MW-5	11/28/18	1056	GW	RD	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-02	Mw-2	11/28/18	1151	GW	RD	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-03	Field Blank	11/28/18	1300	AQ	RD	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-04	Trip Blank	11/27/18	905	AQ	lab	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-05	GW-2	11/28/18	1101	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-06	GW-5	11/28/18	1156	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-07	GW-1	11/28/18	1251	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
	GW-1-MS	11/28/18	1251	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
↓	GW-1-MSD	11/28/18	1251	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-08	MW-1	11/28/18	1241	GW	RD	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
	Container Type					V	V	P	P	P	-	-	-	-	-	-	-		
	Preservative					B	A	C	A	A	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	11/29/18		11/29/18 1630
AAC	11/29/18 18:30		11-29-18 18:30
AAC	11-29-18 20:30	Paul Mazzella	11/29/18 2055
Paul Mazzella	11/30/18 0105		11/30/18 0105

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(0-NJ) (rev. 29-APR-09)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/30/18

ALPHA Job #: L1848820

Client Information

Client: Integral Consulting, Inc
Address: 1001 6th Ave
New York, NY
Phone: 212-440-6702
Fax:
Email: sbarbuto@integral-corp.com

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Long Island City, NY
Project #: E028-0502
Project Manager: Sarah Barbuto
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program: NY
Criteria: Category B data deliverable

Other Project Specific Requirements/Comments/Detection Limits:
Category B data deliverable

Sampled by EST Associates

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PCE,TCE, 1,2-DCE, VC,	isopropanol											Sample Specific Comments	TOTAL # BOTTLES
-01A	GW-4	11/28/18	1341	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
-01D	GWDUP18	11/28/18	0000	GW	MS	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		4
Container Type						V	V	P	P	P	-	-	-	-	-	-	-		
Preservative						B	A	C	A	A	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	11/29/18		11/29/18 1130
	11/29/18 1830		11-29-18 18:30
	11-29-18 2030	Paul Mazzella	11/29/18 2055
Paul Mazzella 11/30/18 0105			11/30/18 0105

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 29-APR-09)

ANALYTICAL REPORT

Lab Number:	L1848841
Client:	Integral Consulting, Inc. 1001 6th Avenue Floor 11 New York, NY 10018-5469
ATTN:	Sara Barbuto
Phone:	(212) 962-4301
Project Name:	BRIDGE CLEANERS
Project Number:	E148
Report Date:	12/06/18

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1848841-01	SP-1	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 10:01	11/29/18
L1848841-02	VM-2	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 10:04	11/29/18
L1848841-03	SP-5	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 10:02	11/29/18
L1848841-04	VM-8	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 10:15	11/29/18
L1848841-05	SP-7	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 10:27	11/29/18
L1848841-06	SP-8	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 10:30	11/29/18
L1848841-07	VM-3	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 11:33	11/29/18
L1848841-08	SP-4	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 11:29	11/29/18
L1848841-09	VM-1	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 11:35	11/29/18
L1848841-10	VM-5	SOIL_VAPOR	LONG ISLAND CITY, NY	11/29/18 11:47	11/29/18
L1848841-11	UNUSED 2029	AIR	LONG ISLAND CITY, NY		11/29/18
L1848841-12	UNUSED 2250	AIR	LONG ISLAND CITY, NY		11/29/18
L1848841-13	UNUSED 346	AIR	LONG ISLAND CITY, NY		11/29/18
L1848841-14	UNUSED 456	AIR	LONG ISLAND CITY, NY		11/29/18
L1848841-15	UNUSED 560	AIR	LONG ISLAND CITY, NY		11/29/18

Project Name: BRIDGE CLEANERS **Lab Number:** L1848841
Project Number: E148 **Report Date:** 12/06/18

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1848841
Project Number:	E148	**Report Date:**	12/06/18

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on November 26, 2018. The canister certification results are provided as an addendum.

L1848841-03, -06, -07, -08: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 12/06/18

AIR

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-01
Client ID: SP-1
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 10:01
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/18 15:48
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	1.86	0.200	--	10.0	1.07	--		1
Tetrachloroethene	34.3	0.200	--	233	1.36	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	85		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	89		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-02
Client ID: VM-2
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 10:04
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/18 16:20
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	3.66	0.500	--	9.00	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	2.01	0.200	--	10.8	1.07	--		1
Tetrachloroethene	10.3	0.200	--	69.8	1.36	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	82		60-140
Bromochloromethane	87		60-140
chlorobenzene-d5	84		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-03 D
Client ID: SP-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 10:02
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/05/18 09:21
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.500	--	ND	1.28	--		2.5
Isopropanol	ND	1.25	--	ND	3.07	--		2.5
trans-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
cis-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
Trichloroethene	13.3	0.500	--	71.5	2.69	--		2.5
Tetrachloroethene	235	0.500	--	1590	3.39	--		2.5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	75		60-140
Bromochloromethane	81		60-140
chlorobenzene-d5	78		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148
Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-04
Client ID: VM-8
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 10:15
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/18 17:56
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	8.87	0.500	--	21.8	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	77		60-140
Bromochloromethane	82		60-140
chlorobenzene-d5	81		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-05
Client ID: SP-7
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 10:27
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/05/18 23:04
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	3.65	0.500	--	8.97	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	0.233	0.200	--	0.924	0.793	--		1
Trichloroethene	1.05	0.200	--	5.64	1.07	--		1
Tetrachloroethene	99.6	0.200	--	675	1.36	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	78		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	80		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-06 D
Client ID: SP-8
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 10:30
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/18 18:59
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	1.00	--	ND	2.56	--		5
Isopropanol	ND	2.50	--	ND	6.15	--		5
trans-1,2-Dichloroethene	ND	1.00	--	ND	3.96	--		5
cis-1,2-Dichloroethene	ND	1.00	--	ND	3.96	--		5
Trichloroethene	2.98	1.00	--	16.0	5.37	--		5
Tetrachloroethene	278	1.00	--	1890	6.78	--		5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	75		60-140
Bromochloromethane	82		60-140
chlorobenzene-d5	81		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-07 D
Client ID: VM-3
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 11:33
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/18 19:31
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.500	--	ND	1.28	--		2.5
Isopropanol	ND	1.25	--	ND	3.07	--		2.5
trans-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
cis-1,2-Dichloroethene	48.4	0.500	--	192	1.98	--		2.5
Trichloroethene	6.65	0.500	--	35.7	2.69	--		2.5
Tetrachloroethene	159	0.500	--	1080	3.39	--		2.5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	77		60-140
Bromochloromethane	80		60-140
chlorobenzene-d5	80		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-08 D
Client ID: SP-4
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 11:29
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/05/18 09:53
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.500	--	ND	1.28	--		2.5
Isopropanol	ND	1.25	--	ND	3.07	--		2.5
trans-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
cis-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
Trichloroethene	1.34	0.500	--	7.20	2.69	--		2.5
Tetrachloroethene	245	0.500	--	1660	3.39	--		2.5

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	74		60-140
Bromochloromethane	81		60-140
chlorobenzene-d5	80		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-09
Client ID: VM-1
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 11:35
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/18 20:34
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	3.51	0.500	--	8.63	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	76		60-140
Bromochloromethane	81		60-140
chlorobenzene-d5	81		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

SAMPLE RESULTS

Lab ID: L1848841-10
Client ID: VM-5
Sample Location: LONG ISLAND CITY, NY

Date Collected: 11/29/18 11:47
Date Received: 11/29/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/04/18 21:06
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	2.16	0.500	--	5.31	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	0.585	0.200	--	3.14	1.07	--		1
Tetrachloroethene	18.9	0.200	--	128	1.36	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	78		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	83		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148
Lab Number: L1848841
Report Date: 12/06/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/04/18 13:47

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-04,06-10 Batch: WG1185500-4								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Project Name: BRIDGE CLEANERS
Project Number: E148
Lab Number: L1848841
Report Date: 12/06/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/05/18 15:31

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 05 Batch: WG1185948-4								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E148

Lab Number: L1848841

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04,06-10 Batch: WG1185500-3								
Vinyl chloride	91		-		70-130	-		
Ethyl Alcohol	119		-		70-130	-		
iso-Propyl Alcohol	110		-		70-130	-		
1,1-Dichloroethene	84		-		70-130	-		
trans-1,2-Dichloroethene	81		-		70-130	-		
1,1-Dichloroethane	83		-		70-130	-		
cis-1,2-Dichloroethene	84		-		70-130	-		
1,2-Dichloroethane	87		-		70-130	-		
1,1,1-Trichloroethane	105		-		70-130	-		
Trichloroethene	91		-		70-130	-		
Tetrachloroethene	72		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 05 Batch: WG1185948-3								
Chlorodifluoromethane	92		-		70-130	-		
Propylene	119		-		70-130	-		
Propane	122		-		70-130	-		
Dichlorodifluoromethane	89		-		70-130	-		
Chloromethane	102		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	84		-		70-130	-		
Methanol	**151**	Q	-		70-130	-		
Vinyl chloride	93		-		70-130	-		
1,3-Butadiene	97		-		70-130	-		
Butane	102		-		70-130	-		
Bromomethane	77		-		70-130	-		
Chloroethane	84		-		70-130	-		
Ethyl Alcohol	115		-		70-130	-		
Dichlorofluoromethane	84		-		70-130	-		
Vinyl bromide	72		-		70-130	-		
Acrolein	81		-		70-130	-		
Acetone	110		-		70-130	-		
Acetonitrile	104		-		70-130	-		
Trichlorofluoromethane	78		-		70-130	-		
iso-Propyl Alcohol	104		-		70-130	-		
Acrylonitrile	87		-		70-130	-		
Pentane	96		-		70-130	-		
Ethyl ether	109		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E148

Lab Number: L1848841

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 05 Batch: WG1185948-3								
1,1-Dichloroethene	83		-		70-130	-		
tert-Butyl Alcohol	98		-		70-130	-		
Methylene chloride	99		-		70-130	-		
3-Chloropropene	105		-		70-130	-		
Carbon disulfide	79		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	73		-		70-130	-		
trans-1,2-Dichloroethene	80		-		70-130	-		
1,1-Dichloroethane	82		-		70-130	-		
Methyl tert butyl ether	76		-		70-130	-		
Vinyl acetate	101		-		70-130	-		
2-Butanone	104		-		70-130	-		
cis-1,2-Dichloroethene	83		-		70-130	-		
Ethyl Acetate	89		-		70-130	-		
Chloroform	80		-		70-130	-		
Tetrahydrofuran	96		-		70-130	-		
2,2-Dichloropropane	75		-		70-130	-		
1,2-Dichloroethane	86		-		70-130	-		
n-Hexane	123		-		70-130	-		
Isopropyl Ether	97		-		70-130	-		
Ethyl-Tert-Butyl-Ether	111		-		70-130	-		
1,1,1-Trichloroethane	106		-		70-130	-		
1,1-Dichloropropene	107		-		70-130	-		
Benzene	106		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E148

Lab Number: L1848841

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 05 Batch: WG1185948-3								
Carbon tetrachloride	104		-		70-130	-		
Cyclohexane	123		-		70-130	-		
Tertiary-Amyl Methyl Ether	99		-		70-130	-		
Dibromomethane	97		-		70-130	-		
1,2-Dichloropropane	115		-		70-130	-		
Bromodichloromethane	114		-		70-130	-		
1,4-Dioxane	105		-		70-130	-		
Trichloroethene	91		-		70-130	-		
2,2,4-Trimethylpentane	128		-		70-130	-		
Methyl Methacrylate	**139**	Q	-		70-130	-		
Heptane	**141**	Q	-		70-130	-		
cis-1,3-Dichloropropene	111		-		70-130	-		
4-Methyl-2-pentanone	**146**	Q	-		70-130	-		
trans-1,3-Dichloropropene	94		-		70-130	-		
1,1,2-Trichloroethane	103		-		70-130	-		
Toluene	83		-		70-130	-		
1,3-Dichloropropane	84		-		70-130	-		
2-Hexanone	111		-		70-130	-		
Dibromochloromethane	85		-		70-130	-		
1,2-Dibromoethane	81		-		70-130	-		
Butyl Acetate	75		-		70-130	-		
Octane	76		-		70-130	-		
Tetrachloroethene	71		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E148

Lab Number: L1848841

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 05 Batch: WG1185948-3								
1,1,1,2-Tetrachloroethane	74		-		70-130	-		
Chlorobenzene	78		-		70-130	-		
Ethylbenzene	83		-		70-130	-		
p/m-Xylene	86		-		70-130	-		
Bromoform	82		-		70-130	-		
Styrene	83		-		70-130	-		
1,1,2,2-Tetrachloroethane	95		-		70-130	-		
o-Xylene	92		-		70-130	-		
1,2,3-Trichloropropane	87		-		70-130	-		
Nonane (C9)	108		-		70-130	-		
Isopropylbenzene	86		-		70-130	-		
Bromobenzene	88		-		70-130	-		
o-Chlorotoluene	79		-		70-130	-		
n-Propylbenzene	83		-		70-130	-		
p-Chlorotoluene	84		-		70-130	-		
4-Ethyltoluene	91		-		70-130	-		
1,3,5-Trimethylbenzene	88		-		70-130	-		
tert-Butylbenzene	109		-		70-130	-		
1,2,4-Trimethylbenzene	119		-		70-130	-		
Decane (C10)	125		-		70-130	-		
Benzyl chloride	124		-		70-130	-		
1,3-Dichlorobenzene	108		-		70-130	-		
1,4-Dichlorobenzene	113		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: E148

Lab Number: L1848841

Report Date: 12/06/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 05 Batch: WG1185948-3								
sec-Butylbenzene	121		-		70-130	-		
p-Isopropyltoluene	110		-		70-130	-		
1,2-Dichlorobenzene	78		-		70-130	-		
n-Butylbenzene	88		-		70-130	-		
1,2-Dibromo-3-chloropropane	84		-		70-130	-		
Undecane	101		-		70-130	-		
Dodecane (C12)	114		-		70-130	-		
1,2,4-Trichlorobenzene	75		-		70-130	-		
Naphthalene	70		-		70-130	-		
1,2,3-Trichlorobenzene	**69**	Q	-		70-130	-		
Hexachlorobutadiene	79		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04,06-10 QC Batch ID: WG1185500-5 QC Sample: L1848841-02 Client ID: VM-2						
Vinyl chloride	ND	ND	ppbV	NC		25
Isopropanol	3.66	3.67	ppbV	0		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
Trichloroethene	2.01	2.00	ppbV	0		25
Tetrachloroethene	10.3	10.1	ppbV	2		25
Volatile Organics in Air - Mansfield Lab Associated sample(s): 05 QC Batch ID: WG1185948-5 QC Sample: L1848841-05 Client ID: SP-7						
Vinyl chloride	ND	ND	ppbV	NC		25
Isopropanol	3.65	3.58	ppbV	2		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	0.233	0.243	ppbV	4		25
Trichloroethene	1.05	1.05	ppbV	0		25
Tetrachloroethene	99.6	96.5	ppbV	3		25

Project Name: BRIDGE CLEANERS

Lab Number: L1848841

Project Number: E148

Report Date: 12/06/18

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1848841-01	SP-1	0377	Flow 2	11/26/18	279491		-	-	-	Pass	72.0	75	4
L1848841-01	SP-1	116	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	-0.0	-	-	-	-
L1848841-02	VM-2	0765	Flow 2	11/26/18	279491		-	-	-	Pass	72.0	74	3
L1848841-02	VM-2	514	2.7L Can	11/26/18	279491	L1847349-01	Pass	-29.5	-0.0	-	-	-	-
L1848841-03	SP-5	0949	Flow 4	11/26/18	279491		-	-	-	Pass	72.0	75	4
L1848841-03	SP-5	521	2.7L Can	11/26/18	279491	L1847349-01	Pass	-29.5	-0.0	-	-	-	-
L1848841-04	VM-8	0944	Flow 2	11/26/18	279491		-	-	-	Pass	72.0	71	1
L1848841-04	VM-8	248	2.7L Can	11/26/18	279491	L1847349-01	Pass	-29.5	-0.0	-	-	-	-
L1848841-05	SP-7	0327	Flow 2	11/26/18	279491		-	-	-	Pass	71.0	62	14
L1848841-05	SP-7	362	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	-0.25	-	-	-	-
L1848841-06	SP-8	0130	Flow 3	11/26/18	279491		-	-	-	Pass	72.0	71	1
L1848841-06	SP-8	527	2.7L Can	11/26/18	279491	L1847349-01	Pass	-29.6	-0.17	-	-	-	-
L1848841-07	VM-3	0205	Flow 5	11/26/18	279491		-	-	-	Pass	71.0	961	172
L1848841-07	VM-3	534	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.5	-0.12	-	-	-	-
L1848841-08	SP-4	0699	Flow 1	11/26/18	279491		-	-	-	Pass	72.0	73	1

Project Name: BRIDGE CLEANERS

Lab Number: L1848841

Project Number: E148

Report Date: 12/06/18

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1848841-08	SP-4	375	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	-0.11	-	-	-	-
L1848841-09	VM-1	0803	Flow 4	11/26/18	279491		-	-	-	Pass	72.0	72	0
L1848841-09	VM-1	483	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.5	0.08	-	-	-	-
L1848841-10	VM-5	0677	Flow 3	11/26/18	279491		-	-	-	Pass	70.0	59	17
L1848841-10	VM-5	1719	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	0.38	-	-	-	-
L1848841-11	UNUSED 2029	01135	Flow 2	11/26/18	279491		-	-	-	Pass	72.0	72.0	0
L1848841-11	UNUSED 2029	2029	2.7L Can	11/26/18	279491	L1847349-01	Pass	-29.6	-29.6	-	-	-	-
L1848841-12	UNUSED 2250	01132	Flow 2	11/26/18	279491		-	-	-	Pass	72.0	72.0	0
L1848841-12	UNUSED 2250	2250	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	-29.6	-	-	-	-
L1848841-13	UNUSED 346	0402	Flow 1	11/26/18	279491		-	-	-	Pass	72.0	72.0	0
L1848841-13	UNUSED 346	346	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	-29.6	-	-	-	-
L1848841-14	UNUSED 456	01014	Flow 2	11/26/18	279491		-	-	-	Pass	72.0	72.0	0
L1848841-14	UNUSED 456	456	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	-29.6	-	-	-	-
L1848841-15	UNUSED 560	0617	Flow 5	11/26/18	279491		-	-	-	Pass	72.0	72.0	0
L1848841-15	UNUSED 560	560	2.7L Can	11/26/18	279491	L1847723-01	Pass	-29.6	-29.6	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1847349
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/20/18 18:07
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847349
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847349
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847349
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847349
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847349
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/20/18 18:07
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847349
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1847349

Project Number: CANISTER QC BAT **Report Date:** 12/06/18

Air Canister Certification Results

Lab ID: L1847349-01
Client ID: CAN 536 SHELF 1
Sample Location:

Date Collected: 11/16/18 16:00
Date Received: 11/19/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	86		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1847723
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/20/18 23:24
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847723
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847723
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847723
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847723
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	79		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	81		60-140

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1847723

Project Number: CANISTER QC BAT **Report Date:** 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/20/18 23:24
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1847723
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1847723
Report Date: 12/06/18

Air Canister Certification Results

Lab ID: L1847723-01
Client ID: CAN 497 SHELF 4
Sample Location:

Date Collected: 11/20/18 09:00
Date Received: 11/20/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	79		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	83		60-140

Project Name: BRIDGE CLEANERS
Project Number: E148

Lab Number: L1848841
Report Date: 12/06/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1848841-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-02A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-03A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-04A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-05A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-06A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-07A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-08A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-09A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-10A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1848841-11A	Canister - 2.7 Liter	N/A	NA			Y	Absent		CLEAN-FEE()
L1848841-12A	Canister - 2.7 Liter	N/A	NA			Y	Absent		CLEAN-FEE()
L1848841-13A	Canister - 2.7 Liter	N/A	NA			Y	Absent		CLEAN-FEE()
L1848841-14A	Canister - 2.7 Liter	N/A	NA			Y	Absent		CLEAN-FEE()
L1848841-15A	Canister - 2.7 Liter	N/A	NA			Y	Absent		CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1848841
Project Number:	E148	**Report Date:**	12/06/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L1848841
Project Number:	E148	**Report Date:**	12/06/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: BRIDGE CLEANERS **Lab Number:** L1848841

Project Number: E148 **Report Date:** 12/06/18

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

ALPHA ANALYTICAL — CHAIN OF CUSTODY

PAGE 1 OF 1

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/30/18

ALPHA Job #: L1848641

Client Information

Client: Integral Consulting
Address: 1001 6th Avenue New York, NY 10018
Phone: 860-705-0620
Fax:
Email: sbarbuto@integral-corp.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Long Island City, NY
Project #: E028
Project Manager: Sara Barbuto
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subtract Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
6841-01	SP-1	11/29/18	924	1001	-29.80	-0.98	SV	MS	2.7	116	0377	X					*PCE, TCE,
-02	VM-2	11/29/18	927	1004	-30.12	-0.92	SV	MS	2.7	514	0765	X					1,2-DCE, VC
-03	SP-5	11/29/18	931	1012	-30.05	-0.95	SV	MS	2.7	521	0949	X					and isopropanol*
-04	VM-8	11/29/18	936	1015	-30.17	-0.98	SV	MS	2.7	248	0944	X					Only report
-05	SP-7	11/29/18	940	1027	-30.03	-0.97	SV	MS	2.7	362	0327	X					
-06	SP-8	11/29/18	950	1030	-30.00	-0.92	SV	MS	2.7	527	0130	X					
-07	VM-3	11/29/18	1022	1133	-29.83	-0.93	SV	MS	2.7	534	0205	X					
-08	SP-4	11/29/18	1049	1129	-30.14	-0.96	SV	MS	2.7	375	0699	X					
-09	VM-1	11/29/18	1053	1135	-30.09	-0.94	SV	MS	2.7	483	0803	X					
-10	VM-5	11/29/18	1058	1147	-29.80	-0.96	SV	MS	2.7	1719	0677	X					

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Relinquished By:	Date/Time	Received By:	Date/Time:
	11/29/18		11/29/18 1610
	11/29/18 1800		11-29-18 18:00
	11/29/18 2030		11/29 2300
	11/30 0630		11/30/18 0630

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

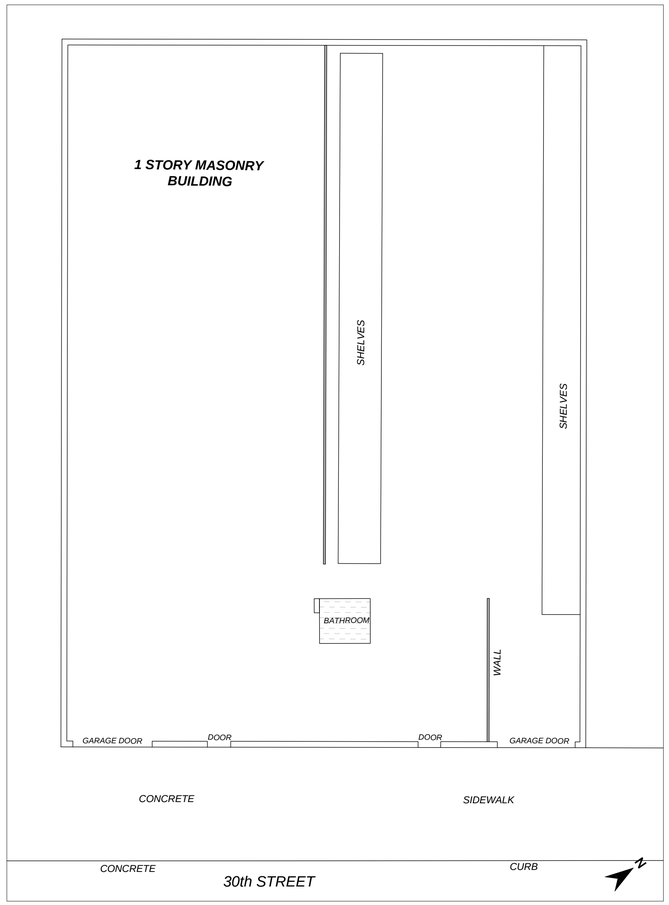
APPENDIX D

AS/SVE AS-BUILT DRAWINGS

AS-BUILT RECORD DRAWINGS
INTERIM REMEDIAL MEASURE
39-26 30th ST, LONG ISLAND CITY, NY



KEY PLAN
N.T.S.



SITE PLAN
N.T.S.

LIST OF DRAWINGS		
SHEET	DRAWING	TITLE
1	T-100.00	TITLE SHEET, KEY PLAN, SITE PLAN, AND DRAWING LIST
2	G-100.00	GENERAL NOTES AND ABBREVIATIONS
3	M-100.00	PROCESS FLOW DIAGRAM
4	M-200.00	FIRST FLOOR PLAN VIEW
5	M-300.00	ROOF PLAN VIEW
6	M-400.00	AS/SVE SYSTEM ELEVATIONS
7	M-500.00	SYSTEM COMPONENTS (1 OF 3)
8	M-501.00	SYSTEM COMPONENTS (2 OF 3)
9	M-502.00	SYSTEM COMPONENTS (3 OF 3)
10	M-503.00	ROOF SEALANT SPECIFICATIONS

PREPARED FOR:

ZHONG CHUANG PROPERTIES, LLC
ALENAT PROPERTIES, LLC

PREPARED BY:

INTEGRAL ENGINEERING, P.C.
22 CORTLANDT ST, 16TH FLOOR
NEW YORK, NY 10007

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering p.c.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN	DATE
EB	9-14-2018
DES	DATE
SB	9-14-2018
CHK	DATE
KPB	9-14-2018
SCALE	PROJECT NO.
NOT TO SCALE	E148

TITLE SHEET, KEY PLAN, SITE PLAN, AND DRAWING LIST

SHEET **1** OF **10**

T-100.00

REV **0**

N:\GIS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\T-100_Cover.dwg 9/14/2018 12:47:40 PM

ZONING DATA[1]

ADDRESS: 39-26 30th ST, LONG ISLAND CITY
BLOCK: 399
LOT: 31
ZONING DISTRICT: M1-3/R7X, LIC
ZONING MAP: 9b
CERTIFICATE OF OCCUPANCY: #95005
CURRENT USE: FACTORY & STORAGE
OCCUPANCY CLASSIFICATION: NON-COMMERCIAL
CONSTRUCTION CLASSIFICATION: FIREPROOF
BUILDING IDENTIFICATION NUMBER: 4004852
BUILDING HEIGHT: 14'11"
BUILDING AREA: 7,500 SQ FT
BUILDING STORIES: 1
BUILDING USE: FACTORY AND STORAGE

SCOPE OF WORK

WE INSTALLED A REMEDIATION SYSTEM TO REMOVE CONTAMINATED AIR FROM BELOW THE BUILDING AND EXHAUST IT TO THE ATMOSPHERE ABOVE THE BUILDING. THE REMEDIATION SYSTEM WAS NOT DESIGNED TO HEAT, COOL, OR OTHERWISE CONDITION THE INTERIOR AIR. THE REMEDIATION SYSTEM WAS APPROVED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION UNDER 6 NYCRR 375 AND BY THE NEW YORK CITY OFFICE OF ENVIRONMENTAL REMEDIATION UNDER 15 RCNY § 24 AND THE NEW YORK CITY ZONING RESOLUTION § 11-15.

AN AIR SPARGE/SOIL VAPOR EXTRACTION (AS/SVE) REMEDIATION SYSTEM WAS INSTALLED ON THE BUILDING ROOF WITH ONE BLOWER TO EXTRACT SOIL VAPOR FROM TWO EXISTING RECOVERY WELLS ALONG THE CENTERLINE OF THE BUILDING WITH AN EXISTING AIR SPARGE WELL IN BETWEEN. THE AIR SPARGE COMPRESSOR INTRODUCES AIR INTO THE SATURATED ZONE TO ALLOW FOR MASS TRANSFER OF DISSOLVED CONTAMINANTS INTO THE VAPOR PHASE (FOR COLLECTION BY THE SOIL VAPOR EXTRACTION [SVE]). BY THE APPLICATION OF NEGATIVE PRESSURE, THE SVE SYSTEM WILL VOLATILIZE CONTAMINATION FROM SOIL FOR EXHAUST TO THE ATMOSPHERE. IT WILL ALSO SERVE TO CREATE NEGATIVE DIFFERENTIAL PRESSURE BENEATH THE SITE BUILDING'S SLAB RELATIVE TO THE PRESSURE ABOVE THE BUILDING'S SLAB, THEREBY MITIGATING THE INFILTRATION OF SUB-SLAB VAPORS INTO THE BUILDING.

ABBREVIATIONS

AS	AIR SPARGE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BGS	BELOW GROUND SURFACE
CFM	CUBIC FEET PER MINUTE
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
FT	FOOT
MIN	MINIMUM
NTS	NOT TO SCALE
NYCECC	NEW YORK CITY ENERGY CONSERVATION CODE
NYCRR	NEW YORK CODES, RULES, AND REGULATIONS
NYSDEC	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PA	PASCAL
PVC	POLYVINYL CHLORIDE
RCNY	RULES OF THE CITY OF NEW YORK
RW	RECOVERY WELL
SCH	SCHEDULE
SVE	SOIL VAPOR EXTRACTION
TBD	TO BE DETERMINED

REQUIRED SPECIAL INSPECTIONS

MECHANICAL SYSTEMS	BC 1704.16
STRUCTURAL STABILITY - EXISTING BUILDINGS	BC 1704.20.1
FIRE-RESISTANT PENETRATIONS AND JOINTS	BC 1704.27

REQUIRED PROGRESS INSPECTIONS

ENERGY CODE COMPLIANCE INSPECTIONS	BC 110.3.5
AIR SEALING AND INSULATION- VISUAL	1 RCNY 5000-01(h)(1) AND (2); (IIA6)
DUCT LEAKAGE TESTING	1 RCNY 5000-01(h)(1) AND (2); (IIB6)

FINAL INSPECTIONS

FINAL	28-116.2.4.2, BC 110.5, DIRECTIVE 14 OF 1975, AND RCNY 101-10

[1] NYCDOB. 2017. "Property Profile Overview 39-26 30th Street, Queens, 11101, BIN #4004852." NYC Department of Buildings, New York, NY. Available at: http://a810-bisweb.nyc.gov/bisweb/PropertyProfileOverviewServlet?requestid=5&bin=4004852

[2] NYCECC 2016: https://www1.nyc.gov/site/buildings/codes/2016-energy-conservation-code.page
CHAPTER 4: https://www1.nyc.gov/assets/buildings/apps/pdf_viewer/viewer.html?file=2016ECC_CHC4.pdf&section=energy_code_2016

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering p.c.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN EB	DATE 9-14-2018
DES SB	DATE 9-14-2018
CHK KPB	DATE 9-14-2018
SCALE N/A	PROJECT NO. E148

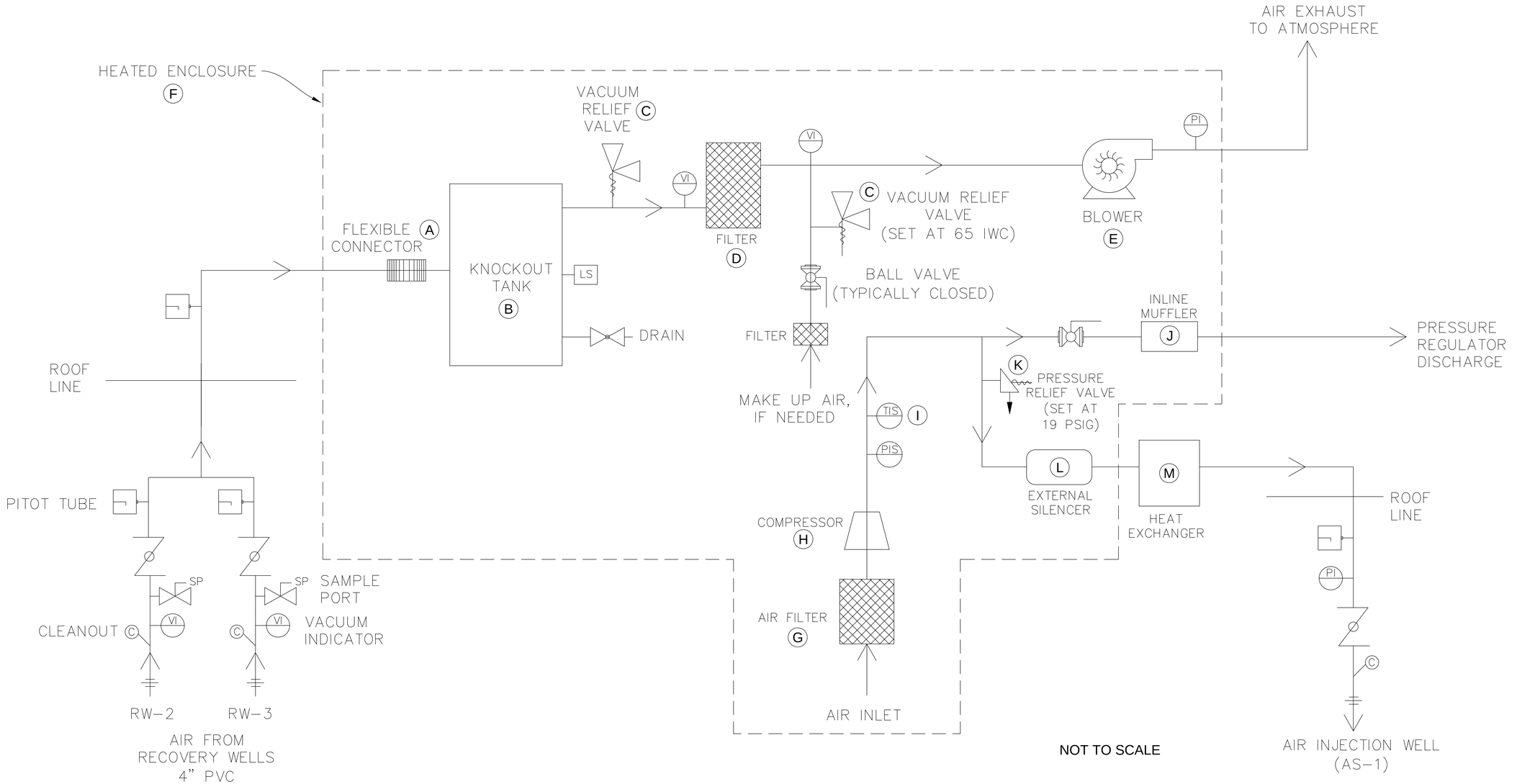
GENERAL NOTES AND ABBREVIATIONS

SHEET **2** OF **10**

G-100.00

REV **0**

N:\GIS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\G-100_Notes.dwg 9/14/2018 12:52:02 PM



LEGEND

- VI — VACUUM INDICATOR
- PI — PRESSURE INDICATOR
- PITOT TUBE
- DRAIN VALVE
- BUTTERFLY VALVE
- VACUUM RELIEF VALVE
- BALL VALVE
- PIS — PRESSURE INDICATOR SWITCH
- TIS — TEMPERATURE INDICATOR SWITCH
- BLOWER
- PRESSURE RELIEF VALVE
- LS — LEVEL SWITCH
- COMPRESSOR
- C — CLEANOUT
- SP — SAMPLE PORT
- FILTER
- FLEXIBLE CONNECTOR
- X — SYSTEM COMPONENT LABEL (SEE TABLE AT RIGHT)

SOIL VAPOR EXTRACTION SYSTEM				
LABEL	DESCRIPTION	SUPPLIER	VENDOR PART NUMBER	SPEC. SHEET
A	Reducing Flex Coupling	Pipeline	1059-22	not available
B	Moisture Separator	Ametek Rotron	MS200PS (038519)	M-501.00
C	Vacuum Relief Valve	Fisher	289H-41	M-501.00
D	2" Inline Filter	Solberg Mfg.	CSL-851-200HC	M-501.00
E	Regenerative Blower	Ametek Rotron	EN505AX72ML	M-501.00
F	Sound Enclosure, outdoor	ARTUSA	71.5" x 42.75 x 48.5"	M-501.00
AIR SPARGE SYSTEM				
LABEL	DESCRIPTION	SUPPLIER	VENDOR PART NUMBER	SPEC. SHEET
G	Inlet Filter with paper element	Universal Silencer	CCS-2	M-502.00
H	Rotary Claw Compressor	Rietschle	DLR60 5 HP, 230/460/3/60 TEFC	M-502.00
I	Discharge Temp Gauge/Switch	Jumo	608523.0000	M-503.00
J	Inline Muffler	Universal Silencer	U5-1.25/11-121-AA	M-502.00
K	Relief Valve	Fisher	289H-41	M-501.00
L	External Silencer	Universal Silencer	1000001239.0000	not available
M	Air to Air Heat Exchanger	XChanger	AA-250, 1 Hp, TEFC, 230/460/3/60	M-503.00

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering p.c.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN	DATE
EB	9-14-2018
DES.	DATE
KPB	9-14-2018
CHK	DATE
KPB	9-14-2018
SCALE	PROJECT NO.
NOT TO SCALE	E148

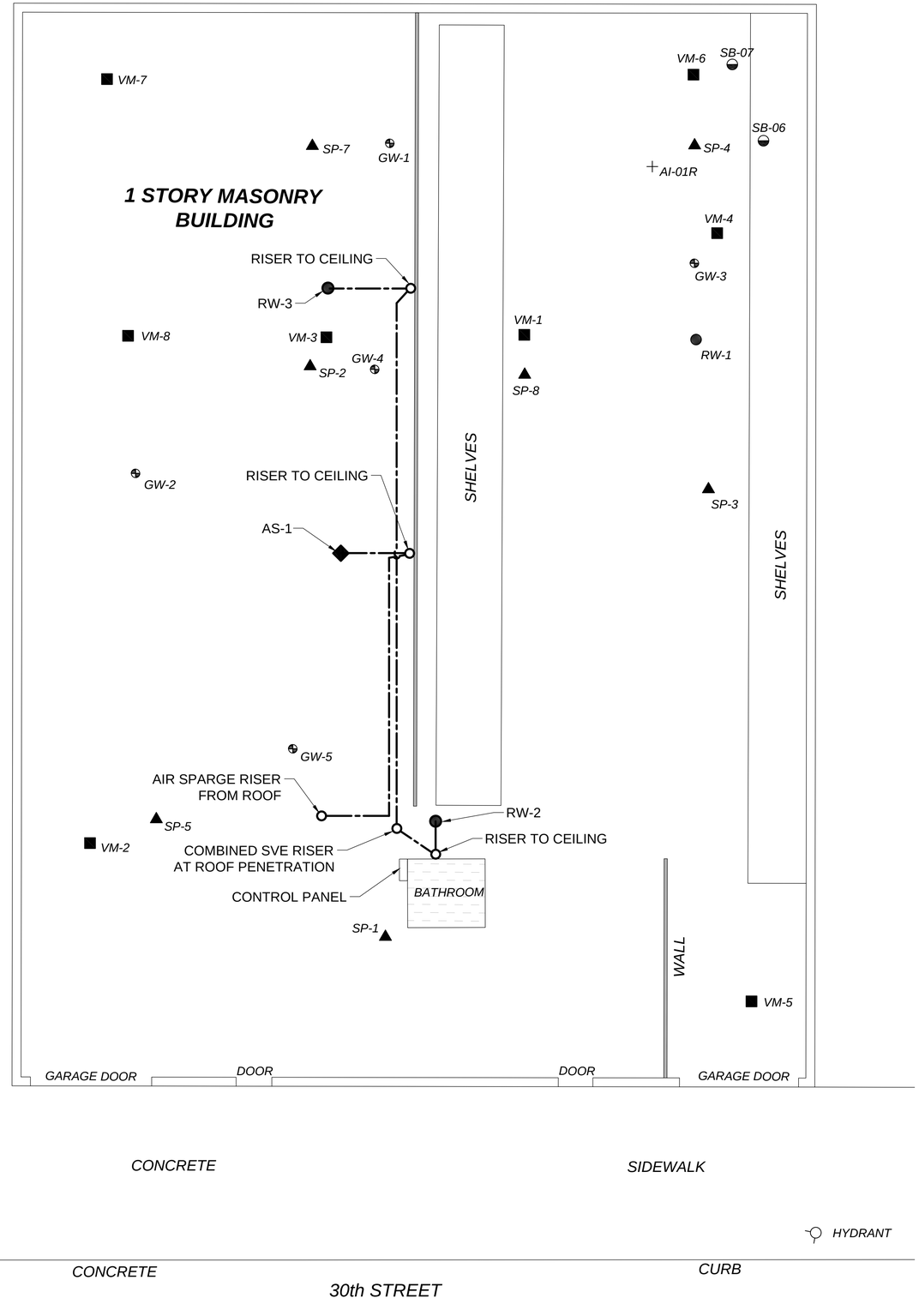
PROCESS FLOW DIAGRAM

SHEET **3** OF **10**

M-100.00

REV **0**

N:\GIS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\M-100_PFD.dwg 9/10/2018 1:56:56 PM



PVC PIPE

AIR SPARGE WELL

VAPOR EXTRACTION WELL

GROUNDWATER MONITORING WELL/SOIL BORING

SOIL BORING

PILOT TEST AIR INJECTION WELL

VACUUM MONITORING POINT

SOIL VAPOR POINT

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering p.c.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN EB	DATE 9-14-2018
DES SB	DATE 9-14-2018
CHK KPB	DATE 9-14-2018
SCALE 1" = 6'	PROJECT NO. E148

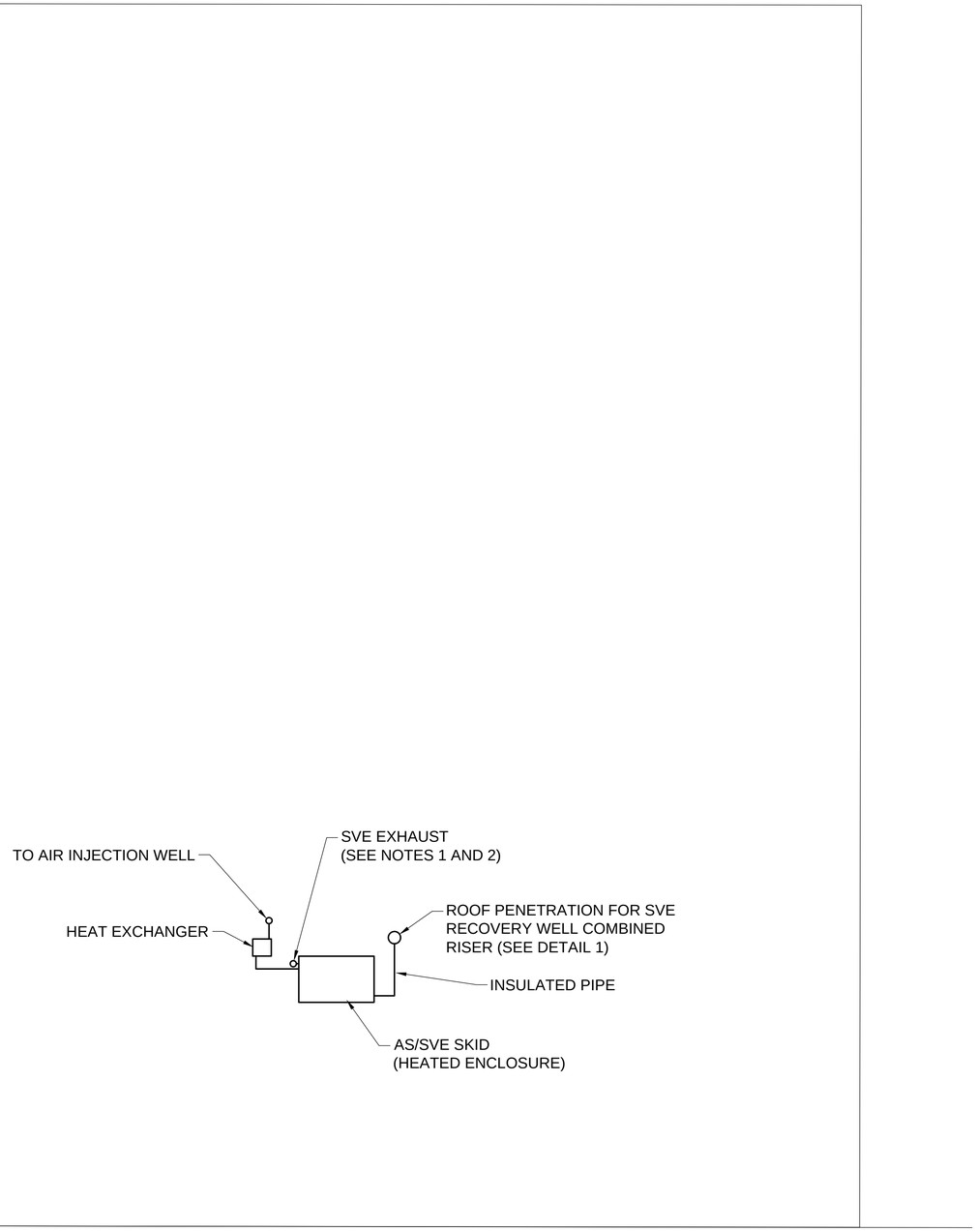
FIRST FLOOR PLAN VIEW

SHEET **4** OF **10**

M-200.00

REV **0**

N:\GIS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\M-200_1st_Floor_Layout.dwg 8/30/2018 1:49:20 PM

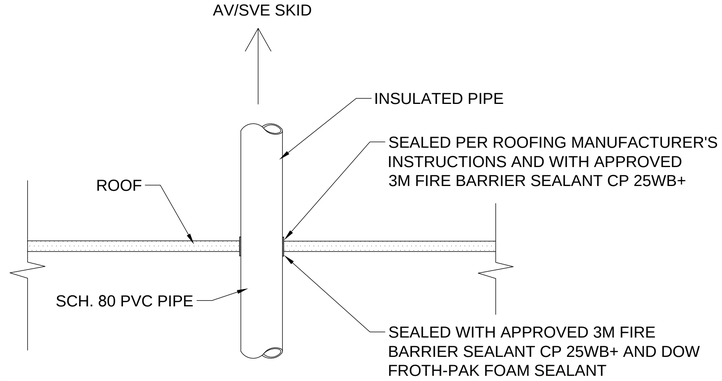


SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

NOTES:

1. SVE EXHAUST IS LOCATED AT LEAST 25 FT AWAY FROM ANY OPERABLE OPENINGS OR AIR INTAKES (ON ANY PROPERTY/BUILDING).
2. SVE EXHAUST DISCHARGE SET AT 10.5 FT ABOVE ROOFLINE.



NOTE:

1. SEE M-503.00 FOR ROOF SEALANT SPECIFICATIONS

1 TYPICAL PIPE PENETRATION DETAIL
NTS

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering p.c.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN EB	DATE 9-14-2018
DES SB	DATE 9-14-2018
CHK KPB	DATE 9-14-2018
SCALE AS NOTED	PROJECT NO. E148

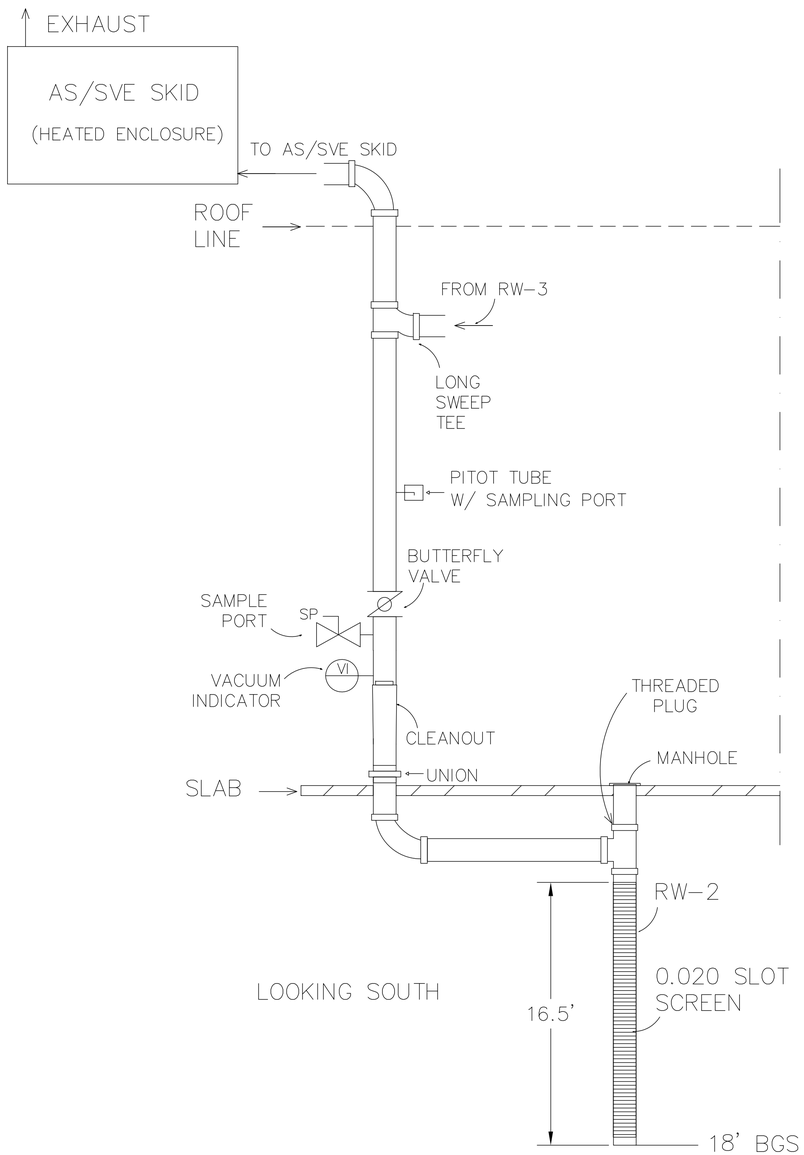
ROOF PLAN VIEW

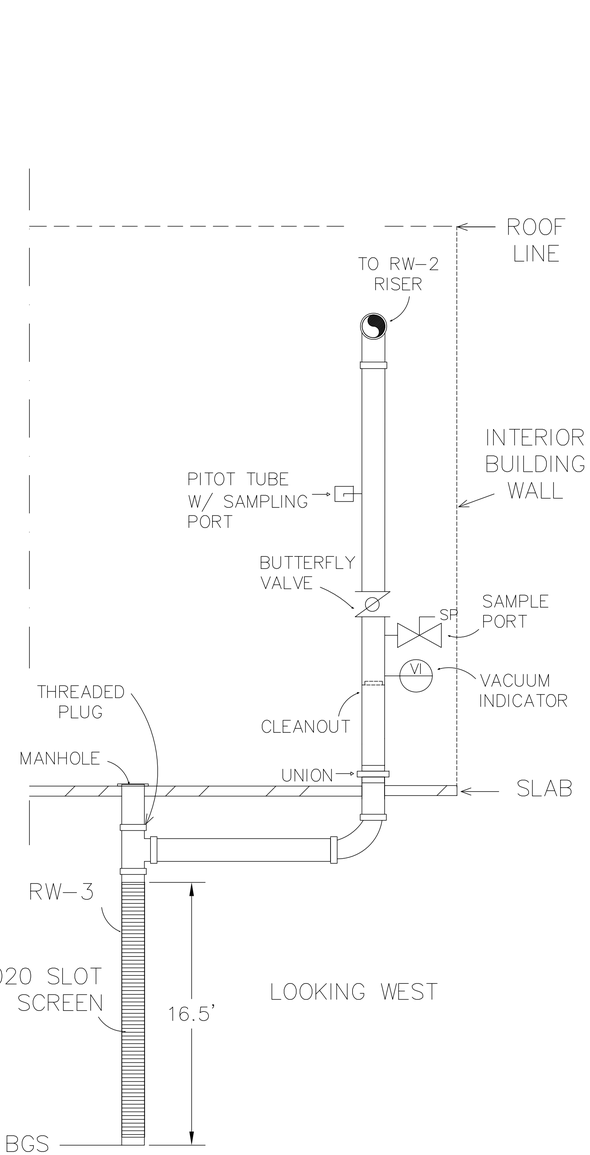
SHEET **5** OF **10**

M-300.00

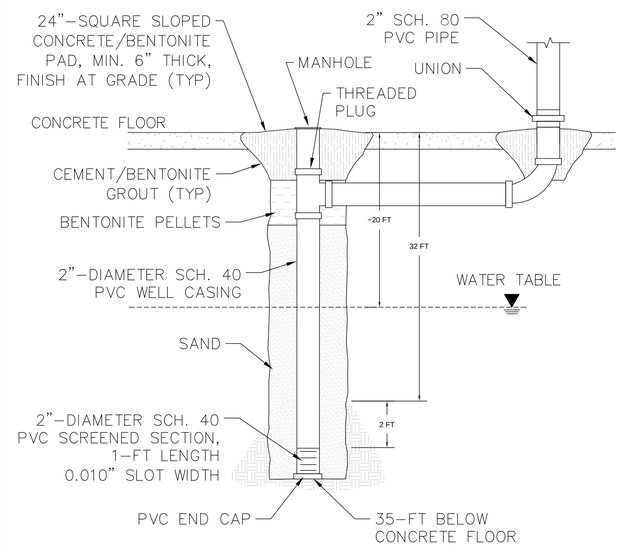
REV **0**

N:\GIS\Projects\E148_BridgeCleaners_APA\CAD\Production Drawings\AS-BUILTS\M-300_Roof.dwg 9/14/2018 1:08:51 PM





NOT TO SCALE



AIR SPARGE WELL DETAIL

NOT TO SCALE

NOTES:

1. SYSTEM CONNECTED TO EXISTING AIR SPARGE AND RECOVERY WELLS.

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering p.c.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN EB	DATE 9-14-2018
DES SB	DATE 9-14-2018
CHK KPB	DATE 9-14-2018
SCALE NOT TO SCALE	PROJECT NO. E148

AS/SVE SYSTEM ELEVATIONS

SHEET **6** OF **10**

M-400.00

REV **0**

N:\GIS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\M-400_SVE Elevations.dwg 9/14/2018 1:13:07 PM

LP SERIES LOW PRESSURE

PIC PRECISION INSTRUMENT CO.

SPECIFICATIONS

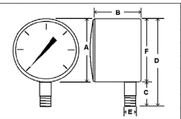
- Chrome plated case
- Black steel case (u-clamp panel mnt)
- Brass internals and connection
- Dry non-fillable
- +/- 1.5 % accuracy

FEATURES

- 2 1/2"dial size with twist lock plastic lens
- zero adjustment screw on back of case
- 1/4"mnpt bottom or back connection
- Capsule type diaphragm to measure low pressures

LP1

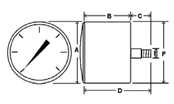




	2 ½"		4"	
	IN	MM	IN	MM
A	2.60"	66	3.98"	101
B	1.70"	44	2.21"	56
C	.85"	22	1.56"	40
D	3.45"	87.5	5.49"	139
E	1/4"NPT		1/4" OR 1/2" NPT	
F	2.60"	66	3.98"	101
G				

LP2

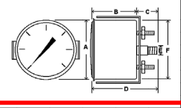




	2 ½"		4"	
	IN	MM	IN	MM
A	2.62"	66.5	----	----
B	1.92"	49	----	----
C	.84"	21.5	----	----
D	2.75"	71	----	----
E	1/4"NPT		----	----
F	2.60"	66	----	----
G			----	----

LP3

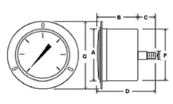




	2 ½"		4"	
	IN	MM	IN	MM
A	2.84"	72	----	----
B	1.88"	48	----	----
C	.84"	21.5	----	----
D	2.74"	69.5	----	----
E	1/4"NPT		----	----
F	2.60"	66.2	----	----
G	3.34	85	----	----

LP4





	2 ½"		4"	
	IN	MM	IN	MM
A	2.61	66	----	----
B	1.89	48	----	----
C	.875	22.2	----	----
D	2.74	69.5	----	----
E	1/4"NPT		----	----
F	2.67	68	----	----
G	3.44	87.4	----	----

AVAILABLE RANGES:

200-0"wc Vacuum (2"Minor inc)
160-0"wc Vacuum (2"Minor inc.)
100-0"wc Vacuum (1"Minor inc.)
60-0"wc vacuum (1"Minor Inc.)
30-0"wc vacuum (.5"wc minor)
0-10"wc (.5"wc minor inc.)
0-15"wc (.2"wc minor inc.)

0-30"wc (.5"wc minor inc.)
20 oz./35"wc (.5"wc minor inc.)
35 oz./60"wc (1"wc minor inc.)
0-60"wc (1"wc minor inc.)
0-100"wc (2"wc minor inc.)
0-160"wc (5"wc minor inc.)
0-200"wc (5"wc minor inc.)

0-3 psi (.05 psi minor inc.)
0-5 psi (.1 psi minor inc.)
0-10 psi (.2 psi minor inc.)

NOTE: OTHER RANGES AVAILABLE UPON REQUEST, PLEASE CALL WITH ANY INQUIRIES

PRESSURE INDICATOR

Accessories

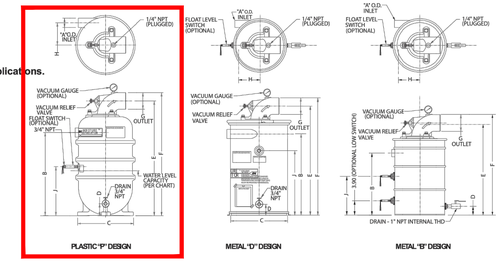
Filtration - Moisture Separator

ROTRON®

By separating and containing entrained liquids, ROTRON'S™ moisture separator helps protect our regenerative blowers and the end treatment system from corrosion and mineralization damage. Recommended for all soil vacuum extraction Applications.

SPECIFICATIONS:
SEPARATION METHOD – High Effciency Cyclonic
RELIEF VALVE MATERIAL – Brass & Stainless Steel
FLOAT MATERIAL – Copper
FLOAT SWITCH – SPDT, Explosion-proof NEMA 7&9, 5 Amp max.

applications.



PLASTIC "P" DESIGN — METAL "D" DESIGN — METAL "S" DESIGN

		Part/Model Number					
		MS200PS	MS300PS	MS350BS	MS500BS	MS600BS	MS1000BS
Specification	Units	038519	038520	038357	080660	080659	038914
Dimension A	Inches	2.38	2.89	3.25	3.25	4.00	6.00
	mm	60.5	73.2	82.6	82.6	101.6	152.4
CFM Max.	CFM	200	300	350	500	600	1000
	m3/hr	340	510	595	850	1020	1700
Dimension B	Inches	22.46	22.46	28.00	28.00	27.00	31.00
	mm	570.5	570.5	711.2	711.2	685.8	787.4
Dimension C	Inches	16.00	16.00	23.00	23.00	23.00	27.00
	mm	406.4	406.4	584.2	584.2	584.2	685.8
Dimension D	Inches	3.25	3.25	4.00	4.00	4.00	4.00
	mm	82.6	82.6	101.6	101.6	101.6	101.6
Dimension E	Inches	31.05	31.05	37.25	37.37	37.37	47.32
	mm	788.7	788.7	946.2	949.2	949.2	1201.9
Dimension F	Inches	33.30	33.30	39.50	54.50	54.50	51.70
	mm	845.8	845.8	1003.3	1384.3	1384.3	1313.2
Dimension H	Inches	6	6.00	9.75	9.75	9.25	10.00
	mm	152.4	152.4	247.7	247.7	235	254
Dimension G	Inches	4.50 OD	4.50 D	4.50 OD	6.63 ID	6.63 ID	8.62 OD
	mm	114.3	114.3	114.3	168.4	168.4	218.9
Dimension J	Inches	13.25	13.25	17.50	17.50	17.50	19.88
	mm	336.6	336.6	444.5	444.5	444.5	505
Drain Internal Thd	-	3/4	3/4	1	1	1	1
Shipping Weight	Lbs	42	42	82	95	96	150
	Kg	19.1	19.1	37.2	43.1	43.5	68

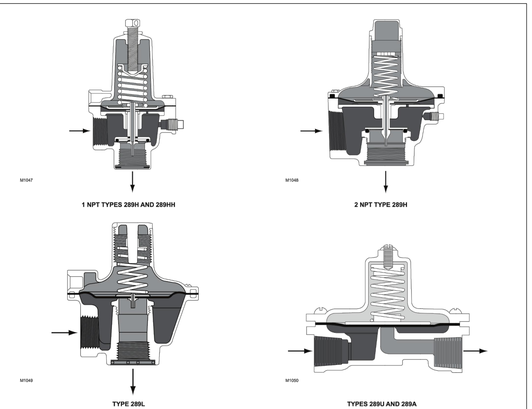
This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions. AMETEK is not responsible for blowers driven beyond factory specified speed, temperature, pressure, flow or without proper alignment. Actual performance will vary depending on the operating environment and application. AMETEK products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications, contact AMETEK Technical & Industrial Products Sales department.

AMETEK DYNAMIC FLUID SOLUTIONS
70 North Street, Saugerties, NY 12477
USA: +1 215-256-6601 - Europe: +49 7703 930909 - Asia: +86 21 5763 1258
Customer Service Fax: +1 215.256.1338
www.ametekdfs.com

G 5

AMETEK®
PRECISION MOTION CONTROL
DYNAMIC FLUID SOLUTIONS

MOISTURE SEPARATOR



INLET PRESSURE
OUTLET PRESSURE
ATMOSPHERIC PRESSURE

Figure 2. *Types 289H, 289L and 289U Operational Schematics*

Table 1. *Maximum Allowable Relief (Inlet) Pressure*

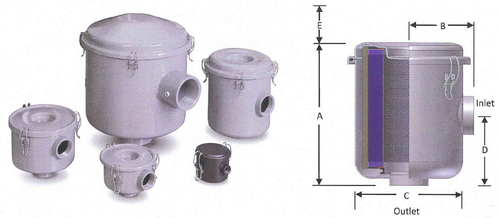
AVAILABLE CONFIGURATION	BODY SIZE, NPT	SPRING PART NUMBER	COLOR CODE	SPRING RANGE (RELIEF PRESSURE SETTINGS) psig	SPRING RANGE (RELIEF PRESSURE SETTINGS) bar	MAXIMUM ALLOWABLE RELIEF (INLET) PRESSURE[1] psig	MAXIMUM ALLOWABLE RELIEF (INLET) PRESSURE[1] bar
Type 289A	1/4	0Z056327022 1B268272022	Silver Silver	3 to 13 11 to 22	0.21 to 0.90 0.76 to 1.5	45	3.1
Type 289H	1	1F826927052 1D892327022 1D751527022 1D745570012	Pink Red Silver Green	1 to 4.5 4 to 15 10 to 20 15 to 50	0.07 to 0.31 0.28 to 1.0 0.69 to 1.4 1.0 to 3.5	100	6.9
	2	1B536527052 1B536627052 1B536827062 1B536927052	Dark Blue Gray Dark Green Red Stripe	7 to 18 in. w.c. 0.5 to 2.25 1.75 to 7 4 to 10	17 to 45 mbar 0.03 to 0.16 0.12 to 0.48 0.28 to 0.69	25	1.7
Type 289HH	1	1D745570012	Green	45 to 75	3.1 to 5.2	100	6.9
Type 289L	3/4 or 1	13A79177X012 13A79160X012	Silver Red Stripe	10 to 18 in. w.c. 12 to 40 in. w.c.	25 to 45 mbar 30 to 99 mbar	7	0.48
Type 289U	1/4	0V060227022 0F058227022	Silver Silver	5 to 25 in. w.c. 20 in. w.c. to 3 psig	12 to 62 mbar 50 to 207 mbar	10 psig	0.69

1. This value indicates the relief pressure setting plus pressure build-up.

VACUUM RELIEF VALVE

"L" Style Vacuum Filters
CSL Series 3/8" - 3" FPT

SOLBERG



Features

- Seamless drawn housings
- Brazed fittings for high vacuum duty
- Stainless steel torsion clips for durability
- Positive engagement O-ring seal system
- Rugged all steel construction with baked enamel finish

Benefits

- Large dirt holding capacity and easy field cleaning, especially when mounted horizontally or inverted
- Designed to handle high vacuum applications
- Low pressure design

Technical Specifications

- Vacuum Rating: Gas tight o-ring seal
- Temp (continuous): min -15°F (-26°C) max 220°F (104°C)
- Filter change out differential: 15-20" H_2O over initial Δ P
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

Options

- Vacuum gauge
- Dome hood for high holding capacity
- Material/Finishes: stainless steel, epoxy coating
- Support brackets
- Alternative top-to-canister fastening system for low pressure or pulsating systems

FPT Outlet Connections

FPT Inlet/ Outlet	Assembly SCFM Rating	Assembly Part Number Polyester	Assembly Part Number Paper	Dimensions - inches A	B	C	D	Suggested Service HT. E	Approx. Wt. lbs	Replacement Element Part No. Polyester	Replacement Element Part No. Paper	Element SCFM Rating
3/8"	18	CSL-825-039HC	CSL-824-039HC	3 5/8	2 1/4	3 3/4	1 7/8	3	0.88	825	824	25
1/2"	18	CSL-825-050HC	CSL-824-050HC	3 5/8	2 1/4	3 3/4	1 7/8	3	0.88	825	824	25
1/2"	20	CSL-843-050HC	CSL-842-050HC	4 3/8	3	5 7/8	2 1/2	3	3	843	842	55
3/4"	24	CSL-825-075HC	CSL-824-075HC	3 3/4	2 1/4	3 3/4	1 7/8	3	0.88	825	824	25
3/4"	25	CSL-843-075HC	CSL-842-075HC	4 3/8	3	5 7/8	2 1/2	3	3	843	842	55
1"	35	CSL-843-100HC	CSL-842-100HC	4 3/8	3 1/4	5 7/8	2 5/8	3	3	843	842	55
1"	40	CSL-849-100HC	CSL-848-100HC	6 3/4	4 1/8	7 1/3	4 1/2	5	5	849	848	115
1 1/4"	55	CSL-843-125HC	CSL-842-125HC	4 3/8	3 1/4	5 7/8	2 5/8	3	3	843	842	55
1 1/4"	60	CSL-849-125HC	CSL-848-125HC	6 3/4	4 1/8	7 5/16	4 1/2	5	5	849	848	115
1 1/2"	80	CSL-849-150HC	CSL-848-150HC	6 3/4	4 1/8	7 5/16	4 1/2	5	5	849	848	115
2"	175	CSL-851-200HC	CSL-850-200HC	10 1/4	4 9/16	8 3/4	5	9	15	851	850	290
2 1/2"	210	CSL-851-250HC	CSL-850-250HC	10 1/2	5 1/8	8 7/8	5 1/2	9	15	851	850	290
3"	300	CSL-239-300HC	CSL-238-300HC	15 3/4	8 7/8	13 1/4	8 3/4	11	33	239	238	570

See Vacuum Filter Technical Data section for sizing guidelines.

Dimension tolerance ± 1/4"

Note: Model offerings and design parameters may change without notice. See www.solbergmfg.com for most current offering.

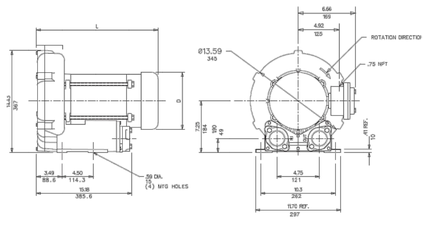
INLINE VACUUM FILTER

Environmental / Chemical Processing Blowers

EN 505 & CP 505

2.0 / 2.5 HP Sealed Regenerative w/Explosion-Proof Motor

ROTRON®



NOTES
1. TERMINAL BOX CONNECTOR HOLE 3/4" NPT.
2. DRAWING NOT TO SCALE, CONTACT FACTORY FOR SCALE CAD DRAWING.
3. CONTACT FACTORY FOR BLOWER MODEL LENGTHS NOT SHOWN.

		Part/Model Number				
		EN505AX58ML	EN505AX72ML	CP505FS58MLR	CP505FS72MLR	
Specification	Units	038177	038178	080655	038962	
Motor Enclosure - Shaft Mtl.	-	Explosion-proof-CS	Explosion-proof-CS	CHEM XP-SS	CHEM XP-SS	
Horsepower	-	2.0	2.0	2.0	2.0	
Phase - Frequency	-	Single-60 hz	Three-60 hz	Single-60 hz	Three-60 hz	
Voltage	AC	115/230	230/460	115/230	230/460	
Motor Nameplate Amps	Amps (A)	22/1	5.8/2.9	22/11	5.8/2.9	
Max. Blower Amps	Amps (A)	24/12	6.4/3.2	24/12	6.4/3.2	
Locked Rotor Amps	Amps (A)	112/56	56/28	112/56	56/28	
Service Factor	-	1/0	0/0	1/0	0/0	
Starter Size	-	1.0	1.0	1.0	1.0	
Thermal Protection	-	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty	
XP Motor Class - Group	-	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G	
Shipping Weight	Lbs	92	84	92	84	
	Kg	41.7	38.1	41.7	38.1	

Voltage - ROTRON motors are designed to handle a broad range of world voltages and power supply variations. Our dual voltage 3 phase motors are factory tested and certified to operate on both: **208-230/415-460 VAC-3 ph-60 Hz** and **190-208/380-415 VAC-3 ph-50 Hz**. Our dual voltage 1 phase motors are factory tested and certified to operate on both: **104-115/208-230 VAC-1 ph-60 Hz** and **100-110/200-220 VAC-1 ph-50 Hz**. All voltages above can handle a ±10% voltage fluctuation. Special wound motors can be ordered for voltages outside our certified range.

Operating Temperatures - Maximum operating temperature: Motor winding temperature (winding rise plus ambient) should not exceed 140°C for Class F rated motors or 120°C for Class B rated motors. Blower outlet air temperature should not exceed 140°C. (air temperature rise plus inlet temperature). Performance curve maximum pressure and suction points are based on a 40°C inlet and ambient temperature. Consult factory for inlet or ambient temperatures above 40°C.

Maximum Blower Amps - Corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

XP Motor Class - Group - See Explosive Atmosphere Classification Chart in Section I

This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions. AMETEK is not responsible for blowers driven beyond factory specified speed, temperature, pressure, flow or without proper alignment. Actual performance will vary depending on the operating environment and application. AMETEK products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications, contact AMETEK Technical & Industrial Products Sales department.

AMETEK DYNAMIC FLUID SOLUTIONS
70 North Street, Saugerties, NY 12477
USA: +1 215-256-6601 - Europe: +49 7703 930909 - Asia: +86 21 5763 1258
Customer Service Fax: +1 215.256.1338
www.ametekdfs.com

D 9

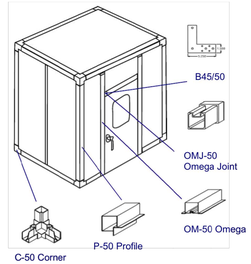
AMETEK®
PRECISION MOTION CONTROL
DYNAMIC FLUID SOLUTIONS

REGENERATIVE BLOWER

ArtUSA
Noise Control Products Inc.

Alum A Frame Enclosures

Call us at 888-454-6975 **Internet: www.noisecontrolproducts.com**



Options:

- STC Rated Panels up to 55 dBA
- Mylar, Polyethylene or Fiberglass Cloth Lining
- Framed Cutouts/Openings
- Primer or Finish Paint
- Multiple Gauge Construction
- Variety of materials available
- Custom Designs per You Acoustical/Thermal Requirements
- Multiple Insulation Materials and Densities
- Available in Quick Removable Panels

Thermal Performance:
Individual panels will have a "U" factor 0.07 and an entire panel enclosure will have a 0.14

Fire Hazard Rating:
Standard acoustical fill will have the following UL Fire Hazard Ratings as per ASTM E-84:
Flame Spread -15 / Fuel Contributed -0 / Smoke Developed -0

Acoustical Performance* - Standard Construction

Sound Transmission Loss (ASTM E-90-81)							*All acoustical tests were performed and reported by an Independent Accredited Acoustical Laboratory. Copies of test reports furnished upon request.
Octave Band Center Frequency (Hz)	125	250	500	1000	2000	4000	STC
4" Panel (TL in dB)	22	29	40	48	54	60	41
2" Panel (TL in dB)	21	24	35	43	52	57	37

Sound Absorption Coefficients (ANSI/ASTM C243-81 and E795)							
Octave Band Center Frequency (Hz)	125	250	500	1000	2000	4000	NRC
4" Panel	.86	1.09	1.22	1.06	1.05	1.04	1.10
2"Panel	.31	.82	1.19	1.12	1.07	1.06	1.11

SOUND ENCLOSURE

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering pc.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN	DATE
EB	9-14-2018
DES	DATE
SB	9-14-2018
CHK	DATE
KPB	9-14-2018
SCALE	PROJECT NO.
NOT TO SCALE	E148

SYSTEM COMPONENTS (1 OF 3)

SHEET **7** OF **10**

M-500.00

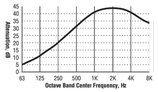
REV **0**

N:\GIS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\M-500_Specs.dwg 8/30/2018 12:29:59 PM

U5 Series

Straight-Through Absorptive Silencer

Typical Attenuation Curve



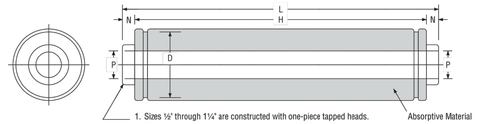
The U5 Series is a premium, straight-through, absorptive silencer. It provides excellent noise attenuation due to its very high length to diameter ratio. It is especially well suited for inlet service on small rotary positive or centrifugal blowers or the discharge of vacuum pumps. Mild steel construction with enamel paint.

Note
U5 series standard paint and acoustical packing are suitable for 325°F.



Common Applications

- rotary positive/centrifugal blowers
- vacuum pump discharge
- air valves and cylinders
- small low-pressure vents
- high frequency noise sources



1. Sizes ½" through 1¼" are constructed with one-piece tapped heads. The tapped opening is approximately flush with the end on the shell.
2. Sizes ½" through 4": female NPT pipe connections.
3. Sizes 5" and 6": 125#/150# ANSI drilled flanges.

Straight-Through Absorptive Silencer

Model	Part	P	D	L	N	H	Weight
U5-½	11-150-AA	½	3¼	8	—	8	2
U5-¾	11-170-AA	¾	3¼	11	—	11	3
U5-1	11-101-AA	1	3¼	14	—	14	3
U5-1¼	11-121-AA	1¼	3¼	16	—	16	4
U5-1½	11-115-AA	1½	4¼	19¾	½	18⅞	6
U5-2	11-102-AA	2	5⅛	26	½	25	10
U5-2½	11-125-AA	2½	6⅛	33½	½	32½	15
U5-3	11-103-AA	3	6⅝	36½	½	35½	20
U5-4	11-104-AA	4	8	48⅛	⅛	48¾	40
U5-5	11-105-AA	5	10	57	3	51	60
U5-6	11-106-AA	6	12	63	3	57	100

INLINE MUFFLER

CCS/CS Series

Filter-Silencers

CCF/CF Series

Filters

Noise Attenuation, CCS/CS

Attenuation, dB	Octave Band Center Frequency, Hz
5	63
8	125
10	250
12	500
14	1,000
14	2,000
14	4,000
14	8,000

Pressure Drop, All Models

Pressure Drop (in. of H2O)	Percentage of Rated Flow
0.7	50%
1.6	75%
2.8	100%
4.4	125%
6.3	150%

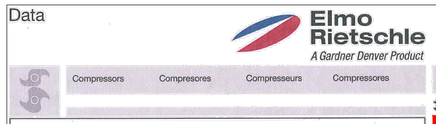
P (size)	Rated Flow Cap. (CFM)	D	H	B	N CCF	N CCS	N CF	N CS	L CCF	L CCS	L CF	L CS	Approx. Weight with Paper Elements CCF	CCS	CF	CS
.5	15	8.00	3.13	6.00	Use	—	Use	—	Use	6.50	Use	6.50	Use	7	Use	7
.75	22	8.00	3.13	6.00	CCS	—	CS	—	CCS	6.50	CS	6.50	CCS	7	CS	7
1	35	8.00	3.13	6.00	Series	—	Series	—	Series	6.50	Series	6.50	Series	7	Series	7
1.25	60	9.00	3.50	6.50	—	—	—	—	3.50	7.88	3.50	7.88	9	10	5	9
1.5	75	9.00	3.50	6.50	—	—	—	—	3.50	7.88	3.50	7.88	9	10	5	9
2	120	9.00	3.50	6.50	—	—	—	—	3.50	7.88	3.50	7.88	8	10	5	8
2.5	190	13.44	6.75	10.00	1.00	1.00	1.00	1.00	7.50	17.69	7.13	17.31	11	19	10	18
3	275	13.44	6.75	10.00	1.00	1.00	1.00	1.00	7.50	17.69	7.13	17.31	10	18	9	17
3.5	375	13.44	6.75	10.00	1.13	1.13	1.13	1.13	7.63	17.69	7.25	17.31	13	20	12	19
4 (NPT)	500	13.44	6.75	10.00	1.13	1.13	1.13	1.13	7.63	17.69	7.25	17.31	12	19	11	18
4 (flanged)	500	13.44	6.75	10.00	4.00	3.00	4.00	3.00	10.50	19.63	10.13	19.25	14	21	13	20
5 (NPT)	750	13.44	6.75	10.00	1.81	1.81	1.81	1.81	8.38	18.25	8.00	17.88	12	19	11	18
5 (flanged)	750	13.44	6.75	10.00	4.00	3.00	4.00	3.00	10.50	19.55	10.13	19.13	16	23	15	22
6	1,100	18.00	9.50	14.00	4.00	3.00	4.00	3.00	13.31	25.25	12.75	24.75	31	43	23	35
8	2,200	20.00	18.00	14.00	4.00	3.00	4.00	3.00	21.88	33.88	21.38	33.38	43	56	30	43
10	3,000	24.00	11.50	18.00	4.00	3.00	4.00	3.00	15.38	29.25	14.19	28.13	52	83	41	67
12	4,300	24.00	11.50	18.00	4.00	3.00	4.00	3.00	15.38	29.25	14.19	28.13	64	91	48	75
14	5,900	30.00	15.44	24.00	4.00	3.00	4.00	3.00	19.38	36.25	18.25	35.06	97	143	75	121
16	7,700	30.00	15.44	24.00	4.00	3.00	4.00	3.00	19.38	36.25	18.25	35.06	101	145	79	123

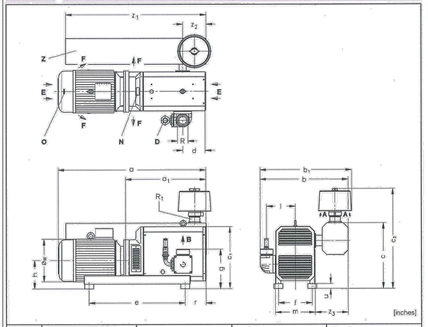
All models have a .125" FNPT tap for installation of a gauge or manometer to monitor pressure drop. Sizes **.5" through 3.5"** are standard with female pipe thread connection (FNPT). Sizes **4" and 5"** are available with female threads or flanges. Please specify "threaded" or "flanged" when you order 4' and 5' sizes. Sizes **6" through 16"** are standard with 150# ANSI drilled plate flanges. Rated capacity is based upon exit velocity of approximately 5,500 ft/min. If pressure drop allowance permits, capacity may be increased by as much as 50%.

© 2011 Universal Acoustic & Emission Technologies, Inc. All rights reserved.

Toll-Free: 1-888-300-4272
www.universalAET.com
94-1553 Rev 0

INLINE FILTER





A	Suction	Succión	Aspiration	Sucção
B	Pressure connection	Conexión presión	Raccord surpression	Conexão da pressão
D	Safety valve	Válvula seguridad	Clapet de sécurité	Válvula de segurança
E	Cooling air entry	Entrada aire refrigerante	Entrée air refroidissement	Entrada do ar refrigerante
F	Cooling air exit	Salida aire refrigerante	Sortie air refroidissement	Saída do ar refrigerante
N	Data plate	Placa techa	Etiquette caractéristique	Placa da data
O	Rotation arrow	Dirección de rotación	Flèche sens rotation	Direção da rotação
Z	Inlet silencer	Silenciador entrada	Silencieux d'aspiration	Silenciador de entrada

C-DLR		60	100			150	
kw	50 Hz	3.0	3.0	4.0	5.5	5.5	7.5
hp	60 Hz	5.0	5.0	7.5	10	10	15
inches	a 50 Hz	27.44	27.36	28.03	32.17	36.26	
	a 60 Hz	27.44	31.49	33.07	33.07	36.34	37.40
	a_1 50 Hz	15.28	15.43	15.43	16.22	19.49	
	a_1 60 Hz	15.28	17.56	17.56	17.56	20.83	
	b / b_1	13.78 / 13.70	21.26 / 22.05			21.30 / 22.05	
	c / c_1 / c_2	15.04 / 11.61 / 15.04	14.76 / 14.17 / 25.75			18.39 / 14.76 / 25.75	
	d	2.36	3.62			2.28	
	e	9.65	17.32			15.04	
	f	6.30	8.66			6.30	
	g	11.73	8.23			9.41	
	h	6.10	5.91			6.50	
	i	5.43	7.17			7.17	
	m	6.46	10.00			10.00	
	r / u	4.21 / 0.79	3.03 / 0.59			4.56 / 1.18	
	ø 50 Hz	7.72	7.72	8.66	9.69	9.69	
	ø 60 Hz	7.87	7.88	9.57	9.67	9.57	11.47
	z_1	-		24.65		24.65	
	z_2 / z_3	-		3.94 / 7.28		3.94 / 7.28	
	R / R_1	1" NPT / BSP 1"		1½" NPT / BSP 1½"		1½" NPT / BSP 1½"	

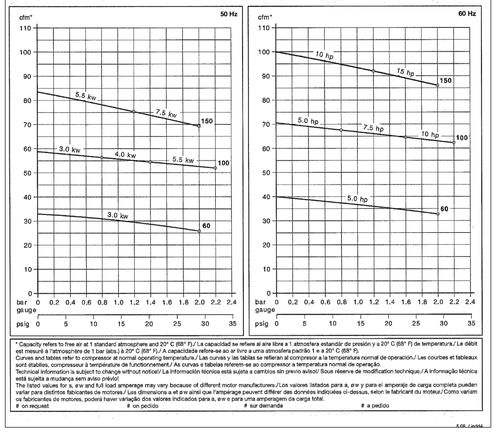
DA 881/1
1.2.2006

Gardner Denver Hanover Inc.
7222 Parkway Drive
HANOVER, MD 21076
USA
Phone +1 410 / 712 4100
Fax +1 410 / 712 4148
e-mail: sales.hanover@gardnerdenver.com
www.gd-elmorietschle.com

ROTARY CLAW COMPRESSOR

C-DLR		60	100			150	
cfm	50 Hz	33.0	58.9			83.6	
	60 Hz	40.0	70.6			100	
psig	50 Hz	29.0	11.6	20.3	31.9	17.4	29.0
	60 Hz	29.0	11.6	23.2	31.9	17.4	29.0
3 ~	50 Hz	230/460V ± 10%				400/690V ± 10%	
	60 Hz	208-230/415-460V ± 10%				208-230/460V ± 10%	
kw	50 Hz	3.0	3.0	4.0	5.5	5.5	7.5
hp	60 Hz	5.0	5.0	7.5	10	10	15
A	60 Hz	15/7.5	13.2-12/6.0	21-18.8/9.4	25-24/12	25-24/12	39-37/18.5
rpm	50 Hz		2850				
	60 Hz		3450				
dB(A)	50 Hz	78	79			80	
	60 Hz	79	83			81	
lbs	50 Hz	143	232	243	287	333	333
	60 Hz	143	259	286	307	345	423
qt		0.4		0.55		0.6	
ZRZ		#		40		40	
ZDR		#		40		40	
ZPD		-		-		-	
ZMS / ZAD		#		#		#	

cfm	Capacity	Capacidad	Volume engendré	Capacidade
psig	Excess pressure	Exceso de presión	Surpression	Pressão excessiva
3 ~	Motor version	Versión motor	Exécution moteur	Versão do motor
kw / hp	Motor rating	Datos motor	Puissance moteur	Potência do motor
A	Full load amperage	Amperaje de plena carga	Intensité absorbée	Amperagem da carga total
rpm	Speed	Velocidad	Vitesse rotation	Velocidade
dB(A)	Average noise level	Nivel de ruido medio	Niveau sonore moyen	Nível médio de ruído
lbs	Weight	Peso	Poids	Peso
qt	Oil capacity (Gear)	Instrumentos capacidad aceite	Charge d'huile (Engrenage)	Engrenagem da capacidade do óleo
ZRZ	Accessories	Accesorios	Acessoires	Acessórios
ZDR	Non return leaf	Válvula retención	Clapet anti-retour	Válvula sem retorno
ZPD	Pressure regulating valve	Válvula reguladora de presión	Valve de réglage pression	Válvula de regulagem da pressão
ZMS	Pulsation silencer	Silenciador de pulsación	Absorbeur de pulsations	Silenciador de pulsação
ZAD	Motor starter	Arranque motor	Disjoncteur moteur	Arranque do motor
ZBZ	Soft starter	Soft starter	Démarrage progressif	Soft starter
	Sound box	Caja de sonido	Caisson insonorisant	Caixa de som



* Capacity refers to free air at 1 standard atmosphere and 20° C (68° F) / La capacidad se refiere al aire libre a 1 atmosfera estandár de presión y a 20° C (68° F) de temperatura./ Le débit est mesuré à l'atmosphère de 1 bar (abs.) à 20° C (68° F) / A capacidade refere-se ao ar livre a uma atmosfera padrão 1 e a 20° C (68° F).
Curves and tables refer to compressor at normal operating temperature./ Las curvas y las tablas se refieran al compresor a la temperatura normal de operación./ Les courbes et tableaux sont établies, compresseur à température de fonctionnement./ As curvas e tabelas referem-se ao compressor a temperatura normal de operação.
Technical information is subject to change without notice!/ La información técnica está sujeta a cambios sin previo aviso!/ Sous réserve de modification technique./ A informação técnica está sujeita a mudança sem aviso prévio!
The listed values for s, e/w and full load amperage may vary because of different motor manufacturers./Los valores listados para a, e/w y para el amperaje de carga completa pueden variar para distintos fabricantes de motores./ Les dimensions a et e/w ainsi que l'ampérage peuvent différer des données indiquées ci-dessus, selon le fabricant du moteur./Como variam os fabricantes de motores, podera haver variação dos valores indicados para a, e/w e para uma amperagem de carga total.
on request # on pedido # sur demande # a pedido

204L LIQUID FILLED

Our '200' series gauge line is a high quality line of liquid filled gauges. The glycerine filling helps dampen the effects of pulsation and vibration, while also perpetually lubricating the movement (and keeping contaminates such as dirt away from all moving parts) which will extend the life of the gauge.

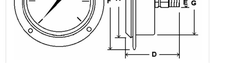
This gauge has been specifically designed with the original equipment manufacturers in mind and is typically used on hydraulic & pneumatic systems as well as any commercial or industrial application not corrosive to brass and bronze wetted parts where glycerine filling is suitable for use.

SPECIFICATIONS:

- **Front Flanged Panel Mount Design**
- **Available Dial Sizes:** 1 ½", 2", 2 ½", 3 ½", 4"
- **Available Connection Sizes:**
  1/8"MNPT on 1 ½" and 2"
  1/4"MNPT on 2", 2 ½", 3 ½" and 4"
- **Stainless Steel Case And Bezel**
- **Brass Internals & Connection**
- **Phosphour Bronze Bourdon Tube**
- **Liquid Filled (Dry Available)**
- **Accuracy :** 1 ½" or 2"Dial Size = 3-2-3 %
  2 ½"Dial Size = 1.5 %
  3 ½" or 4"Dial Size = 1 %
- **Dual Scale: PSI & Bar (x100=kPa)**
  Single Scale available from stock
- **Ambient temperature:** FILLED: 30'F to 160'F
  DRY: -30'F to 180'F



RANGE	CODE	Major In	Minor in
30/0"VAC	A	5	0.5
30/0/15	CB	5	0.5
30/0/30	CC	10	1
30/0/60	CD	10	1
30/0/100	CE	20	2
30/0/150	CF	20	2
30/0/300	CH	50	10
0/15	B	2	0.2
0/30	C	5	0.5
0/60	D	10	1
0/100	E	20	2
0/160	F	20	2
0/200	G	40	5
0/300	H	50	5
0/400	I	50	5
0/600	K	100	10
0/1000	M	200	20
0/1500	N	200	20
0/2000	O	400	50
0/3000	P	500	50
0/5000	R	1000	100
0/10,000	U	1000	100
0/15,000	V	2000	200



		A	B	C	D	E	F	G
1 ½"	In	1.88	1.06	.89	1.65	1/8"	2.46	1.63
Dial	MM	48	27	23	50	Npt	63	42
2"	In	2.23	1.09	.71	1.99	1/8" or	2.81	2.00
Dial	MM	57	28	23	51	¼"npt	72	51
2 ½"	In	2.80	1.28	1.19	2.46	1/4"	3.48	2.50
Dial	MM	71	33	30	63	Npt	88	64
3 ½"	In	3.83	1.14	1.08	2.20	1/4"	5.19	3.5
Dial	MM	97	29	27	56	Npt	132	89
4"	In	4.32	1.63	1.14	2.77	1/8" or	5.20	3.87
Dial	MM	110	42	29	71	¼"Npt	132	98

Note: All Dial Size Gauges are Center Back Connection Except 3 ½" Dial Size which are Lower Back Connection

LIQUID FILLED PRESSURE INDICATOR

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering pc.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN	DATE
EB	9-14-2018
DES	DATE
SB	9-14-2018
CHK	DATE
KPB	9-14-2018
SCALE	PROJECT NO.
NOT TO SCALE	E148

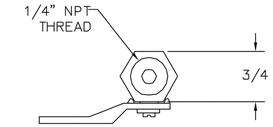
SYSTEM COMPONENTS (2 OF 3)

SHEET **8** OF **10**

M-501.00

REV **0**

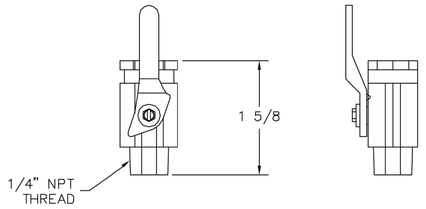
N:\GIS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\M-500_Specs.dwg 8/30/2018 12:29:59 PM



PLAN VIEW – CLOSED



PLAN VIEW – OPEN



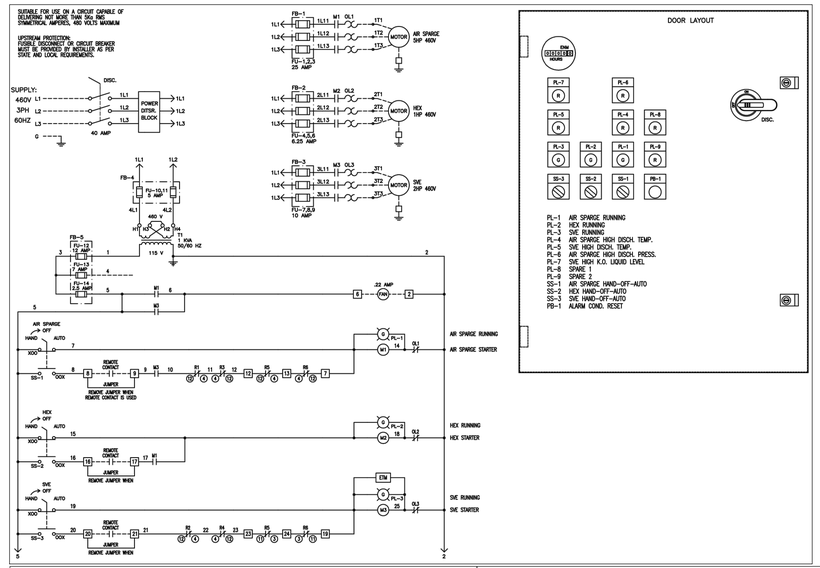
			DRAWN BY: M. WITTE	DATE 8-17-00	J. E. GASHO & Assoc., Inc. 460 W. GAY ST. WEST CHESTER, PENNSYLVANIA 19380
			APPROVED BY:	DATE	
			DIMENSIONS IN INCHES		GAUGE ISOLATION VALVE SMC VA BRS 025–4F4M–BT
			SCALE		
			TOLERANCE	ANGULAR TOLERANCE	
			MATERIAL	WEIGHT	
REV.	DATE	DESCRIPTION	SHEET 1 OF 1		—

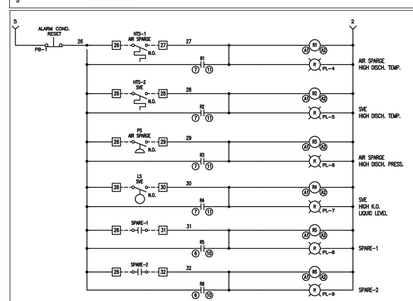
ISOLATION VALVE

1	**Xchanger, Inc. Rating for Model AA-250 ref #130914**		**Page 1 of 1**
2	Engineer: David Wangensteen		January 17, 2017
3	Prepared for:		
4	J.E. Gasho & Associates, Inc.		
5			
6			
7			
8	**PERFORMANCE**	**PROCESS MEDIA**	**SERVICE MEDIA**
9	Fluid Circulated	Air	Ambient Air
10	Volumetric Flow Rate	35.0 Std. ft^3/min	1,675.5 Std. ft^3/min
11	Total Fluid Entering	157.5 lb/hr	7,540.1 lb/hr
12	Liquid		
13	Vapor		
14	Non-Condensibles	157.5 lb/hr	7,540.1 lb/hr
15	Vaporized or (Cond.)		
16	Temperature In	270.0 °F	85.0 °F
17	Temperature Out	86.0 °F	88.9 °F
18	Inlet Pressure (Absolute)	34.696 lb/in^2	14.696 lb/in^2
19	Velocity (Standard)	298 ft/min	1,817 ft/min
20	Pressure Loss	0.01 lb/in^2	0.04 lb/in^2
21	Fouling Factor	0.0001 ft^2-°F-hr/BTU	0.00010 ft^2-°F-hr/BTU
22	Total Heat Exchanged: 6,960 BTU/hr		
23			
24	**AVERAGE MEDIA PROPERTIES**		
25	Thermal Conductivity	0.017 BTU/hr-ft-°F	0.015 BTU/hr-ft-°F
26	Specific Heat	0.240 BTU/lb-°F	0.240 BTU/lb-°F
27	Viscosity	0.051 lb/ft-hr	0.045 lb/ft-hr
28	Density (MW)	(29.0)	(29.0)
29	Latent Heat of Vapor		
30			
31	**CONSTRUCTION**		
32	Design Temperature	300 °F	Not Applicable
33	Design Pressure (Gauge)	21 lb/in^2	Not Applicable
34	Test Pressure (Gauge)	21 lb/in^2	Not Applicable
35	Flow Direction	Right Hand Horizontal	Vertical Up/Pull Through
36	Coating	None	None
37			
38	Plate-Fin Core : Aluminum	Fan Hood	: Galvanized Steel
39	Fan Guard : Galvanized Steel	Venturi Frame	: Galvanized Steel
40	Service Filter : None	Weight	: 135 lb
41	Thermometers : None	Diff Pres Gauge	: No
42	Instrument :		
43			
44	**CONNECTIONS**		
45	Process Inlet : 2 inch 150 lb. ANSI pattern FFF, 3/8" thick		
46	Process Outlet : 2 inch 150 lb. ANSI pattern FFF, 3/8" thick		
47			
48	**MECHANICAL EQUIPMENT**		
49	Fan Diameter : 12 inch	Motor	: 1.00 HP TEFC
50	Fan Qty/Speed : 1 / 3450 RPM	Motor Qty/Speed	: 1 / 3450 RPM
51	Fan Type : 4 Blade Mill Galv. St	Motor Electrical	: 230/460/3/60
52			
53	**NOTES**		
54	Approximate unit dimensions (inches): A = 33, B = 32, C = 24, D = 14		
55	Construction material suitability must be determined by customer.		
56	The process flow must be uniform, smooth and free of pulsation.		
57	A motor access panel is included in the fan hood.		
58			
59			
60			
61			
62			

xchanger.com 952-933-2559

AIR TO AIR HEAT EXCHANGER





BILL OF MATERIALS

ITEM	QTY	ITEM LABEL	MFG.	DESCRIPTION	PART NUMBER
1	1	ENCL	RITTAL	30x24x8 NEMA 4 ENCLOSURE	AE1076.500
2	2	ENCL	RITTAL	SCREDRIVER INSERT	SZ2464
3	1	DISC.	ABB	40A 3P NON-FUSED DISC. SWITCH	OT40F3
4	1	DISC.	ABB	NEMA 4 DISCONNECT HANDLE	OHB60J6
5	1	DISC.	ABB	DISCONNECT SHAFT	OXP6X210
6	1	PDB	MERSEN	POWER DISTRIBUTION BLOCK	MPDB63133
7	3	FB-1,2,3	MERSEN	3P 30A CLASS CC FUSE BLOCK	30323R
8	3	FU1,2,3	MERSEN	25 AMP CLASS CC FUSE	ATDR25
9	3	FU4,5,6	MERSEN	6.25 AMP CLASS CC FUSE	ATDR6 1/4
10	3	FU7,8,9	MERSEN	10 AMP CLASS CC FUSE	ATDR10
11	1	M1	SIEMENS	12 AMP IEC CONTACTOR	3RT2017-1AK61
12	1	OL1	SIEMENS	OVERLOAD RELAY (7-10 FLA)	3RU2116-1JB0
13	2	M2,M3	SIEMENS	7 AMP IEC CONTACTOR	3RT2015-1AK61
14	2	M1,M3	SIEMENS	1 N.O. AUX. CONTACT	3RH2911-1HA10
15	1	OL2	SIEMENS	OVERLOAD RELAY (1.8-2.5 FLA)	3RU2116-1CB0
16	1	OL3	SIEMENS	OVERLOAD RELAY (2.8-4 FLA)	3RU2116-1EB0
17	3	SS-1,2,3	ABB	3 POS. S.S. SPRG. RET. L TO C (2 N.O.)	M3SS7-30B-20
18	3	PL-1,2,3	ABB	GREEN F.V. PILOT LIGHT – 120V	CL-100G
19	6	PL-4—>9	ABB	RED F.V. PILOT LIGHT – 120V	CL-100R
20	1	PB-1	ABB	BLACK FLUSH P.B. (1 N.C.)	MP1-30B-01
21	1	ETM	ENM	ELAPSED TIME METER	T5082-12
22	1	T1	SIEMENS	1 KVA CONTROL TRANSFORMER	MT1000A
23	1	FB-4	MERSEN	2P 30A CLASS CC FUSE BLOCK	30322R
24	2	FU-10,11	MERSEN	5 AMP CLASS CC FUSE	ATDR-5
25	1	FB-5	MERSEN	3P 30A MIDGET BLOCK	30323
26	1	FU-12	MERSEN	12 AMP TIME DELAY FUSE	TRM-12
27	1	FU-13	EDISON	7 AMP TIME DELAY FUSE	MEN-7
28	1	FU-14	EDISON	2.5 AMP TIME DELAY FUSE	MEN-2.5
29	6	R1—>R6	FINDER	4 POLE RELAY – 120V	55.34.8.120.0040
30	6	R1—>R6	FINDER	4 POLE RELAY SOCKET	94.74
31	28	T.B.'S	PHOENIX	TERMINAL BLOCK	3004362
32	1	T.B.'S	PHOENIX	TERMINAL BLOCK END COVER	3003020
33	2	T.B.'S	PHOENIX	DIN RAIL END RETAINER	0800886
34	3	GROUND	BURNDY	14-2 AWG GROUND LUG	DLA2

AS/SVE CONTROL PANEL WIRING DIAGRAM AND BILL OF MATERIALS (AS PROVIDED BY GASHO, INC., THE PANEL MANUFACTURER)

JUMO GmbH & Co. KG
Delivery address: Mackenrodtstraße 14
36039 Fulda, Germany
Postal address: 36035 Fulda, Germany
Phone: +49 661 6003-0
Fax: +49 661 6003-607
E-mail: mail@jumo.net
Internet: www.jumo.net

JUMO Instrument Co. Ltd.
JUMO House
Temple Bank, Riverway
Harlow, Essex CM20 2DY, UK
Phone: +44 1279 635533
Fax: +44 1279 635262
E-mail: sales@jumo.co.uk
Internet: www.jumo.co.uk

JUMO Process Control, Inc.
6733 Myers Road
East Syracuse, NY 13057, USA
Phone: 315-437-5866
1-800-554-5866
Fax: 315-437-5860
E-mail: info.us@jumo.net
Internet: www.jumousa.com

Contact Dial Thermometer

Special features

- Class 1.5
- Display range -40° C to +60° C
- Temperature controller with actual value display as built-in or add-on device in the stainless steel case with a bayonet connection
- Case size Ø: 100 mm
- Protection type IP 65

Brief description

Contact dial thermometers are devices with an actual value display for temperature measurement, control, and monitoring and can be used universally.

The temperature-dependent volume change in a measuring system filled with liquid or the temperature-dependent pressure change in a measuring system filled with gas is converted to a rotational movement of the actual value indicator by a bourdon tube; no transmission gear is required. The microswitch is actuated by the rotational movement of the indicator shaft via a tap system.



Type 608523/2210

Technical data

Basic type extension	0210, 1010, 2010, 2210, 2310
Case	Stainless steel case with bayonet connection (1.4301)
Protection type	IP 65 according to DIN EN 60529
Front pane	Polycarbonate
Scale	White, with black lettering
Display	Class 1.5 similar to DIN EN 13190
Strain relief spring	For capillary devices on the case and the temperature probe
Setpoint value adjustment	By setpoint adjuster in the front pane; with screwdriver, protected by the bolted cover.
Display correction	On the rear, no display correction with design type 20
Limit value temperatures	For transport and storage -20°C to +70°C (for display range 0 to +60°C up to max. 65°C; -40 to +40°C up to max. 50°C; -30 to +50°C up to max. 60°C)
Rated position (NL)	Any

JUMO GmbH & Co. KG
Delivery address: Mackenrodtstraße 14
36039 Fulda, Germany
Postal address: 36035 Fulda, Germany
Phone: +49 661 6003-0
Fax: +49 661 6003-607
E-mail: mail@jumo.net
Internet: www.jumo.net

JUMO Instrument Co. Ltd.
JUMO House
Temple Bank, Riverway
Harlow, Essex CM20 2DY, UK
Phone: +44 1279 635533
Fax: +44 1279 635262
E-mail: sales@jumo.co.uk
Internet: www.jumo.co.uk

JUMO Process Control, Inc.
6733 Myers Road
East Syracuse, NY 13057, USA
Phone: 315-437-5866
1-800-554-5866
Fax: 315-437-5860
E-mail: info.us@jumo.net
Internet: www.jumousa.com

Technical data

Display range (AB)	Display range in °C	Measuring range in °C	Tolerance in °C
469	-40 to +40	-30 to +30	1.5
566	-30 to +50	-20 to +40	1.5
643	-20 to +120	-20 to +100	3.0
807	0 to +60	+10 to +50	1.5
810	0 to +80	+10 to +70	1.5
814	0 to +100	+10 to +90	1.5
818	0 to +120	+20 to +100	3.0
826	0 to +160	+20 to +140	3.0
832	0 to +200	+20 to +180	3.0
834	0 to +250	+30 to +220	4.0
926	+50 to +250	+70 to +230	3.0
840	0 to +300	+30 to +270	6.0
927	+50 to +300	+80 to +270	4.0
843	0 to +350	+50 to +300	6.0
932	+50 to +350	+80 to +320	6.0
848	0 to +400	+50 to +350	6.0
851	0 to +450	+50 to +400	6.0
854	0 to +500	+50 to +450	8.0
858	0 to +600	+100 to +500	10.0

	Liquid filling	Gas filling
Measuring system	Display range (AB) ≤ 350°C	Display range (AB) ≥ 400°C
Time constant $t_{0.632}$	Approx. 12 s, measured in water, with a probe Ø of 6 mm made of Cu.	Approx. 4 s, measured in oil, with a probe Ø of 10 mm made of stainless steel.
Ambient temperature influence effect	In % of the display range (referring to the deviation from the reference value +23°C)	
On case	0.15% of the display range per K ambient temperature change	0.05% of the display range per K ambient temperature change
On capillary (per m)	0.03% of the display range per K ambient temperature change	No influence
	At higher ambient temperature – higher temperature display – lower switching point	

	Standard	Extra code (TZ) 650
Electrical contact **Contact type**	Single-pole microswitch with mechanically actuated changeover contact	
Switching capacity	AC 230V, +10/-15%, 48 to 63Hz, cos φ = 1 (0.6)	
	5 (1.5) A	10 (3) A
Switching differential	Approx. 1.5% of the display range	1.5 to 3% of the display range
Switching point accuracy	± 0.5% of the display range referring to the switch-off point with rising temperature	
Switching reliability	To ensure a high switching reliability, we recommend a minimum voltage of 24 V and a minimum current of 100 mA	
Electrical connection	Junction box: conductor cross-section up to 2.5 mm², suitable for cable Ø from 6.5 to 13 mm	

DISCHARGE TEMPERATURE INDICATOR/SWITCH

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering pc.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN EB	DATE 9-14-2018
DES SB	DATE 9-14-2018
CHK KPB	DATE 9-14-2018
SCALE NOT TO SCALE	PROJECT NO. E148

SYSTEM COMPONENTS (3 OF 3)

SHEET **9** OF **10**

M-502.00

REV **0**

N:\GIS\Projects\E148_BridgeCleaners_APL\CAD\Production Drawings\AS-BUILTS\M-500_Specs.dwg 8/30/2018 12:29:59 PM



3M™ Fire Barrier Sealant CP 25WB+

Product Data Sheet

FIRE BARRIER — 4 HOUR — Fire Protection

SMOKE SEAL — L RATED — Meets Optional L Requirements

SOUND BARRIER — STC 54 — STC 54-rated wall assembly

CLASSIFIED UL — FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY 9909

cULus LISTED — FILL, VOID OR CAVITY MATERIALS 9069

FM APPROVED — SUBJECT TO THE CONDITIONS OF APPROVAL AS A WALL & FLOOR PENETRATION FIRESTOP WHEN INSTALLED AS DESCRIBED IN THE CURRENT EDITION OF THE FMRC APPROVAL GUIDE

LISTED — OMEGA POINT LABORATORIES — Intertek — FIRESTOP SYSTEMS SEE INTERTEK DIRECTORY

LISTED — C WHI us — Intertek — FIRESTOP SYSTEMS SEE INTERTEK DIRECTORY

1. Product Description

3M™ Fire Barrier Sealant CP 25WB+ is a high-performance, ready-to-use, gun-grade, latex-based, intumescent sealant that dries to form a monolithic firestop seal that also acts as a barrier to airborne sound transmission. 3M™ Fire Barrier Sealant CP 25WB+ helps control the spread of fire, smoke and noxious gasses before, during and after exposure to a fire when installed in accordance with a listed through penetration or fire-resistive joint assembly system.

3M™ Fire Barrier Sealant CP 25WB+ firestops blank openings and penetrations passing through fire-rated floor, floor/ceiling or wall assemblies and other fire-rated interior building construction. The unique intumescent property of this material allows 3M™ Fire Barrier Sealant CP 25WB+ to expand and help maintain a firestop penetration seal for up to 4 hours as penetrants are exposed to fire. 3M™ Fire Barrier Sealant CP 25WB+ exhibits excellent adhesion to a full range of construction substrates and penetrants. No mixing is required.



High-performance firestop sealant that also helps minimize sound transfer

Product Features

- Firestop tested up to 4 hours in accordance with ASTM E 814 (UL 1479) & CAN/ULC S115
- Fire Resistance tested for static construction joint systems in accordance with ASTM E 1966 (UL 2079)
- Re-enterable / repairable
- Meets UL 1479 aging requirements
- Helps minimize sound transfer*
- Applied with conventional caulking equipment (excellent caulk rate)
- Extensive listed systems
- Sag-resistant
- Halogen-free
- Excellent adhesion
- Paintable
- Water clean up

Meets the intent of LEED® VOC regulations — helps reduce the quantity of indoor air contaminants that may be odorous, irritating and harmful to the comfort and well-being of the installers and occupants. <250 g/L VOC contents (less H_2O and exempt solvents).

**Minimizes noise transfer — STC-Rating of 54 when tested in STC 54-rated wall assembly.*

Product Color: Red

2. Applications

High-performance 3M™ Fire Barrier Sealant CP 25WB+ is ideal for sealing single or multiple through penetrations in fire-rated construction. 3M™ Fire Barrier Sealant CP 25WB+ is typically used in mechanical, electrical and plumbing applications to firestop openings created by the following penetrations in fire-rated floors, floor/ceilings or walls: metallic pipe, plastic pipe (excluding CPVC), conduit, power and communication cable, cable trays, busways, combos, insulated pipe and HVAC duct penetrations 3M™ Fire Barrier Sealant CP 25WB+ is also used to firestop blank openings and static construction joints.

3. Specifications

3M™ Fire Barrier Sealant CP 25WB+ shall be a one component, ready-to-use, gun-grade, latex-based, intumescent firestop sealant capable of expanding a minimum of three times its dried volume when exposed to temperatures above 1000°F (538°C). The material shall be thixotropic and shall be applicable to overhead, vertical and horizontal firestops. The sealant shall be listed by independent test agencies such as UL, Intertek or FM. 3M™ Fire Barrier Sealant CP 25WB+ shall be tested to and pass the criteria of ASTM E 814 (UL 1479) Standard Test Method for Fire Tests of Penetration Firestop Systems, ASTM E 1966 (UL 2079) Standard Test Method for Fire Resistive Joint Systems and CAN/ULC S115 Standard Method of Fire Tests of Firestop Systems. 3M™ Fire Barrier Sealant CP 25WB+ meets the requirements of the IBC, IRC, IFC, IPC, IMC, NFPA 5000, NEC (NFPA 70) and NFPA 101.

Typically Specified Division
Division 7
Section 07 84 00 – Firestopping

Related Sections
Section 07 84 16 – Annular Space Protection
Section 07 84 43 – Fire-Resistant Joint Sealants
Section 07 86 00 – Smoke Seals
Section 07 87 00 – Smoke Containment Barriers
Section 07 27 00 – Air Barriers
Section 21 00 00 – Fire Suppression
Section 22 00 00 – Plumbing
Section 26 00 00 – Electrical

For technical support relating to 3M™ Fire Protection Products and Systems, call: 1-800-328-1687
For more information on 3M™ Fire Protection Products, visit: www.3M.com/firestop

4. Physical Properties

Color:	Red
Application Temperature Range (ASTM C 1299):	40° to 122°F (4° to 50°C)
Service Temperature Range:	-20° to 180°F (-28° to 82°C)
STC (ASTM E 90 and ASTM E 413):	54 when tested in STC 54-rated wall assembly
Surface Burning (ASTM E 84):	Flame Spread 0, Smoke Development 0
Hardness (ASTM D 2240 Shore A):	45
Tensile Strength:	85 psi (0.59 MPa)
Volume Shrinkage (ASTM C 1241):	28%
VOC Less H_2O and Exempt Solvents:	< 1g/L

Dry: Under typical conditions of 73°F (23°C) and 50% relative humidity, sealant becomes tack-free in about ten minutes and dry-to-touch in 30–60 minutes. Full dry depends upon ambient conditions and volume of sealant. Typical dry rate is approximately 1/8-inch (3mm) per day.

Unit Volume: 10.1 fl. oz. tube (298.7mL, 18.2 in.³), 20 fl. oz. sausage (591.5mL, 36.1 in.³), 27 fl. oz tube (798.5mL, 48.7 in.³), 2 gallon pail (7.57L, 462 in.³), 5 gallon pail (18.9L, 1155 in.³)

5. Packaging, Storage, Shelf Life

Packaging: Product packaged in cartridge or pail is enclosed in HDPE plastic containers, sausage is packaged in aluminum foil wrap.

Storage: 3M™ Fire Barrier Sealant CP 25WB+ should be stored indoors in dry conditions between 40°F and 90°F (4°C and 32°C) in the original unopened package. Avoid repeated freeze / thaw exposures of the 3M™ Fire Barrier Sealant CP 25WB+ prior to installation.

Shelf Life: 3M™ Fire Barrier Sealant CP 25WB+ shelf life is 12 months in original unopened containers from date of packaging when stored above 68°F (20°C).

Lot numbering (e.g. 8183AS): First digit = Last digit of year manufactured, Second to fourth digit = Julian Date, Letters = Random to distinguish between lot numbers

6. Installation Techniques

Consult a 3M Authorized Fire Protection Products Distributor / Dealer or Sales Representative for Applicable UL, Intertek or other third-party drawings and system details.

Preparatory Work: The surface of the opening and any penetrating items should be cleaned to allow for the proper adhesion of the 3M™ Fire Barrier Sealant CP 25WB+. Ensure that the surface of the substrates are not wet and are frost free. Sealant can be installed with a standard caulking gun, pneumatic pumping equipment or it can be easily applied with a putty knife or trowel.

Installation Details: Install the applicable depth of backing material, if required, as detailed within the applicable UL, Intertek, FM or other third-party listed system. Cut the end of the 3M™ Fire Barrier Sealant CP 25WB+ tube spout to achieve the desired bead width when applying. Install the applicable depth of 3M™ Fire Barrier Sealant CP 25WB+ into the opening flush with the surface of the substrate, or as detailed within the applicable listed system, at the depth for the assembly and rating that is required. Tool within five minutes. Clean all tools immediately after use with water.

Limitations: Do not apply 3M™ Fire Barrier Sealant CP 25WB+ when surrounding temperature is less than 40°F (4°C) and in conditions where seals may be exposed to rain or water spray within 18 hours of application. Do not apply 3M™ Fire Barrier Sealant CP 25WB+ to building materials that bleed oil, plasticizers or solvent (e.g. impregnated wood, oil-based sealants, or green or partially vulcanized rubber). Do not apply 3M™ Fire Barrier Sealant CP 25WB+ to wet or frost-coated surfaces or to areas that are continuously damp or immersed in water.

NOTICE: This product is not acceptable for use with chlorinated polyvinylchloride (CPVC) pipes.

7. Maintenance

No maintenance should be required when installed in accordance with the applicable UL, Intertek, FM or other third-party listed system. Once installed, if any section of the 3M™ Fire Barrier Sealant CP 25WB+ is damaged, the following procedure will apply: remove and reinstall the damaged section in accordance with the applicable listed system, with a minimum 1/2 in. (12.7mm) overlap onto the adjacent material.

8. Availability

3M™ Fire Barrier Sealant CP 25WB+ is available from 3M Authorized Fire Protection Products Distributors and Dealers. 3M™ Fire Barrier Sealant CP 25WB+ is available in 10.1 fl. oz. cartridges (12/case), 20.0 fl. oz. sausages (10/case), 27.0 fl. oz. cartridges (6/case), 2 gallon pails (1/case), 5 gallon pails (1/case). For additional technical and purchasing information regarding this and other 3M™ Fire Protection Products, please call: 1-800-328-1687 or visit www.3M.com/firestop.

9. Safe Handling Information

Consult product Material Safety Data Sheet (MSDS) prior to handling and disposal.

3M Industrial Adhesives and Tapes Division
3M Center, Building 225-3S-06
St. Paul, MN 55144-1000 USA
1-800-362-3550
www.3M.com/IATD

Important Notice to User:

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty and Limited Remedy: 3M warrants that each 3M Fire Protection Product will be free from defects in material and manufacturing workmanship for 90 days from the date of purchase from 3M's authorized distributor. 3M MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If a 3M product does not conform to this warranty, the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted.

Please Recycle. Printed in U.S.A. © 3M 2016. All rights reserved.
Literature Order Info: 98-0400-5012-6

3M is a trademark of 3M Company. All other trademarks are the property of their respective owners.

ROOF SEALANT

gardner

037

WET-R-DRI® ALL WEATHER PLASTIC ROOF CEMENT
CEMENTO PLÁSTICO PARA TECHOS PARA TODO CLIMA

- Stops roof leaks
- Use for repair or new construction
- Use in wet or dry conditions
- Fiber reinforced
- Thick trowel grade

WHAT IS IT? Gardner® Wet-R-Dri® Roof Cement is an all weather, asphalt based patching compound designed to repair cracks, seams and holes in roofing materials. It also works great in new construction and in setting flashings, drip edges and roofing material edges.

WHAT IT DOES: It seals damaged areas and gives a layer of waterproof protection.

WHERE TO USE: On roofs around skylights, vents, exhaust pipes, chimneys, valleys, and in the construction or repair of flashings, roll roofing and shingles. Also excellent 'or use as a heavy duty below grade and underground water-proofer, and damp-proofer.

WHAT IS NEEDED TO COMPLETE THE JOB? Trowel, reinforcing fabric and gloves.

PREP THE AREA: Surfaces must be clean and free of surface rust and loose material.

HOW TO APPLY: Apply generously with a trowel or putty knife.

HOW MUCH DO I NEED? Covers approximately 12 sq. ft. per gallon when applied 1/8" thick.

DO's and DON'Ts: Do apply in exterior applications only. Do wear protective clothing. Do not use on EPDM, Hypalon or PVC surfaces. Do not use on single ply or synthetic roofs. If there is any question regarding compatibility, test a small section first.

FOR BEST RESULTS: It is highly recommended to reinforce the repair with a strip of Universal Patching Fabric. Work material to an even consistency over and into the area to be repaired approximately 1/8" to 1/2" thick, two or three inches beyond the problem area. Embed fabric into the cement and cover with a second layer of cement. Form a feathered edge with cement where chimney's, vent pipes, and other projections meet the roof line. DO NOT APPLY DIRECT HEAT/FLAMES OR THIN. Apply when surface temperatures are between 50° and 120°F. In colder weather (50° and below), product should be stored in heated room (70° to 80°F) at least 24 hours prior to application to promote ease of application. Product formulated to be used year round. Allow product to cure a minimum of 30-60 days prior to application of reflective coating.

PRECAUTIONS: Protective clothing and eyewear should be used during application of these products. When transporting this product, ensure that lid is tight and pail secure and upright. Do not allow pail to tumble as this may cause lid to loosen and leakage to occur. Do not transport on passenger seats or inside the passenger compartment of any vehicle. Store product in the cargo area of vehicle, and secure over protective plastic to prevent damage due to accidental spills. Do not store at temperatures above 100° F. This manufacturer also does not warranty for flat surface application where poor drainage or ponding water may prevail. Do not reuse empty containers. Do not use in drinking water or food systems. Protect from freezing.

HOW TO CLEAN-UP: Clean tools or spills with paint thinner or mineral spirits.

- Defiende las goteras del techo
- Uselo para reparaciones
- o construcciones nuevas
- Uselo en condiciones húmecais o secais
- Rehocado con fibras
- Espeso para aplicarse con llana

QUE ES? **Gardner® Wet-R-Dri® Roof Cement** es un producto compuesto de asfalto diseñado para reparar grietas, fisuras y agujeros en el techo en todo tipo de clima. Funciona muy bien en construcciones nuevas y en colocación de cumbreras, canales de goteo y materiales en la orilla del techo.

QUE HACE: Sella las áreas dañadas y le da una capa de protección resistente al agua.

DONDE UTILIZARLO: Sobre el techo, alrededor de domos, tragaluces, conductos de ventilación, tubos de escape, chimeneas, azoteas y en la construcción o reparación de cumbreras, mantos prefabricados o tejas asfálticas. También es excelente para usarse de forma subterránea, como impermeabilizante y rebrendor de humedad por sus características de uso rudo.

QUE NECESITO PARA APLICARLO?: Espátula, tela de refuerzo y guantes.

PREPARACION DE LA SUPERFICIE: La superficie debe estar limpia y libre de suciedad, polvo y materiales sueltos.

COMO APLICARLO: Aplique generosamente con una espátula o llana.

CUANTO NECESITO?: Rinde aproximadamente 0,09 metros cuadrados por litro cuando se aplica 0,32 cm de espesor.

QUE HACER y NO HACER: Para uso exterior solamente. Utilice ropa de protección. No lo aplique en EPDM, Hypalon o PVC. No lo aplique sobre techos de una sola capa o sintéticos. Si tiene dudas sobre la compatibilidad, aplique primero en una pequeña sección antes de aplicarlo en toda la superficie. NO LO DILUYA. No se aplique con rocío o amenaza de lluvia inminente.

PARA MEJORES RESULTADOS: Es altamente recomendable para reforzar la reparación, utilizar una tira de tela de refuerzo Universal Patching Fabric. El material de trabajo debe tener una consistencia uniforme y más en el área a reparar, aproximadamente 0,32 cm a 1,27 cm de espesor, y 5 cm a 7,5 cm más allá del área problemática. Incruste la tela en el cemento y cubra con una segunda capa de producto. Formar un borde de cemento en el área de chimeneas, conductos de ventilación, y otras proyectos por cubrir con la línea del techo. NO LO APLIQUE DIRECTAMENTE EN ZONAS CALIENTES O CON FLAMAS. NO SE DILUYA. Aplicar cuando las temperaturas de la superficie este entre 10° y 48° C. En un clima más frío (10° C o menos), el producto debe ser almacenado en un área climatizada (21° a 26° C) al menos 24 horas antes de la utilización del producto para facilitar la aplicación. En temperaturas superiores a los 48°C el material puede diluirse. El producto está hecho para ser utilizado todo el año. Dejar que se seque un mínimo de 30 - 60 días antes de la aplicación de la capa reflectora.

PRECAUCIONES: Use ropa protectora y gafas de seguridad durante la aplicación de este producto. Cuando transporte este producto, asegúrese de que la tapa esté apretada y la cubeta segura y en posición vertical. No permita que la cubeta se caiga, ya que esto puede hacer que la tapa se afloje y se produzcan derrames. No transportar en los asientos de pasajeros o en el interior de cualquier vehículo. Almacene el producto en el área de carga del vehículo, y asegúrelo con telas protectoras para evitar daños causados por derrames accidentales. No almacenar a temperaturas superiores a 37,7°C. Este fabricante también se exime de responsabilidad legal por la aplicación en superficies planas donde existan charcajes pobres o encharcamientos. No recomendado para techos de una sola capa o sintéticos. No la utilice en sistemas de agua potable o comestibles. Prohibido del consumidor.

PRECAUCIONES; DAÑINO O FATAL AL INGERIRSE.
USELO CON VENTILACIÓN ADECUADA.
MANTENGASE FUERA DEL ALCANCE DE LOS NIÑOS.

Contiene Petróleo Destilado. Mantengase alejado del calor, chispas y fuego directo. Si se ingiere no induzca al vomito. Llame inmediatamente al médico. En caso de Contacto con los Ojos – lave con abundante agua limpia, a temperatura ambiente. Contacto con la Piel – lavar exhaustivamente con agua y jabón. Respiración Irregular o Paro Respiratorio – Administre oxigeno, proporcione respiración artificial. Proporcione atención médica (inmediatamente). Evite respirar prolongadamente los humos o el rocío.

CUMPLIMIENTO: ASTM 4586. Producto Aprobado por el Control del Condado de Miami-Dade. REGLA# 1168 SCAQMD.

VOC: menos de 250 g/L

CALIF. PROP. 65 - ADVERTENCIA: Este producto contiene sustancias químicas que el Estado de California son consideradas como causa posible de cáncer, defectos de nacimiento u otros daños reproductivos. Use protección y ventilación adecuada, cuando se use el producto.

Producto Patentado. Numero de Patente de los EUA US6,786,962 B2

GARANTIA Y LIMITE DE RESPONSABILIDAD: Para información sobre la garantía limitada, MSDS e información de desecarga de responsabilidad, póngase en contacto con la oficina corporativa de Gardner en www.gardner-gibson.com.

TYPICAL PHYSICAL & PERFORMANCE CHARACTERISTICS

Weight Per Gallon, lbs.	8.2-8.6 lbs.
Residue by Evaporation	42% minimum
Combustible Solvents	Petroleum Solvents
Consistency	Trowel
Cure Time (50% Relative Humidity, 70°F)	N/A
Full Cure (50% Relative Humidity, 70°F)	N/A
Application Temperatures	50°-120°F
Flammability	105°F
Clean-up Tools	Mineral Spirits, Kerosene

Approx. Shipping Weights: (Note: All approx. weights include container.)

1 qt. (29 fl.oz./858mL)	2 lbs.
1 gallon (3.6qt./3.4L)	8.4 lbs.
5 gallons (4.75gal./18L)	42 lbs.

CAUTIONS: HARMFUL OR FATAL IF SWALLOWED
USE WITH ADEQUATE VENTILATION.
KEEP OUT OF REACH OF CHILDREN.

Contains Petroleum Distillate. Keep away from heat, sparks, and open flame. If swallowed DO NOT induce vomiting. Call physician. In case of : Eye contact - wash with plenty of clean, room temperature water. Skin contact - wash thoroughly with soap and water. Irregular or stopped breathing - administer oxygen, give artificial respiration. Get medical attention (immediately). Avoid prolonged breathing of vapor or spray mist.

COMPLIANCE: Meets ASTM 4586. Miami-Dade County Product Control Approved. SCAQMD RULE #1168.

CALIF. PROP. 65. WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Use proper protection and adequate ventilation, when using product.

VOC: less than 250 g/L

ASPHALT	C.A.S.# 8052-42-4
MINERAL SPIRITS	C.A.S.# 8052-41-3
CELLULOSE FIBER	C.A.S.# 65996-61-4
SILICATE MINERAL	C.A.S.# 7631-86-9

Product is asbestos free.
Patented product. US Patent Number US6,786,962 B2
© 2009 Gardner-Gibson, Inc.
Manufactured by (Manufactured for).
Gardner-Gibson, Inc., P.O. Box 5449, Tampa, FL 33675

WARRANTY AND DISCLAIMER: For limited warranty, MSDS and disclaimer information, contact the Gardner corporate office at www.gardner-gibson.com

HILLSBOROUGH COUNTY APPROVED

Hecho en E.U.A.
MADE IN THE USA

Gardner-Gibson, Inc. • P.O. Box 5449 • Tampa, Florida 33675-5449
Phone: (813) 248-2101 • Fax (813) 248-6768 • www.gardner-gibson.com

D-12

FOAM SEALANT

FROTH-PAK™ Foam Sealant

1. PRODUCT NAME
FROTH-PAK™ Foam Sealant

2. MANUFACTURER
The Dow Chemical Company
Dow Building Solutions
200 Larkin Center, 1605 Joseph Drive
Midland, MI 48674
1-866-583-BLUE (2583)
Fax 1-989-832-1465

Dow Chemical Canada ULC
Dow Building Solutions
450 – 1st St. SW, Suite 2100
Calgary, AB T2P 5H1
1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

dowbuildingsolutions.com

3. PRODUCT DESCRIPTION
FROTH-PAK™ Foam Sealant is a two-component, quick-cure polyurethane foam that fills cavities, penetrations and cracks. FROTH-PAK™ Foam Sealant is a chemically cured foam, significantly reducing curing time. It dispenses, expands and becomes tack-free in seconds. The product will skin over in 30–40 seconds and will cure in minutes.*

Basic Use
FROTH-PAK™ Foam Sealant can be used in interior or exterior commercial, residential, agricultural, industrial and institutional settings.** If used in an exterior setting, a coating must be applied for ultraviolet (UV) protection.

Typical commercial applications include spray polyurethane foam roof repair and sealing roof perimeters and parapet walls. Residential uses include:
- Roof and wall junctions
- Wall and attic penetrations
- Electrical, mechanical and plumbing penetrations
- Other gaps, cracks or crevices in the building envelope

Sizes
FROTH-PAK™ Foam Sealant is typically sold as a complete kit that includes pressurized "A" and "B" cylinders, plus dispensing gun/hose assembly and accessories. FROTH-PAK™ Foam Sealant is also available in refillable, returnable tanks for applications requiring a large amount of foam, such as poultry houses. See Table 1 for size and yield information.

4. TECHNICAL DATA
Applicable Standards
ASTM International
- C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
- C273 – Standard Test Method for Shear Properties of Sandwich Core Materials
- D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics
- D1622 – Standard Test Method for Apparent Density of Rigid Cellular Plastics
- D1623 – Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
- D2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
- D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics
- E96 – Standard Test Methods for Water Vapor Transmission of Materials
- C203 – Standard Test Methods for Breaking Load and Flexural Properties of Block-Type Thermal Insulation

Physical Properties
FROTH-PAK™ Foam Sealant exhibits the typical properties and characteristics indicated in Table 2 when tested as represented.

Fire Information
FROTH-PAK™ foam is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C).

Code Compliances
FROTH-PAK™ Foam Sealant complies with the following codes:
- CCMC 13447-L
- Underwriters Laboratories, Inc. (UL) Classified, see Classification Certificate R13635

Contact your Dow sales representative or local authorities for code requirements and related acceptances.

TABLE 1: SIZES AND THEORETICAL YIELDS FOR FROTH-PAK™ FOAM SEALANT

Product	Theoretical Yield,[1] Board ft (m³)
Kits	
FROTH-PAK™ 12	12 (0.03)
FROTH-PAK™ 120	120 (0.28)
FROTH-PAK™ 200	200 (0.46)
FROTH-PAK™ 620	620 (1.46)
Refillable Cylinders	
FROTH-PAK™ 17 (gal)	2060 (4.85)
FROTH-PAK™ 27 (gal)	3240 (7.65)
FROTH-PAK™ 60 (gal)	6860 (16.2)
FROTH-PAK™ 120 (gal)	15430 (36.4)
FROTH-PAK™ 350 (gal)	43890 (103.6)

[1] The theoretical yield has become an industry standard for identifying certain sizes of two-component kits. Theoretical yield calculations are performed in perfect laboratory conditions, without taking into account the loss of blowing agent or the variations in application methods and types.

* Actual cure time will depend on temperature, foam thickness, the specific nozzle used, etc.
** For rim/band yield applications, use FROTH-PAK™ Foam Insulation (available in U.S. only) to meet building code specifications.

PRODUCT INFORMATION | United States/Canada | COMMERCIAL/RESIDENTIAL

5. INSTALLATION
Complete operating instructions are provided with each FROTH-PAK™ Foam Sealant purchase. Read all information and cautions before application. Note: Avoid overfilling restricted spaces. Chemicals exert force during reaction, and expansion of foam may result in substrate deformation.

Safety and Conditions of Use
- Read the instructions and (Material) Safety Data Sheet ((M)SDS) carefully before use.
- FROTH-PAK™ spray polyurethane foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Do not breathe vapor or spray. Use only in well-ventilated areas. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a P100 particulate filter may be required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure, air-supplying respirator (air line or self-contained breathing apparatus).
- Isocyanate is irritating to the eyes, skin and respiratory system, and may cause sensitization by inhalation or skin contact.
- FROTH-PAK™ foam will adhere to most surfaces and skin. Do not get foam on skin. Wear protective clothing (including long sleeves), gloves, and goggles. Cured foam must be mechanically removed or allowed to wear off in time.
- The contents are under pressure.
- FROTH-PAK™ foam should not be used around heaters, furnaces, fireplaces, recessed lighting fixtures or other applications where the foam may come in contact with heat-conducting surfaces. Cured FROTH-PAK™ foam is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C).
- Re-entry allowed after only 1 hour*

Visit dowbuildingsolutions.com or contact a local Dow representative for more specific instructions.

TABLE 2: TYPICAL PHYSICAL PROPERTIES OF FROTH-PAK™ FOAM SEALANT
These properties are typical but do not constitute specifications.

Property and Test Method	Value[1]
Flame Spread/Smoke Developed,[2] ASTM E84/UL 723 @ 4" wide by 2" thick	≤25 / ≤450
Nominal Density, ASTM D1622, lb/ft³	1.75
Thermal Resistance[3] per inch, ASTM C518, ft2•h•°F/Btu, R-value, min. Initial Aged LTTR measured at 2" thick	 6.6 10.6
Water Vapor Permeance, ASTM E96, perm @ 1" thick	3.13
Water Absorption, ASTM D2842, % by volume	5.44
Air Permeability, ASTM E2178 air leakage at 1" thick, l/min @ 75 Pa	0
Air Permeability, ASTM E283 air leakage at 0.5" thick, ft3/min•ft² @ 75 Pa	0
Dimensional Stability, ASTM D2126, % volume change 158°F/100% RH @ 1 wk 158°F/100% RH @ 2 wks -40°F/ambi RH @ 1 wk -40°F/ambi RH @ 2 wks	 0.70 -0.06 0.02 0.36
Compressive Strength, ASTM D1621, lb/in², parallel	23.4
Flexural Strength, ASTM C203, lb/in², parallel	22.7
Tensile Strength, ASTM D1623, lb/in², parallel	36
Shear Strength, ASTM C273, lb/in², parallel	12.7
Maximum Service Temperature, °F	240

[1] Values may differ for FROTH-PAK™ 12 and specialty kits. Contact a Dow representative for more information.
[2] This numerical flame spread rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
[3] R means resistance to heat flow. The higher the R-value, the greater the insulating power.

6. AVAILABILITY
FROTH-PAK™ Foam Insulation is distributed through an extensive network. For more information, call:
1-800-232-2436 (English)
1-800-565-1255 (French)

7. WARRANTY
Not applicable.

8. MAINTENANCE
Not applicable.

9. TECHNICAL SERVICES
Dow can provide technical information to help address questions when using FROTH-PAK™ Foam Sealant. Technical personnel are available to assist. For technical assistance, call:
1-866-583-BLUE (2583) (English)
1-800-363-6210 (French)

10. FILING SYSTEMS
dowbuildingsolutions.com

In the U.S.
The Dow Chemical Company
Dow Building Solutions
200 Larkin Center, 1605 Joseph Drive
Midland, MI 48674

In Canada
Dow Chemical Canada ULC
Dow Building Solutions
450 – 1st St. SW, Suite 2100
Calgary, AB T2P 5H1

Technical Information
1-866-583-2583 (English)
1-800-363-6210 (French)
Sales Information
1-800-232-2436 (English)
1-800-565-1255 (French)

www.dowbuildingsolutions.com
www.sprayfoamatdow.com

NOTICE: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. No warranties are given; all implied warranties are disclaimed. The information and the products and services described in this document are subject to change from time to time without notice. Because Dow is continuously improving its products and services, the products and services described in this document may be discontinued or modified at any time. Because some uses are regulated or subject to limitations, and uses may vary between locations, Customer should contact Dow representatives before planning to use any products or services described in this document. In some cases, specific Dow products and services may be recommended; however, it is always Customer's responsibility to evaluate and decide whether the products and services are suitable for Customer's intended uses. Customer is responsible for informing its employees, customers and contractors of all information necessary for the safe use of Dow products or services. Customer should not use Dow products or services in any application before reading current safety information. Certain hazards and precautionary measures for the use of Dow products are described in Dow safety data sheets, which should be read carefully before any Dow product is used. Statements concerning the use of products or formulations described herein are not to be interpreted as representations or warranties, and no statement made herein may be interpreted as permission or recommendation for the use of any product or formulation in a manner that might infringe patents of others. Unless otherwise expressly stated in Dow's written agreement, Dow sells products solely pursuant to Dow's standard terms and conditions of sale, which contain limited warranties, limited remedies and limitations of liability. Consult Dow's standard terms and conditions of sale for more information. Dow does not provide medical advice or services to handlers of Dow products. Customer is responsible for ensuring that handlers receive such advice and services as they may need, and for providing handlers with any information necessary for them to receive such advice and services. Dow does not provide engineering or design services for the benefit of Customer or Customer's customers. Customer is responsible for providing engineering and design services for Customer's products and applications. Dow assumes no obligation or liability for any advice furnished by Dow or for the results of such advice. Any advice furnished by Dow is given gratuitously, and Dow assumes no obligation or liability for any advice furnished by Dow or for the results of such advice. Any advice furnished by Dow is given gratuitously, and Dow assumes no obligation or liability for any advice furnished by Dow or for the results of such advice.

Dow Polyurethane Foam Insulation and Sealants
CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F. For more information, consult Material Safety Data Sheets, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400.

When air sealing buildings, ensure that combustion appliances, such as furnaces, water heaters, wood burning stoves, gas stoves and gas dryers are properly vented to the outside. See website: http://www.epa.gov/iaq/homes/hip-ventilation.html. In Canada visit: http://archive.nrcc.nrc.gc.ca/eng/ibp/irc/cbd/813-house-ventilation.html.

FROTH-PAK™ Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the Instructions and Material Safety Data Sheets carefully before use. Wear protective clothing (including long sleeves), gloves, goggles or safety glasses, and proper respiratory protection.

Do not breathe vapor or mist. Use only with adequate ventilation. It is recommended that applicators and those working in the spray area wear respiratory protection. Increased ventilation significantly reduces the potential for isocyanate exposure; however, supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particulate filter may still be required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure, air-supplying respirator (air line or self-contained breathing apparatus). Spraying large amounts of foam indoors may require the use of a positive pressure, air-supplying respirator. Contents under pressure.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.

* See full ventilation guidelines at dowbuildingsolutions.com.

®™Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow.
Printed in U.S.A.

Form No. 179-05644X-0614 CDP
179-00582X-0614 CDP

FOAM SEALANT

REV	DATE	DESCRIPTION	APP
0	9-14-2018	ISSUED FOR CONSTRUCTION COMPLETION REPORT	

integral engineering pc.
22 CORTLANDT ST, 16th FLOOR
NEW YORK, NY 10007
www.integral-corp.com

KEITH P. BRODOCK, P.E. — DATE
NYSPE No. 089004

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

NYCDOB APPROVAL

NYCDOB BSCAN

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY — NEW YORK

DRN	DATE
EB	9-14-2018
DES	DATE
SB	9-14-2018
CHK	DATE
KPB	9-14-2018
SCALE	PROJECT NO.
NOT TO SCALE	E148

ROOF SEALANT SPECIFICATIONS

SHEET **10** OF **10**

M-503.00

REV **0**

N:\GS\Projects\E148_BridgeCleaners_AP\CAD\Production Drawings\AS-BUILTS\M-500_Specs.dwg 8/30/2018 12:29:59 PM

APPENDIX E

DISSOLVED OXYGEN MEASUREMENTS, JANUARY 15, 2018

Appendix E. Dissolved Oxygen Measurements, January 15, 2018

GW-1				GW-2				GW-3				GW-4				GW-5			
Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)
2:02 PM	1.606	8.441	11.014									2:02 PM	6.951	5.841	13.634				
												2:03 PM	6.944	5.829	13.646				
												2:04 PM	6.951	5.836	13.638				
												2:05 PM	6.944	5.842	13.632				
												2:06 PM	6.950	5.835	13.639	2:06 PM	0.989	6.468	12.264
				2:07 PM	10.315	2.751	16.644					2:07 PM	6.949	5.833	13.642	2:07 PM	0.992	6.470	12.262
				2:08 PM	10.932	2.759	16.636					2:08 PM	6.952	5.838	13.636	2:08 PM	0.992	6.476	12.256
				2:09 PM	10.769	2.750	16.645					2:09 PM	6.946	5.834	13.641	2:09 PM	0.992	6.476	12.256
				2:10 PM	10.682	2.752	16.643					2:10 PM	6.952	5.833	13.642	2:10 PM	0.995	6.499	12.233
				2:11 PM	10.627	2.752	16.643					2:11 PM	6.945	5.837	13.638	2:11 PM	0.997	6.486	12.246
				2:12 PM	10.598	2.763	16.633	2:12 PM	7.268	5.246	14.346	2:12 PM	6.952	5.844	13.631	2:12 PM	0.999	6.495	12.237
				2:13 PM	10.574	2.751	16.644	2:13 PM	7.269	5.248	14.344	2:13 PM	6.947	5.839	13.636	2:13 PM	1.002	6.498	12.234
				2:14 PM	10.546	2.762	16.633	2:14 PM	7.269	5.257	14.335	2:14 PM	6.952	5.828	13.646	2:14 PM	1.004	6.471	12.261
				2:15 PM	10.544	2.759	16.636	2:15 PM	7.274	5.258	14.335	2:15 PM	6.948	5.824	13.651	2:15 PM	1.005	6.475	12.257
				2:16 PM	10.535	2.756	16.639	2:16 PM	7.274	5.269	14.323	2:16 PM	6.954	5.820	13.655	2:16 PM	1.008	6.460	12.272
2:17 PM	1.633	8.407	11.048	2:17 PM	10.517	2.751	16.645	2:17 PM	7.280	5.270	14.323	2:17 PM	6.947	5.812	13.663	2:17 PM	1.009	6.432	12.300
				2:18 PM	10.514	2.753	16.642	2:18 PM	7.277	5.271	14.321	2:18 PM	6.954	5.805	13.669	2:18 PM	1.011	6.420	12.312
				2:19 PM	10.522	2.737	16.658	2:19 PM	7.278	5.276	14.316	2:19 PM	6.950	5.795	13.679	2:19 PM	1.012	6.425	12.307
				2:20 PM	10.506	2.736	16.659	2:20 PM	7.279	5.279	14.314	2:20 PM	6.955	5.796	13.678	2:20 PM	1.014	6.438	12.294
				2:21 PM	10.510	2.729	16.666	2:21 PM	7.279	5.280	14.312	2:21 PM	6.950	5.798	13.677	2:21 PM	1.015	6.432	12.300
				2:22 PM	10.496	2.722	16.673	2:22 PM	7.277	5.275	14.317	2:22 PM	6.955	5.804	13.670	2:22 PM	1.015	6.439	12.293
				2:23 PM	10.500	2.730	16.665	2:23 PM	7.279	5.285	14.307	2:23 PM	6.949	5.794	13.680	2:23 PM	1.018	6.433	12.299
				2:24 PM	10.482	2.727	16.669	2:24 PM	7.280	5.279	14.314	2:24 PM	6.955	5.796	13.679	2:24 PM	1.018	6.445	12.287
				2:25 PM	10.475	2.707	16.688	2:25 PM	7.280	5.267	14.325	2:25 PM	6.951	5.790	13.685	2:25 PM	1.019	6.446	12.286
				2:26 PM	10.455	2.721	16.674	2:26 PM	7.280	5.263	14.330	2:26 PM	6.955	5.792	13.682	2:26 PM	1.019	6.455	12.277
				2:27 PM	10.451	2.714	16.682	2:27 PM	7.281	5.264	14.328	2:27 PM	6.950	5.782	13.693	2:27 PM	1.020	6.432	12.300
				2:28 PM	10.430	2.705	16.690	2:28 PM	7.283	5.270	14.322	2:28 PM	6.956	5.798	13.677	2:28 PM	1.021	6.448	12.284
				2:29 PM	10.417	2.714	16.681	2:29 PM	7.289	5.265	14.327	2:29 PM	6.949	5.791	13.684	2:29 PM	1.022	6.445	12.287
				2:30 PM	10.422	2.711	16.684	2:30 PM	7.284	5.268	14.325	2:30 PM	6.956	5.791	13.684	2:30 PM	1.023	6.453	12.279
				2:31 PM	10.402	2.721	16.674	2:31 PM	7.284	5.262	14.331	2:31 PM	6.950	5.787	13.687	2:31 PM	1.022	6.457	12.275
2:32 PM	1.746	8.387	11.068	2:32 PM	10.381	2.712	16.683	2:32 PM	7.287	5.260	14.332	2:32 PM	6.957	5.792	13.683	2:32 PM	1.024	6.451	12.281
				2:33 PM	10.355	2.713	16.683	2:33 PM	7.281	5.273	14.320	2:33 PM	6.952	5.793	13.681	2:33 PM	1.024	6.444	12.288
				2:34 PM	10.323	2.712	16.684	2:34 PM	7.282	5.270	14.323	2:34 PM	6.958	5.794	13.681	2:34 PM	1.023	6.446	12.286
				2:35 PM	10.305	2.717	16.678	2:35 PM	7.282	5.261	14.331	2:35 PM	6.952	5.789	13.685	2:35 PM	1.023	6.454	12.278
				2:36 PM	10.269	2.715	16.680	2:36 PM	7.285	5.264	14.328	2:36 PM	6.958	5.783	13.692	2:36 PM	1.022	6.460	12.272
				2:37 PM	10.231	2.722	16.674	2:37 PM	7.285	5.261	14.331	2:37 PM	6.954	5.794	13.681	2:37 PM	1.020	6.460	12.272
				2:38 PM	10.190	2.708	16.687	2:38 PM	7.284	5.271	14.321	2:38 PM	6.957	5.798	13.677	2:38 PM	1.017	6.455	12.277
				2:39 PM	10.152	2.712	16.683	2:39 PM	7.286	5.275	14.318	2:39 PM	6.952	5.786	13.689	2:39 PM	1.013	6.453	12.279
				2:40 PM	10.121	2.712	16.683	2:40 PM	7.282	5.267	14.325	2:40 PM	6.958	5.788	13.686	2:40 PM	1.009	6.462	12.270
				2:41 PM	10.106	2.724	16.671	2:41 PM	7.282	5.259	14.333	2:41 PM	6.955	5.779	13.696	2:41 PM	1.005	6.454	12.278
				2:42 PM	10.090	2.718	16.677	2:42 PM	7.283	5.264	14.328	2:42 PM	6.958	5.804	13.671	2:42 PM	1.000	6.463	12.269
				2:43 PM	10.059	2.717	16.678	2:43 PM	7.281	5.270	14.322	2:43 PM	6.954	5.802	13.673	2:43 PM	0.996	6.480	12.252
				2:44 PM	10.065	2.716	16.679	2:44 PM	7.284	5.273	14.319	2:44 PM	6.959	5.822	13.653	2:44 PM	0.992	6.528	12.204
				2:45 PM	10.071	2.712	16.683	2:45 PM	7.282	5.265	14.327	2:45 PM	6.955	5.824	13.651	2:45 PM	0.987	6.533	12.199
				2:46 PM	10.096	2.725	16.670	2:46 PM	7.284	5.276	14.316	2:46 PM	6.960	5.830	13.645	2:46 PM	0.983	6.527	12.205
2:47 PM	1.747	8.378	11.077	2:47 PM	10.113	2.727	16.668	2:47 PM	7.286	5.277	14.315	2:47 PM	6.956	5.830	13.645	2:47 PM	0.978	6.544	12.188
				2:48 PM	10.117	2.721	16.674	2:48 PM	7.284	5.284	14.308	2:48 PM	6.959	5.828	13.647	2:48 PM	0.973	6.536	12.196
				2:49 PM	10.125	2.738	16.657	2:49 PM	7.285	5.284	14.308	2:49 PM	6.956	5.831	13.644	2:49 PM	0.968	6.547	12.185
				2:50 PM	10.143	2.747	16.648	2:50 PM	7.286	5.278	14.314	2:50 PM	6.959	5.840	13.635	2:50 PM	0.963	6.539	12.193
				2:51 PM	10.152	2.747	16.648	2:51 PM	7.285	5.283	14.310	2:51 PM	6.957	5.835	13.640	2:51 PM	0.956	6.552	12.180
				2:52 PM	11.176	2.754	16.641	2:52 PM	7.282	5.292	14.300	2:52 PM	6.959	5.836	13.639	2:52 PM	0.949	6.544	12.188
				2:53 PM	10.877	2.740	16.655	2:53 PM	7.285	5.282	14.310	2:53 PM	6.956	5.837	13.638	2:53 PM	0.940	6.545	12.187
				2:54 PM	10.571	2.751	16.644	2:54 PM	7.282	5.291	14.301	2:54 PM	6.958	5.828	13.647	2:54 PM	0.931	6.523	12.209

Appendix E. Groundwater Dissolved Oxygen Measurements, January 15, 2018

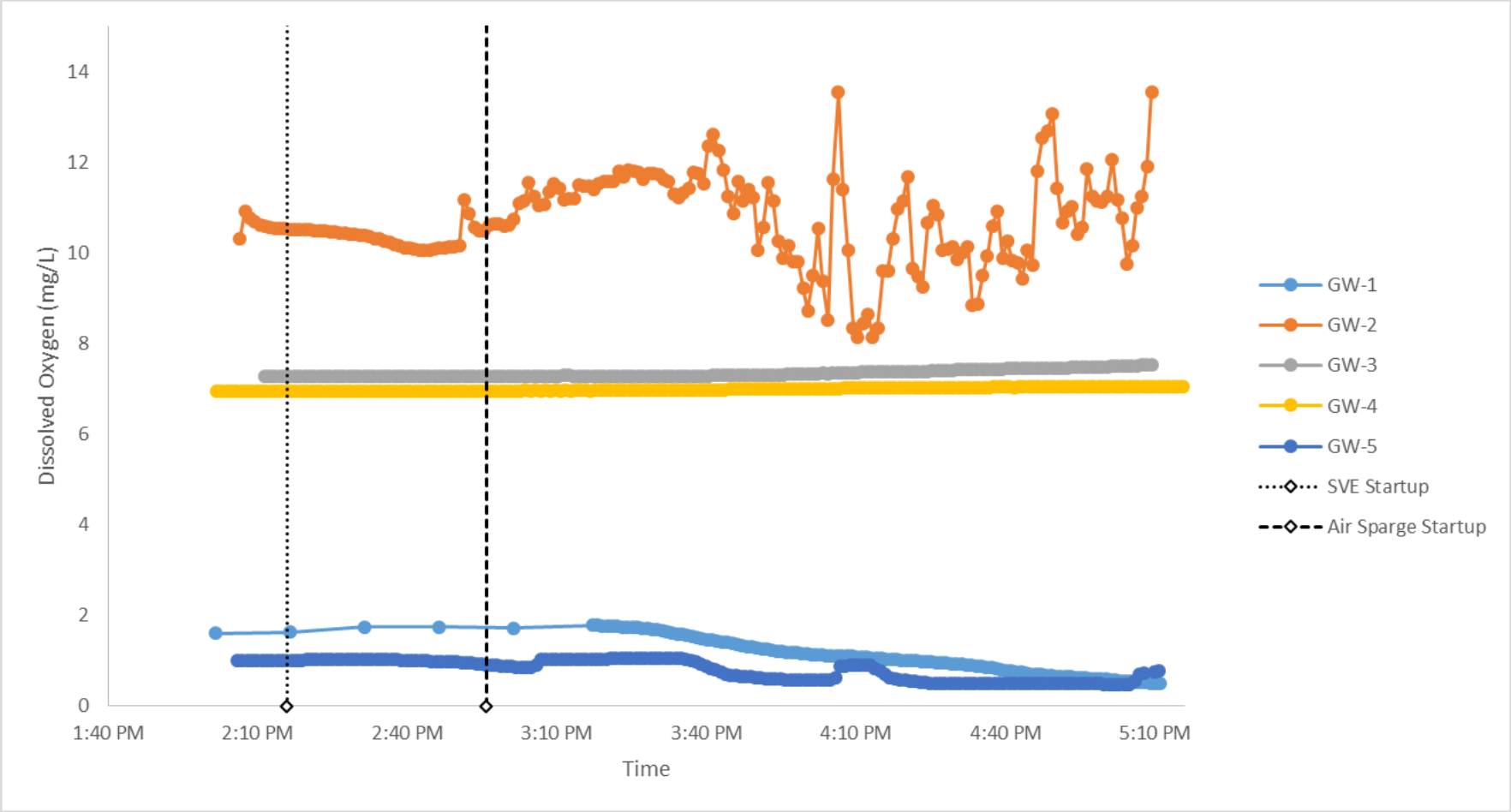
GW-1				GW-2				GW-3				GW-4				GW-5			
Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)
				2:55 PM	10.484	2.750	16.645	2:55 PM	7.287	5.285	14.307	2:55 PM	6.956	5.804	13.670	2:55 PM	0.922	6.486	12.246
				2:56 PM	10.497	2.762	16.633	2:56 PM	7.282	5.287	14.305	2:56 PM	6.960	5.790	13.685	2:56 PM	0.911	6.472	12.260
				2:57 PM	10.622	2.748	16.647	2:57 PM	7.283	5.300	14.292	2:57 PM	6.957	5.792	13.682	2:57 PM	0.899	6.461	12.271
				2:58 PM	10.654	2.751	16.644	2:58 PM	7.285	5.282	14.310	2:58 PM	6.960	5.796	13.679	2:58 PM	0.889	6.462	12.270
				2:59 PM	10.648	2.745	16.650	2:59 PM	7.286	5.283	14.309	2:59 PM	6.956	5.804	13.670	2:59 PM	0.878	6.466	12.266
				3:00 PM	10.589	2.730	16.665	3:00 PM	7.282	5.281	14.312	3:00 PM	6.960	5.802	13.673	3:00 PM	0.870	6.458	12.274
				3:01 PM	10.618	2.737	16.658	3:01 PM	7.282	5.283	14.309	3:01 PM	6.958	5.812	13.663	3:01 PM	0.863	6.471	12.261
3:02 PM	1.720	8.378	11.076	3:02 PM	10.748	2.736	16.659	3:02 PM	7.284	5.275	14.317	3:02 PM	6.960	5.812	13.663	3:02 PM	0.857	6.467	12.265
				3:03 PM	11.097	2.730	16.665	3:03 PM	7.285	5.277	14.316	3:03 PM	6.958	5.806	13.669	3:03 PM	0.852	6.473	12.259
				3:04 PM	11.156	2.722	16.673	3:04 PM	7.287	5.276	14.316	3:04 PM	6.961	5.808	13.667	3:04 PM	0.847	6.467	12.265
				3:05 PM	11.547	2.730	16.665	3:05 PM	7.289	5.272	14.320	3:05 PM	6.957	5.795	13.680	3:05 PM	0.844	6.459	12.273
				3:06 PM	11.244	2.730	16.665	3:06 PM	7.286	5.276	14.317	3:06 PM	6.962	5.798	13.677	3:06 PM	0.905	6.473	12.259
				3:07 PM	11.039	2.726	16.669	3:07 PM	7.288	5.282	14.310	3:07 PM	6.959	5.800	13.675	3:07 PM	1.020	6.463	12.269
				3:08 PM	11.081	2.732	16.663	3:08 PM	7.289	5.276	14.316	3:08 PM	6.961	5.796	13.679	3:08 PM	1.032	6.461	12.271
				3:09 PM	11.345	2.728	16.667	3:09 PM	7.284	5.270	14.322	3:09 PM	6.960	5.798	13.677	3:09 PM	1.035	6.462	12.270
				3:10 PM	11.531	2.723	16.672	3:10 PM	7.286	5.273	14.320	3:10 PM	6.962	5.800	13.675	3:10 PM	1.036	6.468	12.264
				3:11 PM	11.425	2.710	16.685	3:11 PM	7.287	5.280	14.312	3:11 PM	6.960	5.806	13.669	3:11 PM	1.036	6.470	12.262
				3:12 PM	11.179	2.713	16.683	3:12 PM	7.298	5.273	14.320	3:12 PM	6.962	5.799	13.676	3:12 PM	1.037	6.471	12.261
				3:13 PM	11.192	2.713	16.682	3:13 PM	7.310	5.266	14.326	3:13 PM	6.960	5.811	13.663	3:13 PM	1.037	6.465	12.267
				3:14 PM	11.201	2.719	16.676	3:14 PM	7.286	5.263	14.329	3:14 PM	6.961	5.809	13.666	3:14 PM	1.036	6.466	12.266
				3:15 PM	11.507	2.720	16.675	3:15 PM	7.281	5.258	14.334	3:15 PM	6.961	5.801	13.674	3:15 PM	1.037	6.460	12.272
				3:16 PM	11.473	2.730	16.666	3:16 PM	7.278	5.260	14.332	3:16 PM	6.962	5.795	13.679	3:16 PM	1.038	6.460	12.272
3:17 PM	1.785	8.367	19.409	3:17 PM	11.476	2.720	16.675	3:17 PM	7.277	5.257	14.336	3:17 PM	6.961	5.806	13.669	3:17 PM	1.038	6.468	12.264
3:18 PM	1.775	8.356	19.421	3:18 PM	11.393	2.721	16.674	3:18 PM	7.274	5.250	14.342	3:18 PM	6.963	5.793	13.682	3:18 PM	1.038	6.467	12.265
3:19 PM	1.769	8.367	19.409	3:19 PM	11.524	2.719	16.677	3:19 PM	7.277	5.244	14.348	3:19 PM	6.961	5.807	13.668	3:19 PM	1.038	6.468	12.264
3:20 PM	1.759	8.360	19.416	3:20 PM	11.577	2.733	16.663	3:20 PM	7.277	5.244	14.349	3:20 PM	6.963	5.830	13.645	3:20 PM	1.039	6.468	12.264
3:21 PM	1.752	8.375	19.401	3:21 PM	11.587	2.722	16.673	3:21 PM	7.273	5.247	14.346	3:21 PM	6.962	5.844	13.631	3:21 PM	1.040	6.479	12.253
3:22 PM	1.748	8.367	19.410	3:22 PM	11.574	2.725	16.670	3:22 PM	7.279	5.233	14.359	3:22 PM	6.965	5.851	13.624	3:22 PM	1.040	6.476	12.256
3:23 PM	1.743	8.373	19.403	3:23 PM	11.815	2.758	16.637	3:23 PM	7.276	5.233	14.359	3:23 PM	6.963	5.870	13.605	3:23 PM	1.042	6.475	12.257
3:24 PM	1.739	8.377	19.399	3:24 PM	11.671	2.783	16.612	3:24 PM	7.276	5.233	14.360	3:24 PM	6.965	5.867	13.607	3:24 PM	1.043	6.478	12.254
3:25 PM	1.735	8.385	19.392	3:25 PM	11.832	2.796	16.599	3:25 PM	7.279	5.236	14.356	3:25 PM	6.964	5.891	13.583	3:25 PM	1.045	6.479	12.253
3:26 PM	1.730	8.376	19.400	3:26 PM	11.812	2.785	16.610	3:26 PM	7.273	5.230	14.362	3:26 PM	6.967	5.896	13.579	3:26 PM	1.045	6.475	12.257
3:27 PM	1.720	8.389	19.387	3:27 PM	11.770	2.803	16.592	3:27 PM	7.271	5.225	14.367	3:27 PM	6.965	5.896	13.578	3:27 PM	1.047	6.479	12.253
3:28 PM	1.707	8.395	19.381	3:28 PM	11.624	2.802	16.593	3:28 PM	7.272	5.226	14.366	3:28 PM	6.969	5.914	13.560	3:28 PM	1.048	6.473	12.259
3:29 PM	1.694	8.398	19.379	3:29 PM	11.759	2.807	16.588	3:29 PM	7.275	5.233	14.359	3:29 PM	6.967	5.917	13.558	3:29 PM	1.049	6.473	12.259
3:30 PM	1.678	8.399	19.377	3:30 PM	11.760	2.813	16.583	3:30 PM	7.276	5.250	14.342	3:30 PM	6.971	5.924	13.551	3:30 PM	1.049	6.466	12.266
3:31 PM	1.660	8.395	19.381	3:31 PM	11.743	2.820	16.575	3:31 PM	7.278	5.245	14.347	3:31 PM	6.971	5.926	13.549	3:31 PM	1.049	6.466	12.266
3:32 PM	1.638	8.407	19.369	3:32 PM	11.624	2.827	16.568	3:32 PM	7.277	5.250	14.342	3:32 PM	6.974	5.927	13.547	3:32 PM	1.048	6.481	12.251
3:33 PM	1.615	8.413	19.364	3:33 PM	11.578	2.827	16.568	3:33 PM	7.276	5.262	14.330	3:33 PM	6.972	5.925	13.549	3:33 PM	1.047	6.470	12.262
3:34 PM	1.593	8.420	19.356	3:34 PM	11.288	2.831	16.564	3:34 PM	7.279	5.264	14.328	3:34 PM	6.975	5.936	13.539	3:34 PM	1.044	6.464	12.268
3:35 PM	1.571	8.416	19.361	3:35 PM	11.221	2.836	16.559	3:35 PM	7.280	5.281	14.311	3:35 PM	6.974	5.936	13.538	3:35 PM	1.039	6.461	12.271
3:36 PM	1.547	8.408	19.368	3:36 PM	11.316	2.833	16.562	3:36 PM	7.281	5.281	14.311	3:36 PM	6.977	5.947	13.527	3:36 PM	1.029	6.480	12.252
3:37 PM	1.522	8.415	19.362	3:37 PM	11.429	2.838	16.557	3:37 PM	7.280	5.280	14.312	3:37 PM	6.977	5.938	13.537	3:37 PM	1.010	6.488	12.244
3:38 PM	1.501	8.421	19.355	3:38 PM	11.785	2.840	16.555	3:38 PM	7.281	5.280	14.312	3:38 PM	6.979	5.950	13.525	3:38 PM	0.980	6.482	12.250
3:39 PM	1.483	8.407	19.369	3:39 PM	11.745	2.848	16.547	3:39 PM	7.281	5.277	14.315	3:39 PM	6.980	5.953	13.521	3:39 PM	0.934	6.477	12.255
3:40 PM	1.466	8.416	19.361	3:40 PM	11.540	2.849	16.546	3:40 PM	7.283	5.275	14.317	3:40 PM	6.980	5.953	13.522	3:40 PM	0.884	6.485	12.247
3:41 PM	1.451	8.416	19.360	3:41 PM	12.353	2.839	16.556	3:41 PM	7.281	5.279	14.313	3:41 PM	6.980	5.962	13.512	3:41 PM	0.835	6.493	12.239
3:42 PM	1.433	8.415	19.361	3:42 PM	12.607	2.846	16.549	3:42 PM	7.292	5.286	14.306	3:42 PM	6.984	5.966	13.509	3:42 PM	0.790	6.481	12.251
3:43 PM	1.415	8.407	19.369	3:43 PM	12.267	2.854	16.541	3:43 PM	7.290	5.284	14.308	3:43 PM	6.983	5.968	13.506	3:43 PM	0.744	6.488	12.244
3:44 PM	1.395	8.425	19.352	3:44 PM	11.842	2.853	16.542	3:44 PM	7.290	5.290	14.302	3:44 PM	6.986	5.972	13.503	3:44 PM	0.703	6.489	12.243
3:45 PM	1.375	8.417	19.360	3:45 PM	11.243	2.852	16.543	3:45 PM	7.293	5.293	14.299	3:45 PM	6.987	5.981	13.494	3:45 PM	0.675	6.480	12.252
3:46 PM	1.353	8.423	19.354	3:46 PM	10.867	2.856	16.539	3:46 PM	7.291	5.299	14.294	3:46 PM	6.987	5.967	13.507	3:46 PM	0.662	6.470	12.262

Appendix E. Groundwater Dissolved Oxygen Measurements, January 15, 2018

GW-1				GW-2				GW-3				GW-4				GW-5			
Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)
3:47 PM	1.335	8.435	19.341	3:47 PM	11.587	2.843	16.552	3:47 PM	7.295	5.305	14.288	3:47 PM	6.988	5.986	13.488	3:47 PM	0.655	6.483	12.249
3:48 PM	1.315	8.436	19.340	3:48 PM	11.155	2.861	16.534	3:48 PM	7.294	5.299	14.293	3:48 PM	6.989	5.987	13.488	3:48 PM	0.655	6.484	12.248
3:49 PM	1.297	8.430	19.346	3:49 PM	11.411	2.854	16.542	3:49 PM	7.298	5.291	14.301	3:49 PM	6.988	5.993	13.481	3:49 PM	0.644	6.488	12.244
3:50 PM	1.279	8.436	19.340	3:50 PM	11.213	2.858	16.537	3:50 PM	7.296	5.296	14.297	3:50 PM	6.993	5.999	13.476	3:50 PM	0.630	6.486	12.246
3:51 PM	1.261	8.434	19.342	3:51 PM	10.073	2.857	16.538	3:51 PM	7.302	5.289	14.303	3:51 PM	6.992	5.987	13.487	3:51 PM	0.612	6.481	12.251
3:52 PM	1.246	8.444	19.332	3:52 PM	10.558	2.856	16.539	3:52 PM	7.301	5.297	14.295	3:52 PM	6.992	5.999	13.476	3:52 PM	0.600	6.480	12.252
3:53 PM	1.229	8.449	19.328	3:53 PM	11.546	2.858	16.537	3:53 PM	7.308	5.294	14.298	3:53 PM	6.992	6.009	13.466	3:53 PM	0.597	6.482	12.250
3:54 PM	1.215	8.439	19.338	3:54 PM	11.146	2.863	16.532	3:54 PM	7.306	5.305	14.287	3:54 PM	6.993	6.010	13.465	3:54 PM	0.593	6.475	12.257
3:55 PM	1.202	8.431	19.345	3:55 PM	10.259	2.868	16.527	3:55 PM	7.311	5.302	14.290	3:55 PM	6.995	6.008	13.467	3:55 PM	0.588	6.481	12.251
3:56 PM	1.189	8.437	19.339	3:56 PM	9.872	2.864	16.531	3:56 PM	7.315	5.299	14.293	3:56 PM	6.997	6.018	13.456	3:56 PM	0.578	6.485	12.247
3:57 PM	1.177	8.439	19.338	3:57 PM	10.159	2.866	16.529	3:57 PM	7.316	5.309	14.283	3:57 PM	6.998	6.012	13.463	3:57 PM	0.569	6.486	12.246
3:58 PM	1.166	8.445	19.331	3:58 PM	9.810	2.860	16.536	3:58 PM	7.316	5.309	14.283	3:58 PM	7.001	6.025	13.450	3:58 PM	0.564	6.491	12.241
3:59 PM	1.156	8.440	19.336	3:59 PM	9.801	2.863	16.532	3:59 PM	7.315	5.314	14.278	3:59 PM	7.001	6.017	13.458	3:59 PM	0.568	6.494	12.238
4:00 PM	1.146	8.450	19.326	4:00 PM	9.234	2.867	16.528	4:00 PM	7.327	5.312	14.280	4:00 PM	7.003	6.022	13.453	4:00 PM	0.571	6.489	12.243
4:01 PM	1.135	8.439	19.337	4:01 PM	8.728	2.869	16.526	4:01 PM	7.327	5.311	14.281	4:01 PM	7.006	6.019	13.455	4:01 PM	0.574	6.493	12.239
4:02 PM	1.126	8.441	19.335	4:02 PM	9.497	2.868	16.527	4:02 PM	7.328	5.319	14.273	4:02 PM	7.005	6.018	13.457	4:02 PM	0.574	6.493	12.239
4:03 PM	1.118	8.440	19.336	4:03 PM	10.534	2.871	16.524	4:03 PM	7.336	5.321	14.271	4:03 PM	7.010	6.023	13.451	4:03 PM	0.569	6.486	12.246
4:04 PM	1.112	8.435	19.341	4:04 PM	9.378	2.859	16.536	4:04 PM	7.342	5.311	14.281	4:04 PM	7.007	6.031	13.444	4:04 PM	0.565	6.491	12.241
4:05 PM	1.106	8.453	19.324	4:05 PM	8.507	2.859	16.536	4:05 PM	7.339	5.314	14.278	4:05 PM	7.009	6.020	13.454	4:05 PM	0.562	6.492	12.240
4:06 PM	1.102	8.461	19.315	4:06 PM	11.621	2.867	16.528	4:06 PM	7.342	5.320	14.272	4:06 PM	7.010	6.030	13.445	4:06 PM	0.614	6.502	12.230
4:07 PM	1.098	8.454	19.322	4:07 PM	13.546	2.858	16.537	4:07 PM	7.348	5.327	14.265	4:07 PM	7.011	6.039	13.435	4:07 PM	0.863	6.486	12.246
4:08 PM	1.094	8.463	19.314	4:08 PM	11.404	2.868	16.527	4:08 PM	7.345	5.318	14.274	4:08 PM	7.013	6.038	13.436	4:08 PM	0.882	6.488	12.244
4:09 PM	1.090	8.461	19.315	4:09 PM	10.066	2.866	16.529	4:09 PM	7.355	5.322	14.270	4:09 PM	7.013	6.030	13.445	4:09 PM	0.890	6.494	12.238
4:10 PM	1.085	8.456	19.321	4:10 PM	8.350	2.867	16.528	4:10 PM	7.358	5.329	14.263	4:10 PM	7.015	6.041	13.434	4:10 PM	0.895	6.496	12.236
4:11 PM	1.080	8.450	19.326	4:11 PM	8.129	2.879	16.516	4:11 PM	7.361	5.315	14.277	4:11 PM	7.017	6.039	13.436	4:11 PM	0.896	6.482	12.250
4:12 PM	1.071	8.456	19.320	4:12 PM	8.434	2.865	16.530	4:12 PM	7.368	5.326	14.266	4:12 PM	7.015	6.031	13.443	4:12 PM	0.896	6.493	12.239
4:13 PM	1.064	8.460	19.316	4:13 PM	8.634	2.863	16.532	4:13 PM	7.372	5.324	14.269	4:13 PM	7.017	6.039	13.435	4:13 PM	0.887	6.493	12.239
4:14 PM	1.054	8.468	19.309	4:14 PM	8.125	2.870	16.525	4:14 PM	7.367	5.323	14.269	4:14 PM	7.018	6.045	13.429	4:14 PM	0.836	6.474	12.258
4:15 PM	1.044	8.460	19.316	4:15 PM	8.346	2.870	16.525	4:15 PM	7.371	5.323	14.269	4:15 PM	7.019	6.053	13.422	4:15 PM	0.765	6.490	12.242
4:16 PM	1.036	8.468	19.309	4:16 PM	9.609	2.869	16.526	4:16 PM	7.370	5.330	14.262	4:16 PM	7.022	6.051	13.423	4:16 PM	0.692	6.498	12.234
4:17 PM	1.028	8.453	19.323	4:17 PM	9.612	2.873	16.522	4:17 PM	7.372	5.325	14.267	4:17 PM	7.021	6.052	13.423	4:17 PM	0.630	6.495	12.237
4:18 PM	1.020	8.463	19.313	4:18 PM	10.306	2.879	16.516	4:18 PM	7.373	5.328	14.264	4:18 PM	7.023	6.055	13.419	4:18 PM	0.598	6.503	12.229
4:19 PM	1.013	8.462	19.314	4:19 PM	10.961	2.876	16.519	4:19 PM	7.376	5.339	14.253	4:19 PM	7.022	6.054	13.421	4:19 PM	0.582	6.497	12.235
4:20 PM	1.005	8.456	19.321	4:20 PM	11.156	2.883	16.512	4:20 PM	7.379	5.339	14.253	4:20 PM	7.024	6.063	13.411	4:20 PM	0.570	6.501	12.231
4:21 PM	0.997	8.456	19.321	4:21 PM	11.677	2.876	16.519	4:21 PM	7.381	5.337	14.255	4:21 PM	7.025	6.062	13.413	4:21 PM	0.557	6.491	12.241
4:22 PM	0.989	8.461	19.315	4:22 PM	9.665	2.874	16.521	4:22 PM	7.384	5.333	14.259	4:22 PM	7.027	6.066	13.408	4:22 PM	0.537	6.502	12.230
4:23 PM	0.983	8.468	19.308	4:23 PM	9.484	2.876	16.519	4:23 PM	7.381	5.351	14.242	4:23 PM	7.028	6.073	13.401	4:23 PM	0.522	6.506	12.226
4:24 PM	0.975	8.468	19.308	4:24 PM	9.257	2.884	16.511	4:24 PM	7.390	5.341	14.251	4:24 PM	7.027	6.071	13.404	4:24 PM	0.512	6.494	12.238
4:25 PM	0.968	8.468	19.308	4:25 PM	10.657	2.877	16.518	4:25 PM	7.390	5.339	14.253	4:25 PM	7.027	6.066	13.409	4:25 PM	0.503	6.499	12.233
4:26 PM	0.961	8.471	19.306	4:26 PM	11.053	2.876	16.519	4:26 PM	7.396	5.333	14.259	4:26 PM	7.029	6.067	13.407	4:26 PM	0.499	6.506	12.226
4:27 PM	0.955	8.465	19.311	4:27 PM	10.834	2.877	16.518	4:27 PM	7.403	5.335	14.257	4:27 PM	7.030	6.061	13.414	4:27 PM	0.494	6.511	12.221
4:28 PM	0.949	8.475	19.302	4:28 PM	10.073	2.875	16.520	4:28 PM	7.401	5.341	14.251	4:28 PM	7.030	6.079	13.396	4:28 PM	0.494	6.494	12.238
4:29 PM	0.937	8.466	19.310	4:29 PM	10.074	2.882	16.513	4:29 PM	7.408	5.331	14.261	4:29 PM	7.028	6.071	13.404	4:29 PM	0.494	6.516	12.216
4:30 PM	0.925	8.461	19.316	4:30 PM	10.145	2.887	16.508	4:30 PM	7.411	5.348	14.245	4:30 PM	7.032	6.069	13.405	4:30 PM	0.495	6.513	12.219
4:31 PM	0.918	8.473	19.303	4:31 PM	9.848	2.876	16.519	4:31 PM	7.418	5.344	14.249	4:31 PM	7.031	6.076	13.399	4:31 PM	0.494	6.518	12.214
4:32 PM	0.908	8.478	19.298	4:32 PM	10.022	2.870	16.525	4:32 PM	7.419	5.347	14.246	4:32 PM	7.032	6.082	13.392	4:32 PM	0.492	6.515	12.217
4:33 PM	0.898	8.482	19.294	4:33 PM	10.145	2.869	16.526	4:33 PM	7.423	5.351	14.242	4:33 PM	7.031	6.074	13.401	4:33 PM	0.489	6.510	12.222
4:34 PM	0.887	8.484	19.292	4:34 PM	8.836	2.883	16.512	4:34 PM	7.421	5.354	14.239	4:34 PM	7.034	6.087	13.388	4:34 PM	0.487	6.504	12.228
4:35 PM	0.871	8.484	19.292	4:35 PM	8.864	2.866	16.529	4:35 PM	7.431	5.354	14.239	4:35 PM	7.034	6.087	13.387	4:35 PM	0.487	6.510	12.222
4:36 PM	0.854	8.481	19.296	4:36 PM	9.505	2.879	16.516	4:36 PM	7.428	5.353	14.239	4:36 PM	7.035	6.092	13.382	4:36 PM	0.486	6.506	12.226
4:37 PM	0.837	8.486	19.290	4:37 PM	9.945	2.881	16.515	4:37 PM	7.428	5.353	14.239	4:37 PM	7.035	6.090	13.384	4:37 PM	0.486	6.497	12.235
4:38 PM	0.819	8.487	19.289	4:38 PM	10.597	2.875	16.520	4:38 PM	7.432	5.341	14.252	4:38 PM	7.037	6.086	13.389	4:38 PM	0.485	6.494	12.238

Appendix E. Groundwater Dissolved Oxygen Measurements, January 15, 2018

GW-1				GW-2				GW-3				GW-4				GW-5			
Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)	Time	DO (mg/L)	Depth (ft)	Depth to Water (ft)
4:39 PM	0.802	8.490	19.286	4:39 PM	10.922	2.884	16.511	4:39 PM	7.434	5.352	14.240	4:39 PM	7.038	6.091	13.383	4:39 PM	0.485	6.498	12.234
4:40 PM	0.785	8.487	19.289	4:40 PM	9.891	2.887	16.508	4:40 PM	7.440	5.355	14.238	4:40 PM	7.039	6.100	13.374	4:40 PM	0.486	6.506	12.226
4:41 PM	0.768	8.487	19.289	4:41 PM	10.254	2.880	16.515	4:41 PM	7.445	5.354	14.238	4:41 PM	7.042	6.104	13.370	4:41 PM	0.487	6.518	12.214
4:42 PM	0.753	8.487	19.289	4:42 PM	9.822	2.883	16.512	4:42 PM	7.442	5.359	14.234	4:42 PM	7.036	6.089	13.385	4:42 PM	0.488	6.509	12.223
4:43 PM	0.738	8.497	19.279	4:43 PM	9.781	2.884	16.511	4:43 PM	7.444	5.352	14.240	4:43 PM	7.038	6.095	13.379	4:43 PM	0.487	6.493	12.239
4:44 PM	0.723	8.494	19.282	4:44 PM	9.433	2.889	16.506	4:44 PM	7.449	5.356	14.237	4:44 PM	7.042	6.099	13.375	4:44 PM	0.487	6.507	12.225
4:45 PM	0.710	8.488	19.288	4:45 PM	10.058	2.896	16.500	4:45 PM	7.444	5.348	14.245	4:45 PM	7.042	6.099	13.375	4:45 PM	0.488	6.500	12.232
4:46 PM	0.698	8.493	19.283	4:46 PM	9.743	2.885	16.510	4:46 PM	7.444	5.353	14.240	4:46 PM	7.041	6.096	13.379	4:46 PM	0.488	6.498	12.234
4:47 PM	0.686	8.477	19.299	4:47 PM	11.808	2.882	16.513	4:47 PM	7.449	5.357	14.235	4:47 PM	7.040	6.118	13.357	4:47 PM	0.489	6.504	12.228
4:48 PM	0.674	8.496	19.280	4:48 PM	12.545	2.883	16.512	4:48 PM	7.452	5.364	14.229	4:48 PM	7.042	6.109	13.366	4:48 PM	0.490	6.498	12.234
4:49 PM	0.664	8.496	19.280	4:49 PM	12.683	2.886	16.509	4:49 PM	7.452	5.360	14.233	4:49 PM	7.040	6.111	13.364	4:49 PM	0.491	6.504	12.228
4:50 PM	0.656	8.501	19.275	4:50 PM	13.078	2.899	16.496	4:50 PM	7.456	5.362	14.231	4:50 PM	7.042	6.098	13.376	4:50 PM	0.491	6.508	12.224
4:51 PM	0.649	8.485	19.291	4:51 PM	11.436	2.889	16.506	4:51 PM	7.461	5.355	14.237	4:51 PM	7.044	6.108	13.366	4:51 PM	0.491	6.509	12.223
4:52 PM	0.642	8.490	19.287	4:52 PM	10.658	2.879	16.516	4:52 PM	7.459	5.366	14.226	4:52 PM	7.044	6.104	13.370	4:52 PM	0.490	6.506	12.226
4:53 PM	0.635	8.488	19.289	4:53 PM	10.919	2.887	16.509	4:53 PM	7.463	5.358	14.234	4:53 PM	7.044	6.103	13.371	4:53 PM	0.488	6.510	12.222
4:54 PM	0.629	8.489	19.287	4:54 PM	11.025	2.899	16.496	4:54 PM	7.469	5.359	14.233	4:54 PM	7.046	6.109	13.365	4:54 PM	0.487	6.520	12.212
4:55 PM	0.622	8.491	19.285	4:55 PM	10.416	2.900	16.495	4:55 PM	7.472	5.362	14.231	4:55 PM	7.046	6.112	13.363	4:55 PM	0.487	6.520	12.212
4:56 PM	0.615	8.505	19.272	4:56 PM	10.578	2.881	16.514	4:56 PM	7.475	5.358	14.234	4:56 PM	7.047	6.111	13.364	4:56 PM	0.486	6.514	12.218
4:57 PM	0.608	8.486	19.290	4:57 PM	11.861	2.883	16.512	4:57 PM	7.477	5.362	14.230	4:57 PM	7.049	6.114	13.361	4:57 PM	0.485	6.511	12.221
4:58 PM	0.600	8.496	19.281	4:58 PM	11.251	2.889	16.507	4:58 PM	7.484	5.377	14.215	4:58 PM	7.050	6.111	13.363	4:58 PM	0.484	6.505	12.227
4:59 PM	0.593	8.489	19.287	4:59 PM	11.158	2.897	16.498	4:59 PM	7.486	5.369	14.223	4:59 PM	7.052	6.118	13.357	4:59 PM	0.483	6.514	12.218
5:00 PM	0.585	8.490	19.286	5:00 PM	11.118	2.879	16.516	5:00 PM	7.489	5.368	14.225	5:00 PM	7.051	6.106	13.368	5:00 PM	0.480	6.520	12.212
5:01 PM	0.575	8.490	19.286	5:01 PM	11.252	2.891	16.505	5:01 PM	7.491	5.381	14.212	5:01 PM	7.052	6.112	13.362	5:01 PM	0.478	6.514	12.218
5:02 PM	0.566	8.496	19.281	5:02 PM	12.071	2.891	16.504	5:02 PM	7.494	5.375	14.218	5:02 PM	7.052	6.114	13.360	5:02 PM	0.475	6.513	12.219
5:03 PM	0.555	8.498	19.278	5:03 PM	11.173	2.893	16.502	5:03 PM	7.500	5.374	14.218	5:03 PM	7.053	6.120	13.354	5:03 PM	0.471	6.513	12.219
5:04 PM	0.545	8.501	19.276	5:04 PM	10.770	2.892	16.503	5:04 PM	7.500	5.366	14.226	5:04 PM	7.053	6.130	13.345	5:04 PM	0.469	6.508	12.224
5:05 PM	0.536	8.501	19.275	5:05 PM	9.766	2.888	16.507	5:05 PM	7.504	5.370	14.222	5:05 PM	7.052	6.125	13.349	5:05 PM	0.465	6.511	12.221
5:06 PM	0.527	8.495	19.281	5:06 PM	10.151	2.890	16.505	5:06 PM	7.511	5.368	14.225	5:06 PM	7.055	6.119	13.355	5:06 PM	0.534	6.525	12.207
5:07 PM	0.520	8.497	19.279	5:07 PM	10.992	2.882	16.513	5:07 PM	7.516	5.371	14.222	5:07 PM	7.055	6.124	13.351	5:07 PM	0.688	6.511	12.221
5:08 PM	0.512	8.493	19.284	5:08 PM	11.251	2.894	16.501	5:08 PM	7.520	5.369	14.223	5:08 PM	7.055	6.121	13.353	5:08 PM	0.713	6.513	12.219
5:09 PM	0.504	8.498	19.278	5:09 PM	11.912	1.725	17.671	5:09 PM	7.528	5.373	14.219	5:09 PM	7.056	6.128	13.346	5:10 PM	0.754	6.515	12.217
5:10 PM	0.496	8.490	19.286	5:10 PM	13.561	1.710	17.685	5:10 PM	7.526	5.374	14.218	5:10 PM	7.057	6.124	13.350	5:11 PM	0.770	6.516	12.216
5:11 PM	0.487	8.488	19.288									5:11 PM	7.058	6.130	13.344				
												5:12 PM	7.058	6.122	13.353				
												5:13 PM	7.059	6.112	13.362				
												5:14 PM	7.058	6.125	13.350				
												5:15 PM	7.058	6.124	13.350				
												5:16 PM	7.061	6.125	13.350				
												5:17 PM	7.063	6.125	13.350				
												5:18 PM	7.061	6.121	13.353				



DRAFT FOR AGENCY REVIEW

Figure E1.
Dissolved Oxygen Measurements, January 15, 2018
29-26 30th St
Long Island City, NY

Appendix C
Environmental Easement Order on Consent, March 4, 2019

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 4th day of March, 2019, between Owner(s) Zhong Chuang Properties, LLC, having an office at 37-24 30th Street, Long Island City, New York 11101, County of Queens, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 39-26 30th Street in the City of New York, County of Queens and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 399 Lot 31, being the same as that property conveyed to Grantor by deed dated March 9, 2012 and recorded in the City Register of the City of New York as CRFN # 2012000122920. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.17 +/- acres, and is hereinafter more fully described in the Land Title Survey dated November 27, 2018 prepared by Gerald T. O'Buckley, P.L.S., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: CO2-20170509-174, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation

Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by

Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 241127
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Zhong Chuang Properties, LLC:

By: _____

Print Name: Steve Lin

Title: member Date: 01/25/19

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF New York)

On the 25th day of January, in the year 2019, before me, the undersigned, personally appeared Steve Lin, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

SAMMIE HUANG
Notary Public, State of New York
Qualified in New York County
No. 01HU6114472
Commission Expires 8/16/ 2020

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Michael J. Ryan, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 4th day of March, in the year 2019, before me, the undersigned, personally appeared Michael J. Ryan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 20 22

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, WITH THE BUILDINGS AND IMPROVEMENTS THEREON ERECTED, SITUATE, LYING AND BEING IN THE BOROUGH AND COUNTY OF QUEENS, CITY AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WESTERLY SIDE OF 30TH STREET, DISTANT 133.72 FEET (DEED) (133.73 FEET ON TAX MAP) NORTHERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE WESTERLY SIDE OF 30TH STREET WITH THE NORTHERLY SIDE OF 40TH AVENUE AS SAID STREET AND AVENUE ARE SHOWN AND LAID OUT ON THE FINAL TOPOGRAPHICAL MAP OF THE CITY OF NEW YORK FOR THE BOROUGH OF QUEENS;

RUNNING THENCE WESTERLY AT RIGHT ANGLES TO THE WESTERLY SIDE OF 30TH STREET, 100.10 FEET;

THENCE NORTHERLY PARALLEL WITH THE WESTERLY SIDE OF 30TH STREET, 75.06 FEET;

THENCE EASTERLY AGAIN AT RIGHT ANGLES TO THE WESTERLY SIDE OF 30TH STREET, 100.10 FEET TO THE WESTERLY SIDE OF 30TH STREET;

THENCE SOUTHERLY ALONG THE WESTERLY SIDE OF 30TH STREET, 75.06 FEET TO THE POINT OR PLACE OF BEGINNING.

CONTAINING APPROXIMATELY 0.17 ACRES MORE OR LESS.

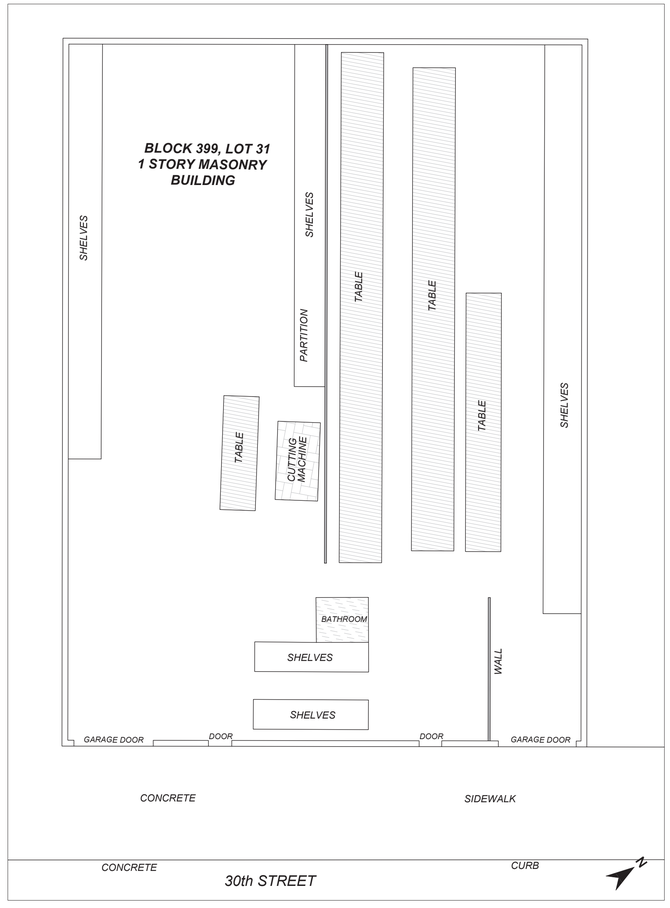
FOR INFORMATION ONLY: SAID PREMISES BEING KNOWN AS 39-28 30TH STREET, LONG ISLAND CITY, NEW YORK 11101. BLOCK: 399 LOT: 31

Appendix D
As-Built Design Package

INTERIM REMEDIAL MEASURES AS-BUILT
39-26 30TH ST, LONG ISLAND CITY, NY
AUGUST 2021



KEY PLAN
N.T.S.



SITE PLAN
N.T.S.

PREPARED FOR:

ZHOUNG CHUANG PROPERTIES, LLC
ALENAT PROPERTIES, LLC

PREPARED BY:

ENVIRONMENTAL ENGINEERING
COMPLIANCE CONTROL, D.P.C.

LIST OF DRAWINGS

SHEET	TITLE
1	TITLE SHEET, KEY PLAN, SITE PLAN, AND DRAWING LIST
2	GENERAL NOTES AND ABBREVIATIONS
3	TAX MAP
4	1st FLOOR PLAN
5	P&ID AS-BUILT
6	AS DETAILS
7	SVE DETAILS
8	P&ID MODIFICATIONS
9	ROOF PLAN VIEW
10	SYSTEM SPECIFICATIONS (1 OF 6)
11	SYSTEM SPECIFICATIONS (2 OF 6)
12	SYSTEM SPECIFICATIONS (3 OF 6)
13	SYSTEM SPECIFICATIONS (4 OF 6)
14	SYSTEM SPECIFICATIONS (5 OF 6)
15	SYSTEM SPECIFICATIONS (6 OF 6)

REV	DATE	DESCRIPTION	APP

eecc
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
100006
LICENSED PROFESSIONAL ENGINEER
8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006
DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

TITLE SHEET, KEY PLAN, SITE PLAN, AND DRAWING LIST

SHEET 1 OF 15

REV **0**

ZONING DATA[1]

ADDRESS: 39-26 30th ST, LONG ISLAND CITY
BLOCK: 399
LOT: 31
ZONING DISTRICT: M1-3/R7X, LIC
ZONING MAP: 9b
OCCUPANCY CLASSIFICATION: COMMERCIAL
CONSTRUCTION CLASSIFICATION: FIREPROOF
BUILDING IDENTIFICATION NUMBER: 4004852
BUILDING HEIGHT: 14'11"
BUILDING AREA: 7,500 SQ FT
BUILDING STORIES: 1
BUILDING USE: FACTORY AND STORAGE

SCOPE OF WORK

MODIFICATIONS WERE MADE TO AN EXISTING REMEDIATION SYSTEM WHICH REMOVES CONTAMINATED AIR FROM BELOW THE BUILDING AND EXHAUSTS IT TO THE ATMOSPHERE ABOVE THE BUILDING. THE REMEDIATION SYSTEM WAS NOT DESIGNED TO HEAT, COOL, OR OTHERWISE CONDITION THE INTERIOR AIR. THE REMEDIATION SYSTEM MODIFICATION WAS APPROVED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION UNDER 6 NYCRR 375.

AN AIR SPARGE/SOIL VAPOR EXTRACTION (AS/SVE) REMEDIATION SYSTEM WAS PREVIOUSLY INSTALLED ON THE BUILDING ROOF WITH ONE BLOWER TO EXTRACT SOIL VAPOR FROM TWO EXISTING RECOVERY WELLS ALONG THE CENTERLINE OF THE BUILDING WITH AN EXISTING AIR SPARGE WELL IN BETWEEN. THE AIR SPARGE COMPRESSOR INTRODUCES AIR INTO THE SATURATED ZONE TO ALLOW FOR MASS TRANSFER OF DISSOLVED CONTAMINANTS INTO THE VAPOR PHASE (FOR COLLECTION BY THE SVE SYSTEM). TWO ADDITIONAL AIR SPARGE WELLS WERE INSTALLED ADJACENT TO GW-2 TO ADDRESS CONTAMINATION IN GW-2. THE EXISTING AIR SPARGE RISER WAS MODIFIED TO BE CONSTRUCTED OF STEEL PIPE FOR BUILDING AND FIRE CODE COMPLIANCE. THE THREE AIR SPARGE WELLS WERE MANIFOLDED TOGETHER AND RECEIVE AIR FROM THE PREVIOUSLY INSTALLED COMPRESSOR ASSEMBLY ON THE ROOF. THE COMPRESSOR ASSEMBLY ON THE ROOF WAS NOT MODIFIED DURING THIS SCOPE OF WORK. THE SVE SYSTEM WAS NOT MODIFIED DURING THIS SCOPE OF WORK.

ABBREVIATIONS

AS	AIR SPARGE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BGS	BELOW GROUND SURFACE
CFM	CUBIC FEET PER MINUTE
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IN	INCHES
FT	FOOT
MIN	MINIMUM
NTS	NOT TO SCALE
NYCRR	NEW YORK CODES, RULES, AND REGULATIONS
NYSDEC	NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
PA	PASCAL
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
RW	RECOVERY WELL
SCH	SCHEDULE
SVE	SOIL VAPOR EXTRACTION

1 NYCDOB. 2017. “Property Profile Overview 39-26 30th Street, Queens, 11101, BIN #4004852.” NYC Department of Buildings, New York, NY. Available at: http://a810-bisweb.nyc.gov/bisweb/PropertyProfileOverviewServlet?requestid=5&bin=4004852

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
100006
LICENSED PROFESSIONAL ENGINEER
8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

GENERAL NOTES AND ABBREVIATIONS

SHEET 2 OF 15

REV 0



Source: BRIDGE CLEANERS TAX MAP - Digital Tax Map - New York City Dept. of Finance (1/31/2020)

LEGEND

Borough Boundary	C50	Condo Flag/Condo Nunber	SUBJECT PROPERTY
Tax Block Boundary	A50	Air Right Flag/Lot Number	SITE AND PROPERTY BOUNDARY
50 Tax Block Number	S50	Subterranean Right Flag/Lot Number	
Tax Lot Boundary	R	REUC Flag	
50 Tax Lot Number		Under Water Tax Lot Boundary	
-50- Condo FKA Tax Lot Number		Other Boundary	
50.5 Tax Lot Dimension		Possession Hook	
+/-5.5 Approximate Tax Lot Dimension	Misc	Miscelaneous Text	
1001 - 1200 Condo Units Range Label		Small Tax Lot Dimension	
Building Footprint		Surface Water	

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
LICENSED PROFESSIONAL ENGINEER
100006
8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

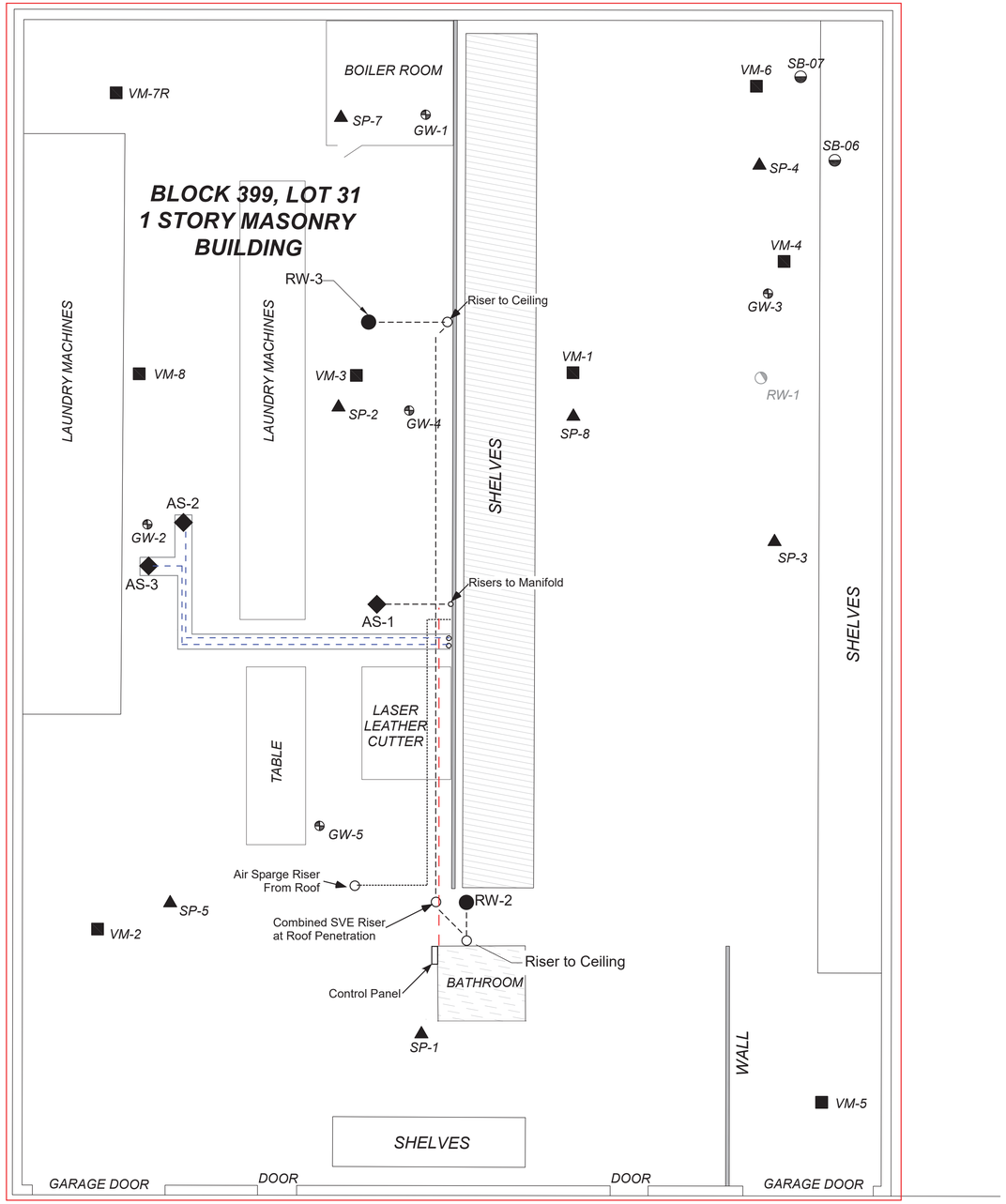
LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021		
DES: NK	DATE: 8-19-2021		
CHK: NK	DATE: 8-19-2021		
SCALE: AS SHOWN	PROJECT NO.: BRIDGE CLEANERS		

SITE LOCATION
TAX MAP

SHEET 3 OF 15

REV 0



PVC PIPE

STEEL PIPE

AIR SPARGE WELL

VAPOR EXTRACTION WELL

GROUNDWATER MONITORING WELL/SOIL BORING

SOIL BORING

VACUUM MONITORING POINT

SOIL VAPOR POINT

ABANDONED

TRENCHING AND SUBGRADE PIPING

ELECTRIC RUN ALONG STRUTS ON CEILING TO SOLENOID VALVES

RISER LOCATION

CONCRETE CAP

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY EECC (SEPTEMBER 2020)

0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
100006
LICENSED PROFESSIONAL ENGINEER
8/31/21

CERTIFIED BY DATE
NICHOLAS KRASNECKY, NYSPE No. 100006 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

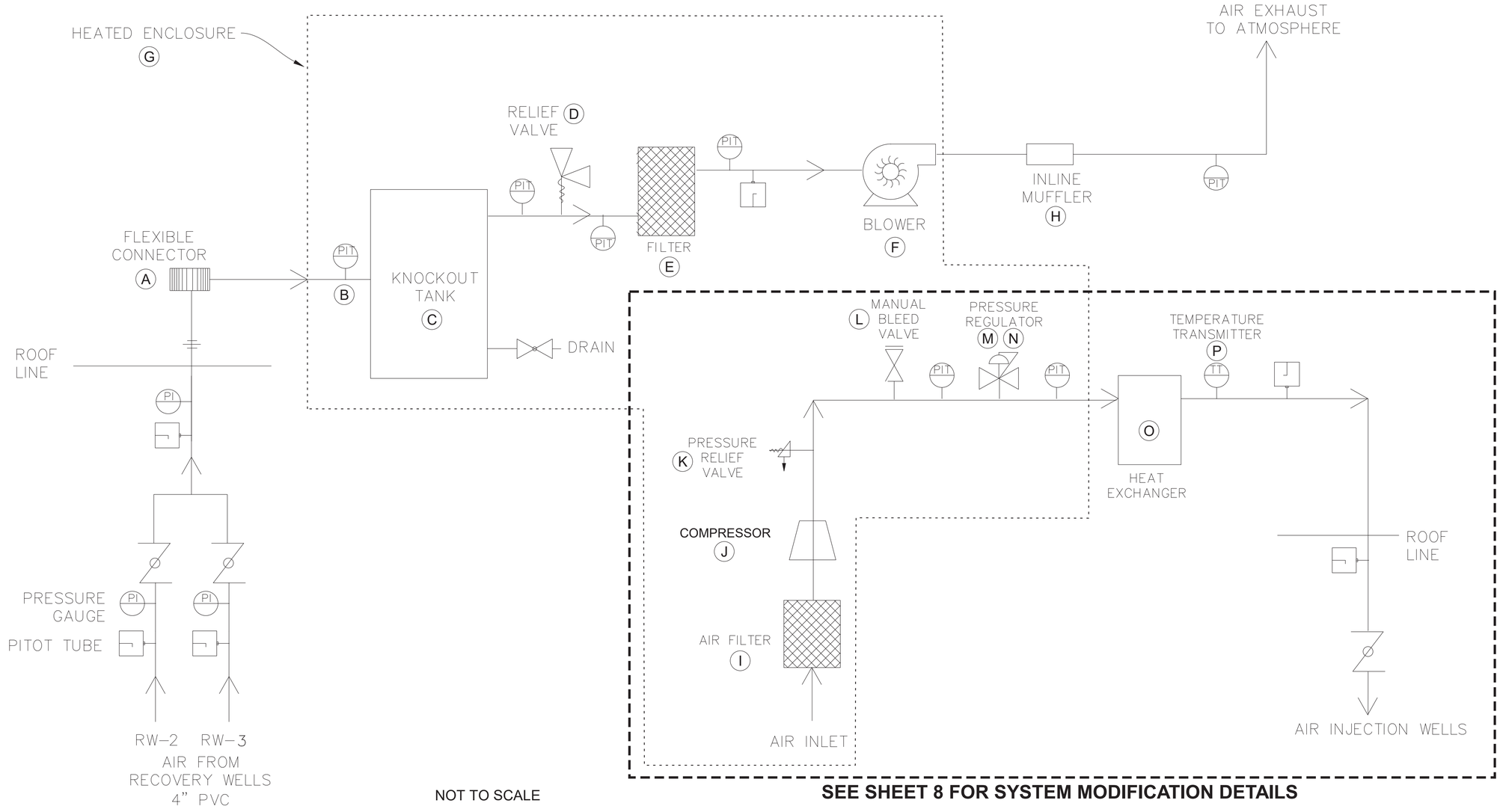
LONG ISLAND CITY NEW YORK

DRN AN	DATE 8-19-2021
DES NK	DATE 8-19-2021
CHK NK	DATE 8-19-2021
SCALE AS NOTED	PROJECT NO. BRIDGE CLEANERS

FIRST FLOOR PLAN VIEW
AS/SVE SYSTEM LAYOUT

SHEET 4 OF 15

REV **0**



NOT TO SCALE

SEE SHEET 8 FOR SYSTEM MODIFICATION DETAILS

LEGEND

- PIT — PRESSURE INDICATING TRANSMITTER
- PI — PRESSURE INDICATOR
- PITOT TUBE/ PITOT TUBE PORT
- DRAIN VALVE
- BUTTERFLY VALVE
- VACUUM RELIEF VALVE
- TT — TEMPERATURE TRANSMITTER
- BLOWER
- S — SOLENOID VALVE
- PRESSURE REGULATOR
- MANUAL BLEED VALVE
- PRESSURE RELIEF VALVE
- SP — SAMPLE PORT

Soil Vapor Extraction System			
Label	**Description**	**Supplier**	**Vendor Part Number**
A	Reducing Flex Coupling	Pipeline	1059-22
B	Pressure Gauge	Precision Instrument Co.	LP4-254-60" H_2OP
C	Moisture Separator	Ametek Rotron	la
D	Vacuum Relief Valve	Fisher	289H-41
E	2" Inline Filter	Solberg Mfg.	CSL-851-200HC
F	Regenerative Blower	Ametek Rotron	EN505AX72ML
G	Sound Enclosure, outdoor	ARTUSA	71.5" x 42.75 x 48.5"
H	Inline Muffler	Universal Silencer	U5-1.25/11-121-AA

Air Sparge System			
Label	**Description**	**Supplier**	**Vendor Part Number**
I	Inlet Filter with paper element	Universal Silencer	CCS-2
J	Roatary Claw Compressor	Reitschle	DLR60 5 HP, 230/460/3/60 TEFC
K	Relief Valve	Fisher	289H-41
L	1" Bleed Valve Assembly	Universal Silencer	U5-1"
M	Liquid Filled Pressure Gauge	Precision Instrument Co.	204L-404C, LF, 4" FM, 0-30 PSIG
N	1/4" Isolation Valve	SMC Specialties	VA BRS 4F4M-BT
O	Air to Air Heat Exchanger	XChanger	AA-250, 1 HP, TEFC, 230/460/3/60
P	Discharge Temp Gauge/Switch	Jumo	608523

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK · NICHOLAS KRASNECKY · LICENSED PROFESSIONAL ENGINEER · 100006 · 8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

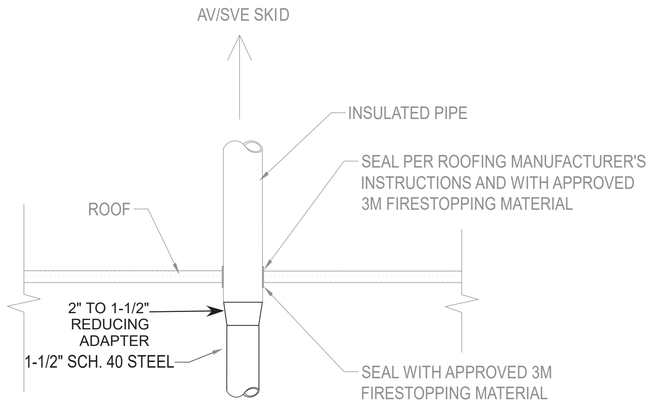
ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

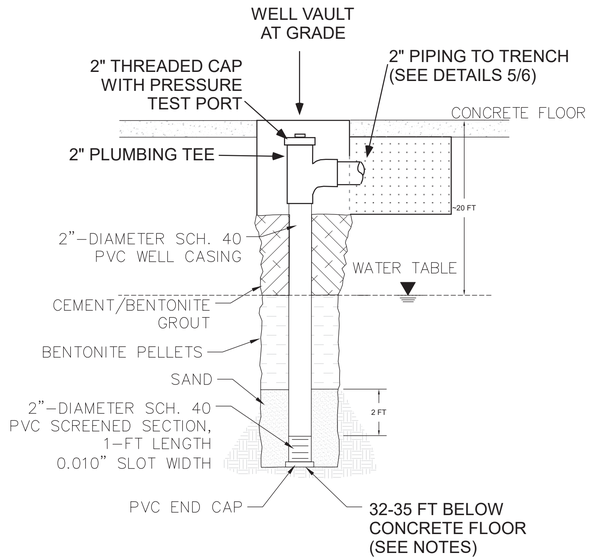
AS-BUILT PROCESS AND INSTRUMENTATION DIAGRAM



1 TYPICAL PIPE PENETRATION DETAIL
NTS

NOTES:

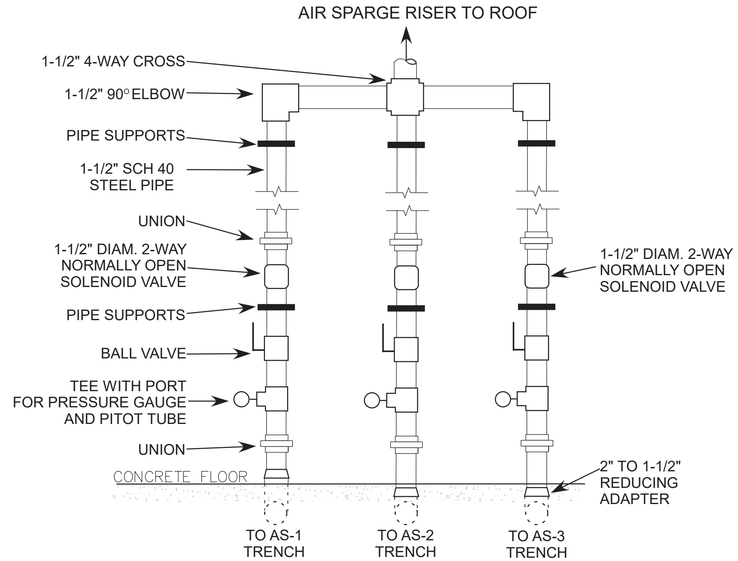
1. PVC ROOF PENETRATION INSTALLED PRIOR TO IRM MODIFICATION SHOWN IN GRAY. STEEL PIPE MODIFICATIONS ARE SHOWN IN BLACK.
2. SVE EXHAUST IS LOCATED AT LEAST 25 FT AWAY FROM ANY OPERABLE OPENINGS OR AIR INTAKES (ON ANY PROPERTY/BUILDING).
3. SVE EXHAUST DISCHARGE IS SET AT 3 FT ABOVE ROOFLINE.
4. NO DUNNAGE PERFORMED.



2 TYPICAL AIR SPARGE WELL DETAIL
NTS

NOTES:

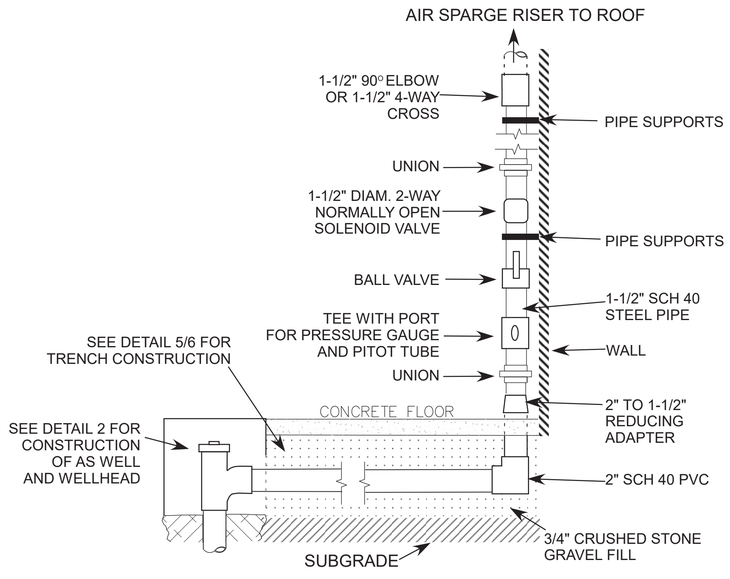
1. AS-1 AND AS-2 INSTALLED TO 35 FEET BELOW THE CONCRETE FLOOR. AS-3 INSTALLED TO 32 FEET BELOW THE CONCRETE FLOOR. AS-3 DOES NOT HAVE A SANDPACK AROUND THE SCREEN DUE TO UPHEAVAL OF NATIVE SOIL WHILE INSTALLING THE CASING.



3 AIR SPARGE MANIFOLD
NTS

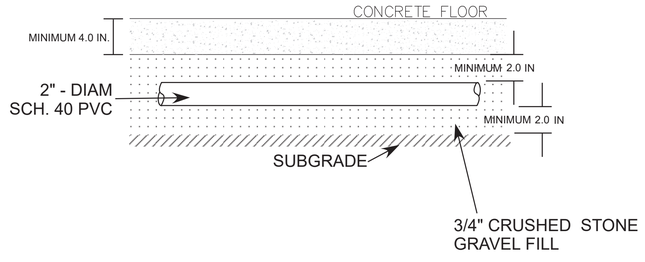
NOTES:

1. ALL ABOVE-GRADE AIR SPARGE COMPONENTS ARE MADE OF STEEL OR EQUIVALENT PRESSURE RATED METAL PIPE AND FITTINGS.

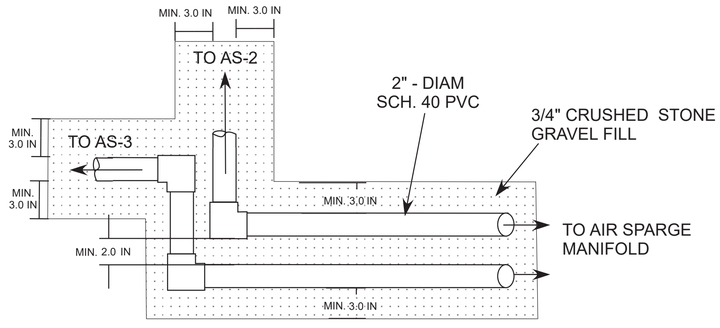


4 AIR SPARGE MANIFOLD AND TRENCHING PROFILE
NTS

NOTE: ALL ABOVE-GRADE AIR SPARGE COMPONENTS ARE MADE OF STEEL OR EQUIVALENT PRESSURE RATED METAL PIPE AND FITTINGS.



5 AIR SPARGE PIPING TRENCH ELEVATION
NTS



6 AIR SPARGE PIPING TRENCH PLAN
NTS

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK · NICHOLAS KRASNECKY · 100006 · LICENSED PROFESSIONAL ENGINEER · 8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

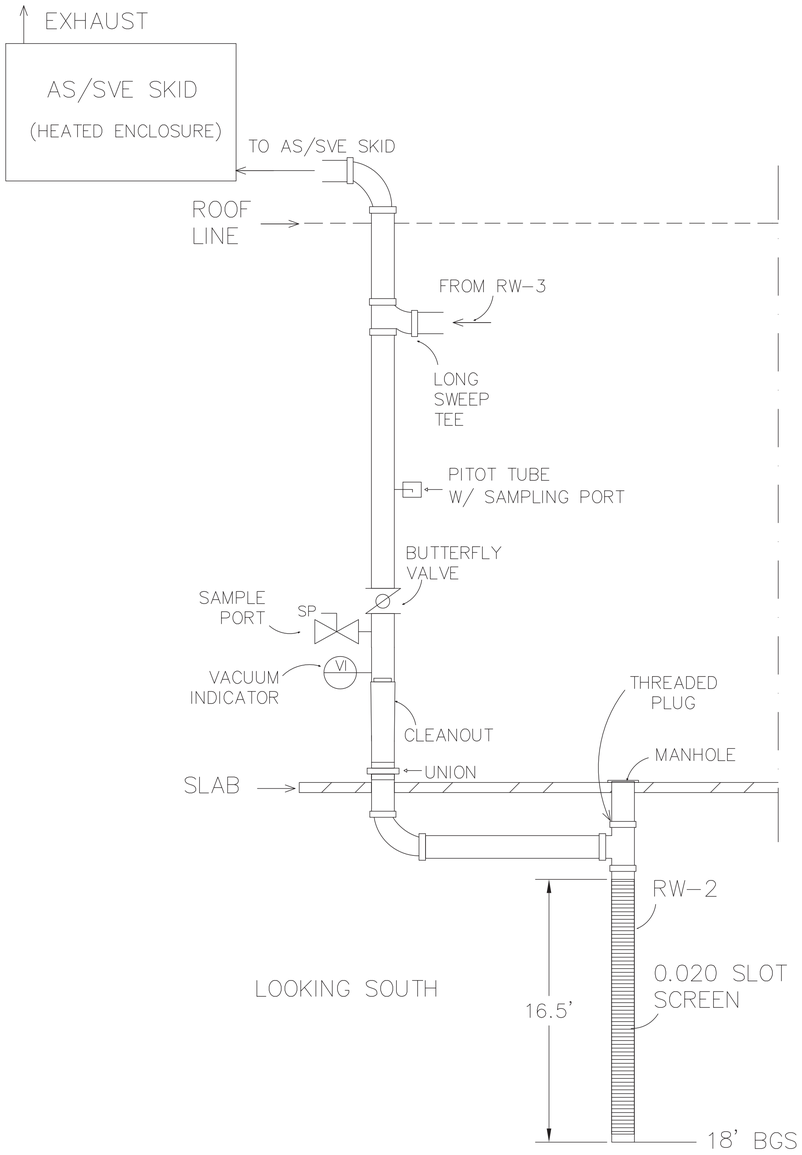
LONG ISLAND CITY NEW YORK

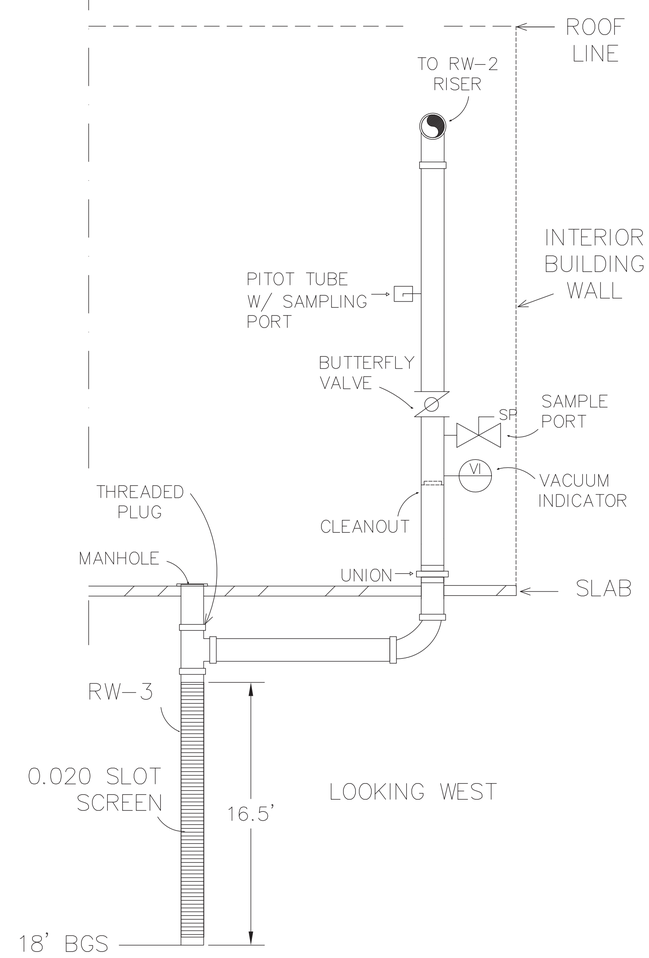
DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

AIR SPARGE SYSTEM CONSTRUCTION DETAILS

SHEET 6 OF 15

REV 0





NOTES:

1. SYSTEM CONNECTED TO EXISTING AIR SPARGE AND RECOVERY WELLS.
2. THE SVE SYSTEM AND COMPONENTS WERE INSTALLED BY INTEGRAL ENGINEERING, PRIOR TO THE SUPPLEMENTAL IRM MODIFICATIONS. EECC MONITORED THE SYSTEM AND COMPONENTS AND CONFIRMED PROPER OPERATION. NO MODIFICATIONS WERE MADE TO THE SVE SYSTEM BY EECC DURING THE IRM IMPLEMENTATION.

NOT TO SCALE

REV	DATE	DESCRIPTION	APP

e/e/c/c
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK · NICHOLAS KRASNECKY · 100006 · LICENSED PROFESSIONAL ENGINEER · 8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

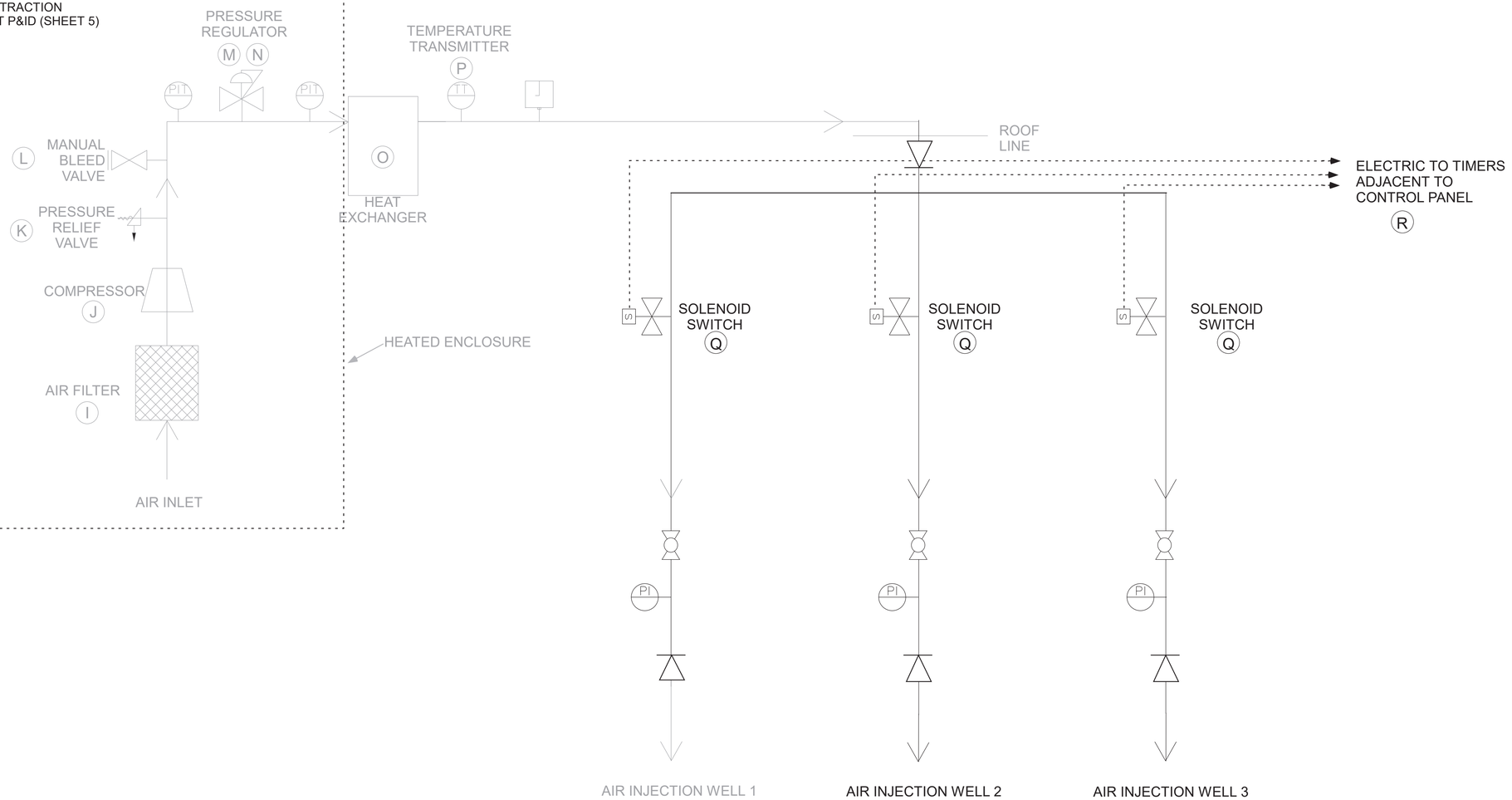
BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

SVE SYSTEM CONSTRUCTION DETAILS

NOTE:
HEATED ENCLOSURE ALSO CONTAINS EQUIPMENT FOR SOIL VAPOR EXTRACTION (SVE) SYSTEM. SEE THE AS-BUILT P&ID (SHEET 5) FOR DETAILS.



NOT TO SCALE

LEGEND

- PIT — PRESSURE INDICATING TRANSMITTER
- PI — PRESSURE INDICATOR
- PITOT TUBE
- DRAIN VALVE
- BUTTERFLY VALVE
- VACUUM RELIEF VALVE
- REDUCING ADAPTER
- TT — TEMPERATURE TRANSMITTER
- BLOWER
- S — SOLENOID VALVE
- PRESSURE REGULATOR
- MANUAL BLEED VALVE
- PRESSURE RELIEF VALVE
- SP — SAMPLE PORT
- BALL VALVE

NOTES:
1. PROCESS FLOW COMPONENTS SHOWN IN GREY WERE INSTALLED PRIOR TO THE SUPPLEMENTAL IRM MODIFICATIONS. PROCESS FLOW COMPONENTS SHOWN IN BLACK ARE INSTALLED AS PART OF THE SUPPLEMENTAL IRM.
2. ALL ABOVE-GRADE AIR SPARGE COMPONENTS ARE MADE OF STEEL OR EQUIVALENT PRESSURE RATED METAL PIPE AND FITTINGS.

Air Sparge System

Label	Description	Supplier	Vendor Part Number
I	Inlet Filter with paper element	Universal Silencer	CCS-2; Paper Filter: 810471
J	Roatary Claw Compressor	Reitschle	DLR60 5 HP, 230/460/3/60 TEFC
K	Relief Valve	Fisher	289H-41
L	1" Bleed Valve Assembly	Universal Silencer	U5-1"
M	Liquid Filled Pressure Gauge	Precision Instrument Co.	204L-404C, LF, 4" FM, 0-30 PSIG
N	1/4" Isolation Valve	SMC Specialties	VA BRS 4F4M-BT
O	Air to Air Heat Exchanger	XChanger	AA-250, 1 HP, TEFC, 230/460/3/60
P	Discharge Temp Gauge/Switch	Jumo	608523
Q	1-1/2" Normally opened 110 VAC Electric Two-way solenoid valve	Grainger	Atlantic Valves SZW-40JK
R	TORK 24-hour Time Switch, 120V, 40A	NSI Industries	1101B

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK · NICHOLAS KRASNECKY · LICENSED PROFESSIONAL ENGINEER · 100006 · 8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

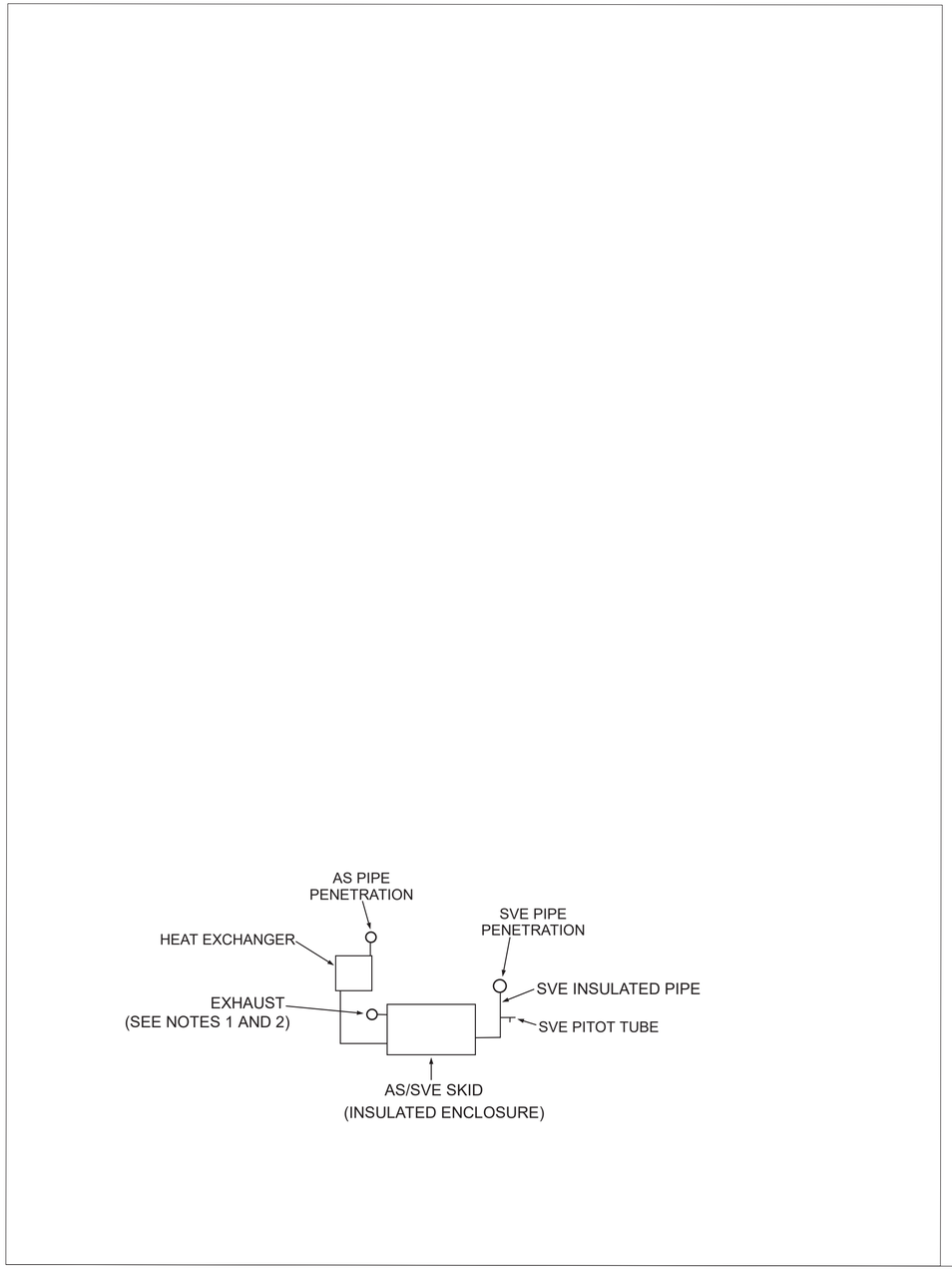
LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

PIPING AND INSTRUMENTATION DIAGRAM

SHEET 8 OF 15

REV 0



SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

NOTES:

1. SVE EXHAUST IS LOCATED AT LEAST 25 FT AWAY FROM ANY OPERABLE OPENINGS OR AIR INTAKES (ON ANY PROPERTY/BUILDING).
2. SVE EXHAUST DISCHARGE IS SET AT 3 FT ABOVE ROOFLINE.
3. NO DUNNAGE PERFORMED.
4. NO MODIFICATIONS WERE MADE TO THE PIPING OR EQUIPMENT ON THE ROOF.

0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

N

REV	DATE	DESCRIPTION	APP

e/e/c/c
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
100006
LICENSED PROFESSIONAL ENGINEER
8/31/21

CERTIFIED BY	DATE
NICHOLAS KRASNECKY, NYSPE No. 100006	8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN AN	DATE 8-19-2021
DES NK	DATE 8-19-2021
CHK NK	DATE 8-19-2021
SCALE NOT TO SCALE	PROJECT NO. BRIDGE CLEANERS

ROOF PLAN VIEW

SHEET
9 OF 15

REV **0**

Data

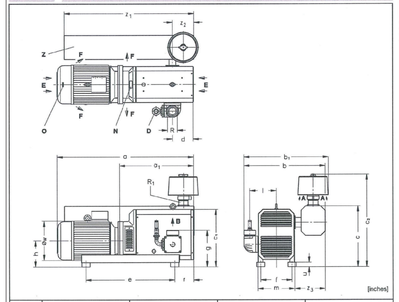
Elmo Rietschle
A Gardner Denver Product

Compressors | Compresores | Compresseurs | Compressores

C-DLR

zephyr

- C-DLR 60
- C-DLR 100
- C-DLR 150



		Suction	Succión	Aspiration	Sucção
A		Connection pression	Conexión presión	Raccord supression	Conexão da pressão
B		Safety valve	Válvula seguridad	Clapet de sécurité	Válvula de segurança
E		Cooling air entry	Entrada aire refrigerante	Entrée air refroidissement	Entrada do ar refrigerante
F		Cooling air exit	Salida aire refrigerante	Sortie air refroidissement	Saída do ar refrigerante
N		Data plate	Placa ficha	Etiquette caractéristique	Placa da data
O		Rotation arrow	Dirección de rotación	Flèche sens rotation	Direção de rotação
Z		Inlet silencer	Silenciador entrada	Silencieux d'aspiration	Silenciador de entrada

C-DLR		60		100			150	
kw	50 Hz	3.0	3.0	4.0	5.5	5.5	7.5	
hp	60 Hz	5.0	5.0	7.5	10	10	15	
inches	50 Hz	27.44	27.36	28.03	32.17	36.26		
a	60 Hz	27.44	31.49	33.07	33.07	36.34	37.40	
a_1	50 Hz	15.28	15.43	15.43	16.22	19.49		
	60 Hz	15.28	17.56	17.56	17.56	20.83		
b / b_1		13.70 / 13.70	21.26 / 22.05			21.30 / 22.05		
c / c_1 / c_2		15.04 / 11.61 / 15.04	14.76 / 14.17 / 25.75			18.39 / 14.76 / 25.75		
d		2.36	3.62			2.28		
e		9.65	17.32			15.04		
f		6.30	8.66			6.30		
g		11.73	8.23			9.41		
h		5.10	5.91			6.50		
i		5.49	7.17			7.17		
m		8.46	10.00			10.00		
r / u		4.21 / 0.79	3.03 / 0.69			4.56 / 1.18		
øw	50 Hz	7.72	7.72	8.66	9.69	9.69		
	60 Hz	7.87	7.88	9.57	9.57	9.57	11.47	
z_1		-	24.65			24.65		
z_2 / z_3		-	3.94 / 7.28			3.94 / 7.28		
R / R_1		1" NPT / BSP 1"	1 1/4" NPT / BSP 1 1/4"			1 1/2" NPT / BSP 1 1/2"		

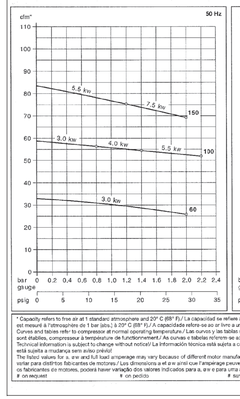
DA 881/1

1.2.2006

Gardner Denver Hanover Inc.
7222 Parkway Drive
HANOVER, MD 21076
USA
Phone +1 410 / 712 4100
Fax +1 410 / 712 4148
e-mail: sales.hanover@gardnerdenver.com
www.gd-elmorietschle.com

C-DLR		60		100		150	
cfm	50 Hz	33.0		58.9		63.6	
	60 Hz	40.0		70.6		100	
psig	50 Hz	29.0	11.6	20.3	31.9	17.4	29.0
	60 Hz	29.0	11.6	23.2	31.9	17.4	29.0
3 ~	50 Hz	230/400 V ± 10%				400/690 V ± 10%	
	60 Hz	208-230/415-460 V ± 10%			208-230/460 V ± 10%		
kw	50 Hz	3.0	3.0	4.0	5.5	5.5	7.5
hp	60 Hz	5.0	5.0	7.5	10	10	15
A	50 Hz	10 / 7.5	13.2-12/8.0	21-18.8/9.4	25-24/12	25-24/12	39-37/18.5
rpm	50 Hz			2850			
	60 Hz			3450			
dB(A)	50 Hz	78		79		80	
	60 Hz	79		83		81	
lbs	50 Hz	143	232	243	287	333	338
	60 Hz	143	259	286	307	345	429
qt		0.4		0.55		2.6	
ZRZ		#		40		40	
ZSR		#		40		40	
ZKG		#		-		#	
ZSTS / ZAD		#		#		#	

	Capacity	Capacidad	Volume engendré	Capacidade
cfm	Capacity	Capacidad	Volume engendré	Capacidade
psig	Excess pressure	Exceso de presión	Surpression	Pressão excessiva
3 ~	Motor version	Versión motor	Exécution moteur	Versão do motor
kw / hp	Motor rating	Datos motor	Puissance moteur	Potência do motor
A	Full load amperage	Amperaje de plena carga	Intensité absorbée	Amperagem ca carga total
rpm	Speed	Velocidad	Vitesse rotation	Velocidade
dB(A)	Average noise level	Nivel de ruido medio	Niveau sonore moyen	Nível médio de ruído
lbs	Weight	Peso	Poids	Peso
qt	Oil capacity (Gear)	Instrumentos capacidad aceite	Charge d'huile (Engrenage)	Engrenagem da capacidade de óleo
	Accessories	Accesorios	Accessoires	Acessórios
ZRZ	Non return leaf	Válvula retención	Clapet anti-retour	Válvula sem retorno
ZSR	Pressure regulating valve	Válvula reguladora de presión	Valve de réglage pression	Válvula de regulagem da pressão
ZKG	Pulsation silencer	Silenciador on pulsación	Absorbeur de pulsations	Silenciador de pulsação
ZMG	Motor starter	Arranque motor	Disjoncteur moteur	Arranque do motor
ZAD	Soft starter	Soft starter	Démarrage progressif	Soft starter
ZBZ	Bourric box	Caja de sonido	Caisson insonorisant	Candória



* Capacity refers to free air at 1 standard atmosphere and 20° C (68° F) / La capacidad se refiere al aire libre a 1 atmosfera estandar de presión y a 20° C (68° F) de temperatura / Le débit est mesuré à l'atmosphère de 1 bar (abs.) à 20° C (68° F) / A capacidade refere-se ao ar livre a uma atmosfera padrão 1 e a 20° C (68° F).
Curves and tables refer to compressor at normal operating temperature / Las curvas y las tablas se refieren al compresor a la temperatura normal de operación. / Les courbes et tableaux sont établies, compresseur à température de fonctionnement / As curvas e tabelas referem-se ao compressor a temperatura normal de operação.
Technical information is subject to change without notice! / La información técnica está sujeta a cambios sin previo aviso! / Sous réserve de modification technique. / A informação técnica está sujeita a mudanças sem aviso prévio!
The listed values for s. ew and full load amperage may vary because of different motor manufacturers / Los valores listados para a, ew y para el amperaje de carga completa pueden variar para distintos fabricantes de motores / Les dimensions a-e-f-ø-w sont par l'emploiyeur peuvent différer des données indiquées ci-dessus, selon le fabricant du moteur / Como varian os fabricantes os motores, poderá haver variação dos valores indicados para a, ew e para uma amperagem de carga total.
on request ° on pedido # sur demande # a pedido

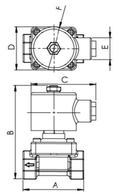
AIR COMPRESSOR

Electricsolenoidvalves.com



The Brass - Series Semi-Direct acting, 2 Way General Purpose Solenoid Valves provide and on-off control of inherit liquids and gases. Suitable for commercial and residential applications. This valve type is gravity feed capable and is deal for low pressure liquid applications. Available in sizes from 3/8" - 2" in both Normally Closed and Normally Open operating positions.

*These valves are not intended for use in medical life support, combustion, aviation, aerospace, automotive or similar applications.



Materials	
Valve Body	Brass
Seal	PTFE
Shading Ring	Copper
Hardware	SS

Electrical				
Connection Type	N/C - 3.5" Lead	N/O - DIN		
Protection Class	NEMA 3	IP54		
Available Voltages	AC 24V	DC 12V	AC 24V/60hz	AC 110V/60hz
Power 3/8" - 1"	28 W	18 W	28 W	28 W
Power 1-1/4" - 2"	40 W	30 W	40 W	40 W

Brass - Series

Port Size	Thread	Orifice	Cv Value	Min PSI	Max PSI	Operating Temp Min	Operating Temp Max	Duty Cycle	Weight	Dimensions A	B	C	D	E	F	G
Normally Closed																
3/8"	NPT	5/8	4.8	0	AC145 DC115	15°F	250°F	100%	1lb 7oz	2.36"	4.00"	2.83"	2.00"	1.00"	1.96"	1.03"
1/2"	NPT	5/8	4.8	0	AC145 DC115	15°F	250°F	100%	1lb 7oz	2.36"	4.00"	2.83"	2.00"	1.00"	1.96"	1.09"
3/4"	NPT	3/4	7.6	0	AC145 DC115	15°F	250°F	100%	1lb 10oz	2.65"	4.25"	2.83"	2.00"	1.00"	1.96"	1.30"
1"	NPT	1	12	0	AC145 DC115	15°F	250°F	100%	2lb 5oz	3.29"	4.50"	2.83"	2.60"	1.00"	1.96"	1.37"
1-1/4"	NPT	1 1/4	24	0	AC145 DC90	15°F	250°F	100%	4lbs 11oz	4.00"	5.80"	3.35"	3.22"	1.00"	2.70"	1.85"
1-1/2"	NPT	1.40"	29	0	AC145 DC90	15°F	250°F	100%	4lbs 14oz	4.33"	6.00"	3.35"	3.35"	1.00"	2.70"	2.20"
2"	NPT	1 7/8	48	0	AC145 DC90	15°F	250°F	100%	11lbs	5.30"	8.50"	3.35"	4.25"	1.00"	2.70"	2.66"
Normally Open																
1/2"	NPT	5/8	4.8	0	90	15°F	250°F	100%	1lb 9oz	2.36"	4.50"	3.30"	1.95"	.80"	1.96"	1.09"
3/4"	NPT	3/4	7.6	0	90	15°F	250°F	100%	1lb 13oz	2.65"	4.70"	3.30"	2.00"	.80"	1.96"	1.30"
1"	NPT	1	12	0	90	15°F	250°F	100%	2lb 7oz	3.29"	5.00"	3.30"	2.60"	.80"	1.96"	1.37"
1-1/2"	NPT	1.40"	29	0	90	15°F	250°F	100%	5lb 2oz	4.33"	7.00"	4.50"	3.25"	1.15"	2.75"	2.25"
2"	NPT	1 7/8	48	0	90	15°F	250°F	100%	7lb 6oz	5.30"	7.50"	4.50"	4.25"	1.15"	2.75"	2.75"

*Consult a chemical compatibility expert for correct seal and valve body material choice.
*Weight and dimensions may vary slightly from production.

SOLENOID VALVE



GRAINGER APPROVED — GRAINGERCHOICE

Ball Valve, Brass, Inline, 2-Piece, Pipe Size 1 1/2 in, Tube Size 1 1/2 in

Item # **6GD18** Mfr. Model # **107-817**
UNSPSC # **40141607** Catalog Page # **2863**

Country of Origin China. Country of Origin is subject to change.

For use in flow control applications with water, oil, and gas.

Compare this product

Roll over image to zoom.

Product Image Feedback

Technical Specs

Item	Ball Valve	Ball Material	304 Stainless Steel
Body Material	Brass	Seat Material	PTFE
Body Style	Inline	Stem Type	Blowout Proof
General Connection Type	Female NPT	Handle Type	Lever
Valve Structure	2-Piece	Handle Material	Steel with Vinyl Grip
Pipe Size	1 1/2 in	Stem Material	Brass
Tube Size	1 1/2 in	Body Seal Material	PTFE
Connection Type	FNPT x FNPT	Hose I.D.	1 1/2 in
Port	Full	Ball Valve Product Group	Manual
Max. Pressure	600 psi CWP	Valve Basic Body Material	Brass
Max. Steam Pressure	150 psi WSP	Stancards	ANSI B1.20.1
Temp. Range	-20 Degrees to 300 Degrees F		

BALL VALVE

REV	DATE	DESCRIPTION	APP

e/e/c/c
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK · NICHOLAS KRASNECKY · LICENSED PROFESSIONAL ENGINEER · 100006 · 8/31/21

CERTIFIED BY	DATE
NICHOLAS KRASNECKY, NYSPE No. 100006	8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

TORK nsi

SPECIFICATION SHEET

1100 SERIES c UL us
24 HOUR TIME SWITCH
SAME ON/OFF TIMES EACH DAY



APPLICATIONS

- Lighting, pumps
- Signs, fans
- Air conditioning
- Water heaters
- Automatic ON/OFF control when operation is required at the same time every day.

FEATURES

SCHEDULING:
Minimum ON is setting 20 minutes with a minimum OFF setting of 75 minutes. Dial accommodates up to 12 pairs of trippers. One pair included.
MANUAL OVERRIDE:
Until the next regularly scheduled ON or OFF automatic operation then resumes.
ENCLOSED MOTOR:
Protects gears to extend life.

SPECIFICATIONS

INPUT VOLTAGE:
120 or 208-277 VAC
60 Hz, varies by model.
TIMING ACCURACY:
Line frequency.
TERMINAL RANGE:
#8 - #14 AWG.
OPERATING TEMPERATURE:
-40 °F to 165 °F (-40 °C to 74 °C).
POWER CONSUMPTION:
3 watts maximum.
ENCLOSURE:
Lockable hasp. Type varies by model.
OTHER MOUNTINGS:
Adaptor Plate model #1AP allows any 1100 series to fit into an Intermatic® case.

ORDERING INFO

CAT. NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
1101B	10064	120	SPST	Metal Indoor NEMA 1
1101B-P	10068	120	SPST	Polycarbonate Indoor/Outdoor NEMA 3R
1101B-PC	10095	120	SPST	Polycarbonate Outdoor w/ clear cover NEMA 3R
1101BM-IAP	10073	120	SPST	Mechanism and retrofit plate
1101-7 *	10033	347	SPST	Metal Indoor NEMA 1
1102B	10065	208-277	SPST	Metal Indoor NEMA 1
1103B	10066	120	DPST	Metal Indoor NEMA 1
1103B-P	10069	120	DPST	Polycarbonate Indoor/Outdoor NEMA 3R
1103B-PC	10096	120	DPST	Polycarbonate Outdoor w/ clear cover NEMA 3R
1103B-O	10098	120	DPST	Metal Indoor/Outdoor NEMA 3
1104B	10067	208-277	DPST	Metal Indoor NEMA 1
1104B-P	10070	208-277	DPST	Polycarbonate Indoor/Outdoor NEMA 3R
1104B-PC	10097	208-277	DPST	Polycarbonate Outdoor w/ clear cover NEMA 3R
1104B-O	10075	208-277	DPST	Metal Indoor/Outdoor NEMA 3
1104BM-MB	10076	208-277	DPST	Mechanism and surface mounting bracket
1104BM-IAP	10074	208-277	DPST	Mechanism and retrofit plate
Replacement Trippers		Order #P47 for a pair of ON/OFF trippers		
Replacement Motor		#101 (120V) & #201 (208-277V)		

Conversion — Astronomic dial. Consult factory for correct number for your latitude.

* 1101-7 CSA only

9730 Northcross Center Court
Huntersville, NC 28078
P: 800.321.5647
www.nsiindustries.com

MECHANICAL TIMER

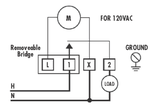
TORK nsi

SPECIFICATION SHEET

1100 SERIES c UL us
24 HOUR TIME SWITCH
SAME ON/OFF TIMES EACH DAY

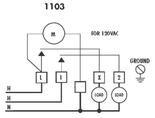
WIRING DIAGRAMS

1101 & 1102

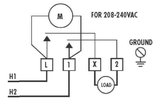


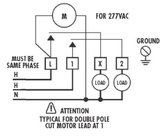
For separate motor terminals remove bridge from terminal L&1.

1103



1104





CONTACT RATINGS

TYPE	VOLTAGE (VAC)	CONTACT RATING
General Purpose	120-277	40A
Ballast	120-277	41A
Tungsten	120	40A
Ballast	120-277	20A
LED Driver	120-277	20A
Pilot Duty	120	1000VA
	240	2000VA
Motor	120	2HP
	240	5HP
277VAC Single Phase		

NEW!

1101-7 is 30 AMP inductive at 347 volts and CSA only.

9730 Northcross Center Court
Huntersville, NC 28078
P: 800.321.5647
www.nsiindustries.com

MECHANICAL TIMER



GRAINGER APPROVED — GRAINGERCHOICE

Pressure Gauge, 0 to 200 kPa, 0 to 30 psi Range, 1/8 in MNPT, +/-3-2-3% Gauge Accuracy

Item # **4FMH9** Mfr. Model # **4FMH9**
UNSPSC # **41112403** Catalog Group # **D1353**
Catalog Page # **574**

Country of Origin China. Country of Origin is subject to change.

This gauge features stainless steel case construction to resist corrosion and impact in demanding applications. Use with air, water, and oils in hydraulic equipment, pressure washers, pumps, and compressors.

Compare this product

Roll over image to zoom.

Product Image Feedback

Technical Specs

Item	Pressure Gauge	Gauge Panel Mountable	No
Gauge Application	Test	Liquid Filled	No
Gauge Nominal Dial Size	1 1/2 in	Gauge Primary Range Smallest Graduation	0.5
Basic Gauge Case Material	Stainless Steel		
Basic Gauge Wetted Parts	Stainless Steel	Gauge Case Material	304 Stainless Steel
Gauge Connection Type	MNPT	Gauge Case Color	Stainless Steel
Gauge Connection Size	1/8 in	Basic Gauge Socket Material	Stainless Steel
Gauge Connection Location	Bottom	Gauge Socket Material	316 Stainless Steel
Gauge Primary Range Units	psi	Basic Gauge Sensor Material	Stainless Steel
Gauge Primary Range Values	0 to 30	Gauge Sensor Material	316 Stainless Steel
Gauge Secondary Range Units	kPa	Gauge Lens Material	Acrylic
Gauge Secondary Range Values	0 to 200	Basic Gauge Lens Material	Plastic
Gauge Accuracy	+/-3-2-3%	Operating Temp. Range	-40 Degrees to 150 Degrees F
Pressure and Vacuum Gauge Type	Pressure Gauge	Calibration Certificate Included	No

PRESSURE GAUGE



ANVIL

Union, FNPT, 1-1/2 in Pipe Size - Pipe Fitting

Item # **29VD76** Mfr. Model # **0361501604**
UNSPSC # **40142320** Catalog Page # **2777**

Country of Origin USA. Country of Origin is subject to change.

Thick-walled fitting offers you a simple, economical installation and is ideal for use with water and oil in chemical, petrochemical, pulp, paper, shipbuilding, waste incineration, and semiconductor industry applications.

Compare this product

Roll over image to zoom.

Downloadable CAD Models — Product Image Feedback

Technical Specs

Item	Union	Max. Pressure	1500 psi @ 150 Degrees F
Pipe Fitting Material	Black Forged Steel	Saturated Steam Pressure	300 psi @ 550 Degrees F
Fitting Schedule/Class	Class 3000	Outside Dia.	3 23/64 in
Pipe Size - Pipe Fitting	1-1/2 in	Number of Holes	2
Fitting Connection Type	FNPT	Hex Size	3 23/64 in
Standards	ASME B16.11, ASTM A106, B1.20.1, MSS SP-83	Temp. Range	-20 Degrees to 550 Degrees F

UNION

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN	AN	DATE	8-19-2021
DES	NK	DATE	8-19-2021
CHK	NK	DATE	8-19-2021
SCALE	NOT TO SCALE	PROJECT NO.	BRIDGE CLEANERS

SYSTEM SPECIFICATIONS
(1 of 6)

SHEET
10 OF 15

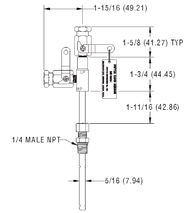
REV **0**

Bulletin F-50

Series DS-300 Flow Sensors

Installation and Operating Instructions Flow Calculations





Series DS-300 Flow Sensors are averaging pitot tubes that provide accurate, convenient flow rate sensing. When purchased with a Dwyer Capsuhelic® for liquid flow or Magnehelic® for air flow, differential pressure gage of appropriate range, the result is a flow-indicating system delivered off the shelf at an economical price. Series DS-300 Flow Sensors are designed to be inserted in the pipeline through a compression fitting and are furnished with instrument shut-off valves on both pressure connections. Valves are fitted with 1/8" female NPT connections. Accessories include adapters with 1/4" SAE 45° flared ends compatible with hoses supplied with the Model A-471 Portable Capsuhelic® kit. Standard valves are rated at 200°F (93.3°C). Where valves are not required, they can be omitted at reduced cost. Series DS-300 Flow Sensors are available for pipe sizes from 1" to 10".

INSPECTION
Inspect sensor upon receipt of shipment to be certain it is as ordered and not damaged. If damaged, contact carrier.

INSTALLATION
General - The sensing ports of the flow sensor must be correctly positioned for measurement accuracy. The instrument connections on the sensor indicate correct positioning. The side connection is for total or high pressure and should be pointed upstream. The top connection is for static or low pressure.

Location - The sensor should be installed in the flowing line with as much straight run of pipe upstream as possible. A rule of thumb is to allow 10 - 15 pipe diameters upstream and 5 downstream. The table below lists recommended up and down piping.

PRESSURE AND TEMPERATURE
Maximum: 200 psig (13.78 bar) at 200°F (93.3°C).

Upstream and Downstream Dimensions in Terms of Internal Diameter of Pipe*			
Upstream Condition	Minimum Diameter of Straight Pipe		
	Upstream		Downstream
	In-Plane	Out of Plane	
One Elbow or Tee	7	9	5
Two 90° Bends in Same Plane	8	12	5
Two 90° Bends in Different Plane	18	24	5
Reducers or Expanders	8	8	5
All Valves**	24	24	5

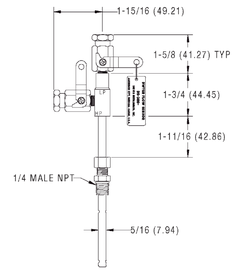
* Values shown are recommended spacing, in terms of internal diameter for normal industrial metering requirements. For laboratory or high accuracy work, add 25% to values.
** Includes gate, globe, plug and other throttling valves that are only partially opened. If valve is to be fully open, use values for pipe size change. **CONTROL VALVES SHOULD BE LOCATED AFTER THE FLOW SENSOR.**

DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, INDIANA 46361, U.S.A.
Phone: 219/879-8000 www.dwyer-inst.com
Fax: 219/872-9057 e-mail: info@dwyer-inst.com

Flow Calculations and Charts
The following information contains tables and equations for determining the differential pressure developed by the DS-300 Flow Sensor for various flow rates of water, steam, air or other gases in different pipe sizes.

This information can be used to prepare conversion charts to translate the differential pressure readings being sensed into the equivalent flow rate. When direct readout of flow is required, use this information to calculate the full flow differential pressure in order to specify the exact range of Dwyer Magnehelic® or Capsuhelic® gage required. Special ranges and calculations are available for these gages at minimal extra cost. See bulletins A-30 and F-41 for additional information on Magnehelic® and Capsuhelic® gages and DS-300 flow sensors.

For additional useful information on making flow calculations, the following service is recommended: Crane Valve Co. Technical Paper No. 410 "Flow of Fluids Through Valves, Fittings and Pipe." It is available from Crane Valve Company, www.cranevalve.com.



PITOT TUBE

Using the appropriate differential pressure equation from Page 4 of this bulletin,calculate the differential pressure generated by the sensor under normal operating conditions of the system. Check the chart below to determine if this value is within the recommended operating range for the sensor. Note that the data in this chart is limited to standard conditions of air at 60°F (15.6°C) and 14.7 psia static line pressure or water at 70°F (21.1°C). To determine recommended operating ranges of other gases, liquids an/or operating conditions, consult factory.

Note: the column on the right side of the chart which defines velocity ranges to avoid. Continuous operation within these ranges can result in damage to the flow sensor caused by excess vibration.

Pipe Size (Schedule 40)	Flow Coefficient "K"	Operating Ranges Air @ 60°F & 14.7 psia (D/P in. W.C.)	Operating Ranges Water @ 70°F (D/P in. W.C.)	Velocity Ranges Not Recommended (Feet per Second)
1	0.52	1.10 to 186	4.00 to 675	146 to 220
1-1/4	0.58	1.15 to 157	4.18 to 568	113 to 170
1-1/2	0.58	0.38 to 115	1.36 to 417	96 to 144
2	0.64	0.75 to 75	2.72 to 271	71 to 108
2-1/2	0.62	1.72 to 53	6.22 to 193	56 to 85
3	0.67	0.39 to 35	1.43 to 127	42 to 64
4	0.67	0.28 to 34	1.02 to 123	28 to 43
6	0.71	0.64 to 11	2.31 to 40	15 to 23
8	0.67	0.10 to 10	0.37 to 37	9.5 to 15
10	0.70	0.17 to 22	0.60 to 79	6.4 to 10

POSITION
Be certain there is sufficient clearance between the mounting position and other pipes, walls, structures, etc. so that the sensor can be inserted through the mounting unit once the mounting unit has been installed onto the pipe.

Flow sensors should be positioned to keep air out of the instrument connecting lines on liquid flows and condensate out of the lines on gas flows. The easiest way to assure this is to install the sensor into the pipe so that air will bleed into, or condensate will drain back to, the pipe.

For Air or Gas Flow
Install in upper quadrant of pipe

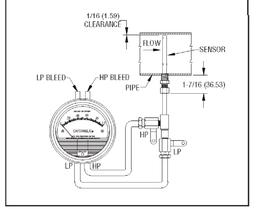


Condensate drains back to pipe

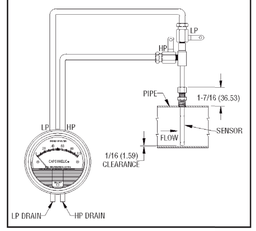
For Liquid or Steam Flow
Install in lower quadrant of pipe

Air bleeds back to pipe

Water Flow



Air or Gas Flow



INSTALLATION
1. When using an A-160 thred-o-let, weld it to the pipe wall. If replacing a DS-200 unit, an A-161 bushing (1/4"x 3/8") will be needed.

2. Drill through center of the thred-o-let into the pipe with a drill that is slightly larger than the flow sensor diameter.

3. Install the packing gland using proper pipe sealant. If the packing gland is disassembled, note that the tapered end of the ferrule goes into the fitting body.

4. Insert sensor until it bottoms against opposite wall of the pipe, then withdraw 1/16" to allow for thermal expansion.

5. Tighten packing gland nut finger tight. Then tighten nut with a wrench an additional 1-1/4 turns. Be sure to hold the sensor body with a second wrench to prevent the sensor from turning.

INSTRUMENT CONNECTION
Connect the slide pressure tap to the high pressure port of the Magnehelic® (air only) or Capsuhelic® gage or transmitting instrument and the top connection to the low pressure port.

See the connection schematics below.

Bleed air from instrument piping on liquid flows. Drain any condensate from the instrument piping on air and gas flows.

Open valves to instrument to place flow meter into service. For permanent installations, a 3-valve manifold is recommended to allow the gage to be zero checked without interrupting the flow. The Dwyer A-471 Portable Test Kit includes such a device.

FLOW EQUATIONS

1. Any Liquid
$Q\ (GPM) = 5.668 \times K \times D^2 \times \sqrt{\Delta P / S_f}$

2. Steam or Any Gas
$Q\ (lb/Hr) = 359.1 \times K \times D^2 \times \sqrt{p \times \Delta P}$

3. Any Gas
$Q\ (SCFM) = 128.8 \times K \times D^2 \times \sqrt{\frac{P \times \Delta P}{(T + 460) \times S_g}}$

DIFFERENTIAL PRESSURE EQUATIONS

1. Any Liquid
$\Delta P\ (in.\ WC) = \frac{Q^2 \times S_f}{K^2 \times D^4 \times 32.14}$

2. Steam or Any Gas
$\Delta P\ (in.\ WC) = \frac{Q^2}{K^2 \times D^4 \times p \times 128,900}$

3. Any Gas
$\Delta P\ (in.\ WC) = \frac{Q^2 \times S_g \times (T + 460)}{K^2 \times D^4 \times P \times 16,590}$

Technical Notations

The following notations apply:

ΔP = Differential pressure expressed in inches of water column
Q = Flow expressed in GPM, SCFM, or PPH as shown in equation
K = Flow coefficient— See values tabulated on Pg. 3.
D = Inside diameter of line size expressed in inches.

For square or rectangular ducts, use: $D = \sqrt{\frac{4 \times \text{Height} \times \text{Width}}{\pi}}$

P = Static Line pressure (psia)
T = Temperature in degrees Fahrenheit (plus 460 = °Rankine)
p = Density of medium in pounds per square foot
S_f = Sp Gr at flowing conditions
S_g = Sp Gr at 60°F (15.6°C)

SCFM TO ACFM EQUATION

$SCFM = ACFM \times \left(\frac{14.7 + PSIG}{14.7}\right) \left(\frac{520°}{460 + °F}\right)$

$ACFM = SCFM \times \left(\frac{14.7}{14.7 + PSIG}\right) \left(\frac{460 + °F}{520}\right)$

$\text{POUNDS PER CUBIC FOOT STD.} = \text{POUNDS PER CUBIC FOOT ACT.} \times \left(\frac{14.7}{14.7 + PSIG}\right) \left(\frac{460 + °F}{520°}\right)$

$\text{POUNDS PER CUBIC FOOT ACT.} = \text{POUNDS PER CUBIC FOOT STD.} \times \left(\frac{14.7 + PSIG}{14.7}\right) \left(\frac{520°}{460 + °F}\right)$

1 Cubic foot of air = 0.076 pounds per cubic foot at 60° F (15.6°C) and 14.7 psia.
* (520°= 460 + 60°) Std. Temp. Rankine

©Copyright 2004 Dwyer Instruments, Inc.

Printed in U.S.A. 7/04 FR# 72-440451-01 Rev. 2

DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, INDIANA 46361, U.S.A.
Phone: 219/879-8000 www.dwyer-inst.com
Fax: 219/872-9057 e-mail: info@dwyer-inst.com

REV	DATE	DESCRIPTION	APP

e/e/c/c
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
100006
LICENSED PROFESSIONAL ENGINEER
8/31/21

CERTIFIED BY DATE
NICHOLAS KRASNECKY, NYSPE No. 100006 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

SYSTEM SPECIFICATIONS
(2 of 6)

SHEET
11 OF 15
REV 0

PIC PRECISION INSTRUMENT CO.

LP SERIES LOW PRESSURE

SPECIFICATIONS

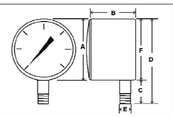
- Chrome plated case
- Black steel case (u-clamp panel mnt)
- Brass internals and connection
- Dry non-fillable
- +/- 1.5 % accuracy

FEATURES

- 2 1/2"dial size with twist lock plastic lens
- zero adjustment screw on back of case
- 1/4"mnpt bottom or back connection
- Capsule type diaphragm to measure low pressures

LP1

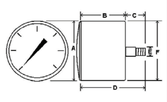




	2 ½"		4"	
	IN	MM	IN	MM
A	2.60"	66	3.98"	101
B	1.70"	44	2.21"	56
C	.85"	22	1.56"	40
D	3.45"	87.5	5.49"	139
E	1/4"NPT		1/4" OR 1/2" NPT	
F	2.60"	66	3.98"	101
G				

LP2

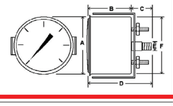




	2 ½"		4"	
	IN	MM	IN	MM
A	2.62"	66.5	----	----
B	1.92"	49	----	----
C	.84"	21.5	----	----
D	2.75"	71	----	----
E	1/4"NPT		----	----
F	2.60"	66	----	----
G			----	----

LP3

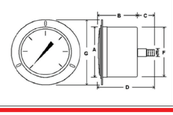




	2 ½"		4"	
	IN	MM	IN	MM
A	2.84"	72	----	----
B	1.88"	48	----	----
C	.84"	21.5	----	----
D	2.74"	69.5	----	----
E	1/4"NPT		----	----
F	2.60"	66.2	----	----
G	2.94	75	----	----

LP4





	2 ½"		4"	
	IN	MM	IN	MM
A	2.61	66	----	----
B	1.89	48	----	----
C	.875	22.2	----	----
D	2.74	69.5	----	----
E	1/4"NPT		----	----
F	2.67	68	----	----
G	3.44	87.4	----	----

AVAILABLE RANGES:

200-0"wc Vacuum (2"Minor inc)
160-0"wc Vacuum (2"Minor inc.)
100-0"wc Vacuum (1"Minor inc.)
60-0"wc vacuum (1"Minor Inc.)
30-0"wc vacuum (.5"wc minor)
0-10"wc (.5"wc minor inc.)
0-15"wc (.2"wc minor inc.)

0-30"wc (.5"wc minor inc.)
20 oz./35"wc (.5"wc minor inc.)
35 oz./60"wc (1"wc minor inc.)
0-60"wc (1"wc minor inc.)
0-100"wc (2"wc minor inc.)
0-160"wc (5"wc minor inc.)
0-200"wc (5"wc minor inc.)

0-3 psi (.05 psi minor inc.)
0-5 psi (.1 psi minor inc.)
0-10 psi (.2 psi minor inc.)

NOTE: OTHER RANGES AVAILABLE UPON REQUEST, PLEASE CALL WITH ANY INQUIRIES

PRESSURE INDICATOR

Accessories

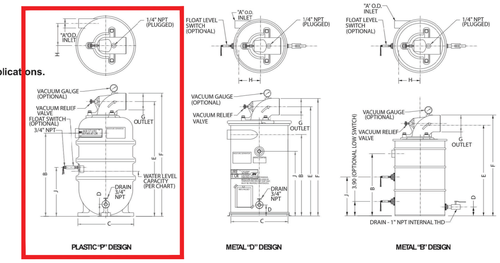
Filtration - Moisture Separator

ROTRON®

By separating and containing entrained liquids, ROTRON'S™ moisture separator helps protect our regenerative blowers and the end treatment system from corrosion and mineralization damage. Recommended for all soil vacuum extraction Applications.

SPECIFICATIONS:
SEPARATION METHOD – High Efficiency Cyclonic
RELIEF VALVE MATERIAL – Brass & Stainless Steel
FLOAT MATERIAL – Copper
FLOAT SWITCH – SPDT, Explosion-proof NEMA 7&9, 5 Amp max.

applications.



PLASTIC "P" DESIGN | METAL "D" DESIGN | METAL "B" DESIGN

		Part/Model Number					
		MS200PS	MS300PS	MS350BS	MS500BS	MS600BS	MS1000BS
Specification	**Units**	038519	038520	038357	080660	080659	038914
Dimension A	Inches	2.38	2.88	3.25	3.25	4.00	6.00
	mm	60.5	73.2	82.6	82.6	101.6	152.4
CFM Max.	CFM	200	300	350	500	600	1000
	m3/hr	340	510	595	850	1020	1700
Dimension B	Inches	22.46	22.46	28.00	28.00	27.00	31.00
	mm	570.5	570.5	711.2	711.2	685.8	787.4
Dimension C	Inches	16.00	16.00	23.00	23.00	23.00	27.00
	mm	406.4	406.4	584.2	584.2	584.2	685.8
Dimension D	Inches	3.25	3.25	4.00	4.00	4.00	4.00
	mm	82.6	82.6	101.6	101.6	101.6	101.6
Dimension E	Inches	31.05	31.05	37.25	37.37	37.37	47.32
	mm	788.7	788.7	946.2	949.2	949.2	1201.9
Dimension F	Inches	33.30	33.30	39.50	54.50	54.50	70.00
	mm	845.8	845.8	1003.3	1384.3	1384.3	1313.2
Dimension H	Inches	6	6.00	9.75	9.75	9.25	10.00
	mm	152.4	152.4	247.7	247.7	235	254
Dimension G	Inches	4.50 OD	4.50 D	4.50 OD	6.63 ID	6.63 ID	8.62 OD
	mm	114.3	114.3	114.3	168.4	168.4	218.9
Dimension J	Inches	13.25	13.25	17.50	17.50	17.50	19.88
	mm	336.6	336.6	444.5	444.5	444.5	505
Drain Internal Thd		-	3/4	1	1	1	1
Shipping Weight	Lbs	42	42	82	95	96	150
	Kg	19.1	19.1	37.2	43.1	43.5	68

This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions. AMETEK is not responsible for blowers driven beyond factory specified speed, temperature, pressure, flow or without proper alignment. Actual performance will vary depending on the operating environment and application. AMETEK products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications, contact AMETEK Technical & Industrial Products Sales department.

AMETEK DYNAMIC FLUID SOLUTIONS
75 North Street, Saugerties, NY 12477
USA: +1 215-256-6601 - Europe: +49 7703 930909 - Asia: +86 21 5763 1258
Customer Service Fax: +1 215.256.1338
www.ametekdfs.com

AMETEK®
PRECISION MOTION CONTROL
DYNAMIC FLUID SOLUTIONS

MOISTURE SEPARATOR

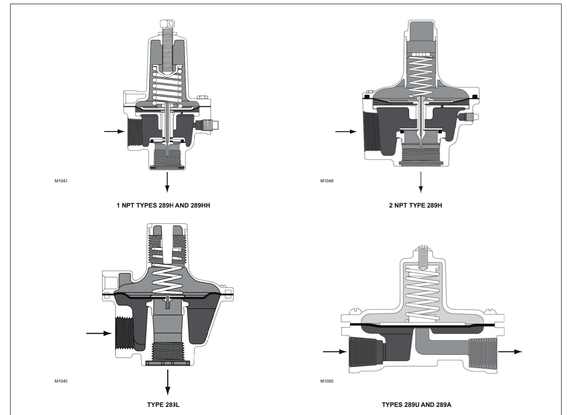


Figure 2. *Types 289H, 289L and 289U Operational Schematics*

Table 1. *Maximum Allowable Relief (Inlet) Pressure*

AVAILABLE CONFIGURATION	BODY SIZE, NPT	SPRING PART NUMBER	COLOR CODE	SPRING RANGE (RELIEF PRESSURE SETTINGS) psig	SPRING RANGE (RELIEF PRESSURE SETTINGS) bar	MAXIMUM ALLOWABLE RELIEF (INLET) PRESSURE[1] psig	MAXIMUM ALLOWABLE RELIEF (INLET) PRESSURE[1] bar
Type 289A	1/4	02056327022	Silver	3 to 13	0.21 to 0.90	45	3.1
		1B289327022	Silver	11 to 22	0.76 to 1.5		
Type 289H	1	1F826927052	Pink	1 to 4.5	0.07 to 0.31	100	6.9
		1D892327022	Red	4 to 15	0.28 to 1.0		
		1D751527022	Silver	10 to 20	0.69 to 1.4		
		1D745570012	Green	15 to 50	1.0 to 3.5		
	2	1B536527052	Dark Blue	7 to 18 in. w.c.	17 to 45 mbar	25	1.7
		1B536627052	Gray	0.5 to 2.25	0.03 to 0.16		
		1B536827062	Dark Green	1.75 to 7	0.12 to 0.48		
		1B536927052	Red Stripe	4 to 10	0.28 to 0.69		
Type 289HH	1	1D745570012	Green	45 to 75	3.1 to 5.2	100	6.9
Type 289L	3/4 or 1	13A7917X012	Silver	10 to 18 in. w.c.	25 to 45 mbar	7	0.48
		13A7916X012	Red Stripe	12 to 40 in. w.c.	30 to 99 mbar		
Type 289U	1/4	0V060227022	Silver	5 to 25 in. w.c.	12 to 62 mbar	10 psig	0.69
		0F058227022	Silver	20 in. w.c. to 3 psig	50 to 207 mbar		

1. This value indicates the relief pressure setting plus pressure build-up.

VACUUM RELIEF VALVE

---

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
LICENSED PROFESSIONAL ENGINEER
100006
8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

REV	DATE	DESCRIPTION	APP

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

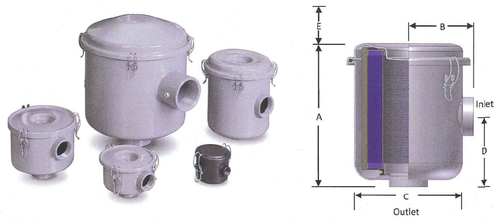
SYSTEM SPECIFICATIONS
(3 of 6)

SHEET 12 OF 15

REV **0**

"L" Style Vacuum Filters
CSL Series 3/8" - 3" FPT

SOLBERG®



Features

- Seamless drawn housings
- Brazed fittings for high vacuum duty
- Stainless steel torsion clips for durability
- Positive engagement O-ring seal system
- Rugged all steel construction with baked enamel finish

Benefits

- Large dirt holding capacity and easy field cleaning, especially when mounted horizontally or inverted
- Designed to handle high vacuum applications
- Low pressure design

Technical Specifications

- Vacuum Rating: Gas tight o-ring seal
- Temp (continuous): min -15°F (-26°C) max 220°F (104°C)
- Filter change out differential: 15-20" H_2O over initial Δ P
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

Options

- Vacuum gauge
- Dome hood for high holding capacity
- Material/Finishes: stainless steel, epoxy coating
- Support brackets
- Alternative top-to-canister fastening system for low pressure or pulsating systems

FPT Outlet Connections

FPT Inlet/ Outlet	Assembly SCFM Rating	Assembly Part Number Polyester	Assembly Part Number Paper	Dimensions - inches A	B	C	D	Suggested Service HT. E	Approx. Wt. lbs	Replacement Element Part No. Polyester	Replacement Element Part No. Paper	Element SCFM Rating
3/8"	18	CSL-825-039HC	CSL-824-039HC	3 5/8	2 1/4	3 3/4	1 7/8	3	0.88	825	824	25
1/2"	18	CSL-825-050HC	CSL-824-050HC	3 5/8	2 1/4	3 3/4	1 7/8	3	0.88	825	824	25
1/2"	20	CSL-843-050HC	CSL-842-050HC	4 3/8	3	5 7/8	2 1/2	3	3	843	842	55
3/4"	24	CSL-825-075HC	CSL-824-075HC	3 3/4	2 1/4	3 3/4	1 7/8	3	0.88	825	824	25
3/4"	25	CSL-843-075HC	CSL-842-075HC	4 3/8	3	5 7/8	2 1/2	3	3	843	842	55
1"	35	CSL-843-100HC	CSL-842-100HC	4 3/8	3 1/4	5 7/8	2 5/8	3	3	843	842	55
1"	40	CSL-849-100HC	CSL-848-100HC	6 3/4	4 1/8	7 1/3	4 1/2	5	5	849	848	115
1 1/4"	55	CSL-843-125HC	CSL-842-125HC	4 3/8	3 1/4	5 7/8	2 5/8	3	3	843	842	55
1 1/4"	60	CSL-849-125HC	CSL-848-125HC	6 3/4	4 1/8	7 5/16	4 1/2	5	5	849	848	115
1 1/2"	80	CSL-849-150HC	CSL-848-150HC	6 3/4	4 1/8	7 5/16	4 1/2	5	5	849	848	115
2"	175	CSL-851-200HC	CSL-850-200HC	10 1/4	4 9/16	8 3/4	5	9	15	851	850	290
2 1/2	210	CSL-851-250HC	CSL-850-250HC	10 1/2	5 1/8	8 3/4	5 1/2	9	15	851	850	290
3"	300	CSL-239-300HC	CSL-238-300HC	15 3/4	8 7/8	13 1/4	8 3/4	11	33	239	238	570

See Vacuum Filter Technical Data section for sizing guidelines.

Dimension tolerance ± 1/4"

Note! Model offerings and design parameters may change without notice. See www.solbergmfg.com for most current offering.

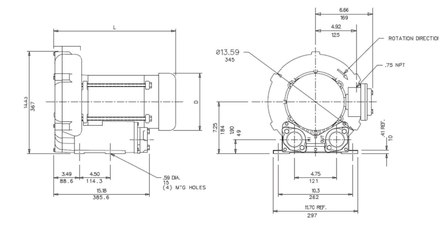
INLINE VACUUM FILTER

Environmental / Chemical Processing Blowers

EN 505 & CP 505

ROTRON®

2.0 / 2.5 HP Sealed Regenerative w/Explosion-Proof Motor



NOTES
1. TERMINAL BOX CONNECTOR HOLE 3/4" NPT.
2. DRAWING NOT TO SCALE, CONTACT FACTORY FOR SCALE CAD DRAWING.
3. CONTACT FACTORY FOR BLOWER MODEL LENGTHS NOT SHOWN.

		Part/Model Number			
		EN505AX58ML	EN505AX72ML	CP505FS58MLR	CP535FS72MLR
Specification	**Units**	038177	038178	080655	038962
Motor Enclosure - Shaft Mtl.	-	Explosion-proof-CS	Explosion-proof-CS	CHEM XP-SS	CHEM XP-SS
Horsepower	-	2.0	2.0	2.0	2.0
Phase - Frequency	-	Single-60 hz	Three-60 hz	Single-60 hz	Three-60 hz
Voltage	AC	115/230	230/460	115/230	230/460
Motor Nameplate Amps	Amps (A)	22/11	5.8/2.9	22/11	5.8/2.9
Max. Blower Amps	Amps (A)	24/12	6.4/3.2	24/12	6.4/3.2
Locked Rotor Amps	Amps (A)	112/56	56/28	112/56	56/28
Service Factor	-	1.0	0/0	1/0	0/0
Starter Size	-	1.0	1.0	1.0	1.0
Thermal Protection	-	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty	Class B - Pilot Duty
XP Motor Class - Group	-	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G
Shipping Weight	Lbs	92	84	92	84
	Kg	41.7	38.1	41.7	38.1

Voltage - ROTRON motors are designed to handle a broad range of world voltages and power supply variations. Our dual voltage 3 phase motors are factory tested and certified to operate on both: **208-230/415-460 VAC-3 ph-60 Hz** and **190-208/380-415 VAC-3 ph-50 Hz.** Our dual voltage 1 phase motors are factory tested and certified to operate on both: **104-115/208-230 VAC-1 ph-60 Hz** and **100-110/200-220 VAC-1 ph-50 Hz.** All voltages above can handle a ±10% voltage fluctuation. Special wound motors can be ordered for voltages outside our certified range.

Operating Temperatures - Maximum operating temperature: Motor winding temperature (winding rise plus ambient) should not exceed 140°C for Class F rated motors or 120°C for Class B rated motors. Blower outlet air temperature should not exceed 140°C (air temperature rise plus inlet temperature). Performance curve maximum pressure and suction points are based on a 40°C inlet and ambient temperature. Consult factory for inlet or ambient temperatures above 40°C.

Maximum Blower Amps - Corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

XP Motor Class - Group - See Explosive Atmosphere Classification Chart in Section I

This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions. AMETEK is not responsible for blowers driven beyond factory specified speed, temperature, pressure, flow or without proper alignment. Actual performance will vary depending on the operating environment and application. AMETEK products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications, contact AMETEK Technical & Industrial Products Sales department.

AMETEK DYNAMIC FLUID SOLUTIONS
75 North Street, Saugerties, NY 12477
USA: +1 215-256-6601 - Europe: +49 7703 930909 - Asia: +86 21 5763 1258
Customer Service Fax: +1 215.256.1338
www.ametekdfs.com

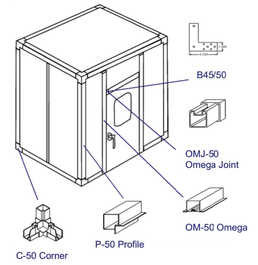
AMETEK®
PRECISION MOTION CONTROL
DYNAMIC FLUID SOLUTIONS

REGENERATIVE BLOWER

ArtUSA
Noise Control Products Inc.

Alum A Frame Enclosures

Call us at 888-454-6975 **Internet: www.noisecontrolproducts.com**



Options:

- STC Rated Panels up to 55 dBA
- Mylar, Polyethylene or Fiberglass Cloth Lining
- Framed Cutouts/Openings
- Primer or Finish Paint
- Multiple Gauge Construction
- Variety of materials available
- Custom Designs per You Acoustical/Thermal Requirements
- Multiple Insulation Materials and Densities
- Available in Quick Removable Panels

Thermal Performance:
Individual panels will have a "U" factor 0.07 and an entire panel enclosure will have a 0.14

Fire Hazard Rating:
Standard acoustical fill will have the following UL Fire Hazard Ratings as per ASTM E-84:
Flame Spread -15 / Fuel Contributed -0 / Smoke Developed -0

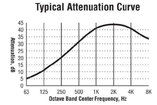
Acoustical Performance* - Standard Construction

Sound Transmission Loss (ASTM E-90-81)							*All acoustical tests were performed and reported by an Independent Accredited Acoustical Laboratory. Copies of test reports furnished upon request.
Octave Band Center Frequency (Hz)	125	250	500	1000	2000	4000	STC
4" Panel (TL in dB)	22	29	40	48	54	60	41
2" Panel (TL in dB)	21	24	35	43	52	57	37

Sound Absorption Coefficients (ANSI/ASTM C243-81 and E795)							
Octave Band Center Frequency (Hz)	125	250	500	1000	2000	4000	NRC
4" Panel	.86	1.09	1.22	1.06	1.05	1.04	1.10
2"Panel	.31	.82	1.19	1.12	1.07	1.06	1.11

SOUND ENCLOSURE

Typical Attenuation Curve



U5 Series

Straight-Through Absorptive Silencer

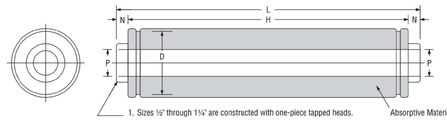
The U5 Series is a premium, straight-through, absorptive silencer. It provides excellent noise attenuation due to its very high length to diameter ratio. It is especially well suited for inlet service on small rotary positive or centrifugal blowers or the discharge of vacuum pumps. Mild steel construction with enamel paint.

Note
U5 series standard paint and acoustical packing are suitable for 325°F.



Common Applications

- rotary positive/centrifugal blowers
- vacuum pump discharge
- air valves and cylinders
- small low-pressure vents
- high frequency noise sources



1. Sizes ½" through 1¼" are constructed with one-piece tapped heads. The tapped opening is approximately flush with the end on the shell.
2. Sizes ½" through 4": female NPT pipe connections.
3. Sizes 5" and 6": 125#/150# ANSI drilled flanges.

Absorptive Material

Straight-Through Absorptive Silencer

Model	Part	P	D	L	N	H	Weight
U5-½	11-150-AA	½	3¼	8	—	8	2
U5-¾	11-170-AA	¾	3¼	11	—	11	3
U5-1	11-101-AA	1	3¼	14	—	14	3
U5-1¼	11-121-AA	1¼	3¼	16	—	16	4
U5-1½	11-115-AA	1½	4¼	19¼	½	18⅝	5
U5-2	11-102-AA	2	5⅛	26	½	25	10
U5-2½	11-125-AA	2½	6⅛	33½	½	32½	15
U5-3	11-103-AA	3	6⅝	36½	½	35½	20
U5-4	11-104-AA	4	8	48⅝	⅛	48¾	40
U5-5	11-105-AA	5	10	57	3	51	60
U5-6	11-106-AA	6	12	63	3	57	100

INLINE MUFFLER

CCS/CS Series

Filter-Silencers

CCF/CF Series

Filters

Noise Attenuation, CCS/CS

Attenuation, dB	Octave Band Center Frequency, Hz
5	63
8	125
10	250
12	500
14	1,000
14	2,000
14	4,000
14	8,000

Pressure Drop, All Models

Pressure Drop (in. of H2O)	Percentage of Rated Flow
0.7	50%
1.6	75%
2.8	100%
4.4	125%
6.3	150%

P (size)	Rated Flow Cap. (CFM)	D	H	B	N CCF	N CCS	N CF	N CS	L CCF	L CCS	L CF	L CS	Approx. Weight with Paper Elements CCF	CCS	CF	CS
.5	15	8.00	3.13	6.00	Use	—	Use	—	Use	6.50	Use	6.50	Use	7	Use	7
.75	22	8.00	3.13	6.00	CCS	—	CS	—	CCS	6.50	CS	6.50	CCS	7	CS	7
1	35	8.00	3.13	6.00	Series	—	Series	—	Series	6.50	Series	6.50	Series	7	Series	7
1.25	60	9.00	3.50	6.50	—	—	—	—	3.50	7.88	3.50	7.88	9	10	5	9
1.5	75	9.00	3.50	6.50	—	—	—	—	3.50	7.88	3.50	7.88	9	10	5	9
2	120	9.00	3.50	6.50	—	—	—	—	3.50	7.88	3.50	7.88	8	10	5	8
2.5	190	13.44	6.75	10.00	1.00	1.00	1.00	1.00	7.50	17.69	7.13	17.31	11	19	10	18
3	275	13.44	6.75	10.00	1.00	1.00	1.00	1.00	7.50	17.69	7.13	17.31	10	18	9	17
3.5	375	13.44	6.75	10.00	1.13	1.13	1.13	1.13	7.63	17.69	7.25	17.31	13	20	12	19
4 (NPT)	500	13.44	6.75	10.00	1.13	1.13	1.13	1.13	7.63	17.69	7.25	17.31	12	19	11	18
4 (flanged)	500	13.44	6.75	10.00	4.00	3.00	4.00	3.00	10.50	19.63	10.13	19.25	14	21	13	20
5 (NPT)	750	13.44	6.75	10.00	1.81	1.81	1.81	1.81	8.38	18.25	8.00	17.88	12	19	11	18
5 (flanged)	750	13.44	6.75	10.00	4.00	3.00	4.00	3.00	10.50	19.56	10.13	19.13	16	23	15	22
6	1,100	18.00	9.50	14.00	4.00	3.00	4.00	3.00	13.31	25.25	12.75	24.75	31	43	23	35
8	2,200	20.00	18.00	14.00	4.00	3.00	4.00	3.00	21.88	33.88	21.38	33.38	43	56	30	43
10	3,000	24.00	11.50	18.00	4.00	3.00	4.00	3.00	15.38	29.25	14.19	28.13	52	83	41	67
12	4,300	24.00	11.50	18.00	4.00	3.00	4.00	3.00	15.38	29.25	14.19	28.13	64	91	48	75
14	5,900	30.00	15.44	24.00	4.00	3.00	4.00	3.00	19.38	36.25	18.25	35.06	97	143	75	121
16	7,700	30.00	15.44	24.00	4.00	3.00	4.00	3.00	19.38	36.25	18.25	35.06	101	145	79	123

All models have a .125" FNPT tap for installation of a gauge or manometer to monitor pressure drop. Sizes **.5" through 3.5"** are standard with female pipe thread connection (FNPT). Sizes **4" and 5"** are available with female threads or flanges. Please specify "threaded" or "flanged" when you order 4" and 5" sizes. Sizes **6" through 16"** are standard with 150# ANSI drilled plate flanges. Rated capacity is based upon exit velocity of approximately 5,500 ft/min. If pressure drop allowance permits, capacity may be increased by as much as 50%.

© 2011 Universal Acoustic & Emission Technologies, Inc. All rights reserved.

Toll-Free: 1-888-300-4272
www.universalAET.com
94-1553 Rev 0

INLINE FILTER

204L LIQUID FILLED

Our '200' series gauge line is a high quality line of liquid filled gauges. The glycerine filling helps dampen the effects of pulsation and vibration, while also perpetually lubricating the movement (and keeping contaminates such as dirt away from all moving parts) which will extend the life of the gauge.

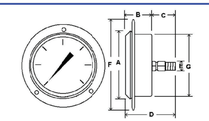
This gauge has been specifically designed with the original equipment manufacturers in mind and is typically used on hydraulic & pneumatic systems as well as any commercial or industrial application not corrosive to brass and bronze wetted parts where glycerine filling is suitable for use.

SPECIFICATIONS:

- **Front Flanged Panel Mount Design**
- **Available Dial Sizes:** 1 ½", 2", 2 ½", 3 ½", 4"
- **Available Connection Sizes:**
  1/8"MNPT on 1 ½" and 2"
  1/4"MNPT on 2", 2 ½", 3 ½" and 4"
- **Stainless Steel Case And Bezel**
- **Brass Internals & Connection**
- **Phosphour Bronze Bourdon Tube**
- **Liquid Filled (Dry Available)**
- **Accuracy :** 1 ½" or 2"Dial Size = 3-2-3 %
  2 ½"Dial Size = 1.5 %
  3 ½" or 4"Dial Size = 1 %
- **Dual Scale: PSI & Bar (x100=kPa)**
  Single Scale available from stock
- **Ambient temperature:** FILLED: 30°F to 160°F
  DRY: -30°F to 180°F



RANGE	CODE	Major In	Minor in
30/0"VAC	A	5	0.5
30/0/15	CB	5	0.5
30/0/30	CC	10	1
30/0/60	CD	10	1
30/0/100	CE	20	2
30/0/150	CF	20	2
30/0/300	CH	50	10
0/15	B	2	0.2
0/30	C	5	0.5
0/60	D	10	1
0/100	E	20	2
0/160	F	20	2
0/200	G	40	5
0/300	H	50	5
0/400	I	50	5
0/600	K	100	10
0/1000	M	200	20
0/1500	N	200	20
0/2000	O	400	50
0/3000	P	500	50
0/5000	R	1000	100
0/10,000	U	1000	100
0/15,000	V	2000	200



		A	B	C	D	E	F	G
1 ½"	In	1.88	1.06	.89	1.95	1/8"	2.46	1.63
Dial	MM	48	27	23	50	Npt	63	42
2"	In	2.23	1.09	.71	1.99	1/8" or	2.81	2.00
Dial	MM	57	28	23	51	¼"npt	72	51
2 ½"	In	2.80	1.26	1.19	2.46	1/4"	3.48	2.50
Dial	MM	71	33	30	63	Npt	88	64
3 ½"	In	3.83	1.14	1.08	2.20	1/4"	5.19	3.5
Dial	MM	97	29	27	56	Npt	132	89
4"	In	4.32	1.63	1.14	2.77	1/8" or	5.20	3.87
Dial	MM	110	42	29	71	¼"Npt	132	98

Note: All Dial Size Gauges are Center Back Connection Except 3 ½" Dial Size which are Lower Back Connection

LIQUID FILLED PRESSURE INDICATOR

Data

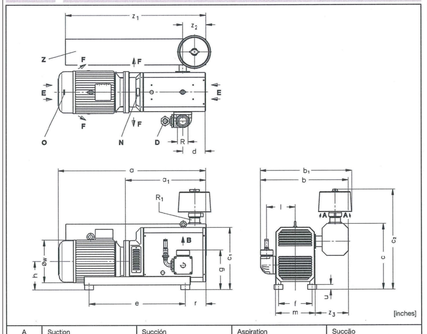
Elmo Rietschle
A Gardner Denver Product

Compressors | Compresores | Compresseurs | Compressores

C-DLR

zephyr

- C-DLR 60
- C-DLR 100
- C-DLR 150



A	Suction	Succión	Aspiration	Sucção
B	Pressure connection	Conexión presión	Raccord surpression	Conexão da pressão
D	Safety valve	Válvula seguridad	Clapet de sécurité	Válvula de segurança
E	Cooling air entry	Entrada aire refrigerante	Entrée air refroidissement	Entrada do ar refrigerante
F	Cooling air exit	Salida aire refrigerante	Sortie air refroidissement	Saída do ar refrigerante
N	Data plate	Placa fecha	Etiquette caractéristique	Placa da data
O	Rotation arrow	Dirección de rotación	Flèche sens rotation	Direção da rotação
Z	Inlet silencer	Silenciador entrada	Silencieux d'aspiration	Silenciador de entrada

C-DLR		60	100			150	
kw	50 Hz	3.0	3.0	4.0	5.5	5.5	7.5
hp	60 Hz	5.0	5.0	7.5	10	10	15
inches a	50 Hz	27.44	27.36	28.03	32.17	36.26	
	60 Hz	27.44	31.48	33.07	33.07	36.34	37.40
a_1	50 Hz	15.28	15.43	15.43	16.22	19.49	
	60 Hz	15.28	17.56	17.56	17.56	20.83	
b / b_1		13.70 / 13.70	21.26 / 22.25			21.30 / 22.05	
c / c_1 / c_2		15.04 / 11.81 / 15.04	14.76 / 14.17 / 25.75			18.39 / 14.76 / 25.75	
d		2.36	3.62			2.28	
e		9.65	17.32			15.04	
f		6.30	8.66			6.30	
g		11.73	8.23			9.41	
h		6.10	5.91			6.50	
l		5.43	7.17			7.17	
m		6.46	10.00			10.00	
r / u		4.21 / 0.79	3.03 / 0.53			4.56 / 1.18	
ø w	50 Hz	7.72	7.72	8.66	9.69	9.69	
	60 Hz	7.87	7.88	9.57	9.57	9.57	11.47
z_2		-	24.65			24.65	
z_1 / z_3		-	3.94 / 7.28			3.94 / 7.28	
R / R_1		1" NPT / BSP 1"	1½" NPT / BSP 1½"			1½" NPT / BSP 1½"	

DA 881/1
1.2.2006

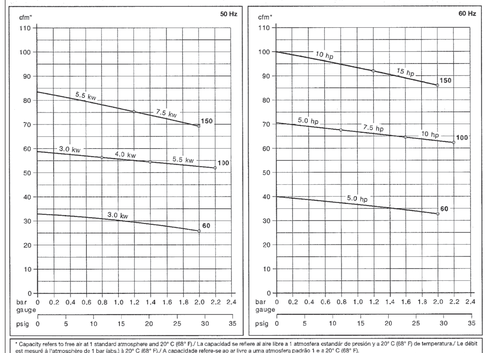
Gardner Denver Hanover Inc.
7222 Parkway Drive
HANOVER, MD 21076
USA
Phone +1 410 / 712 4100
Fax +1 410 / 712 4148
e-mail: sales.hanover@gardnerdenver.com
www.gd-elmorietschle.com

ROTARY CLAW COMPRESSOR

C-DLR		60	100		150
cfm	50 Hz	33.0	58.9		83.6
	60 Hz	40.0	70.6		*100
psig	50 Hz	29.0	11.6	20.3	31.9	17.4	29.0
	60 Hz	29.0	11.6	23.2	31.9	17.4	29.0
3 ~	50 Hz	230/400V ± 10%			400/690V ± 10%	
	60 Hz	208-230/415-460V ± 10%			209-230/460V ± 10%	
kw	50 Hz	3.0	3.0	4.0	5.5	5.5	7.5
hp	60 Hz	5.0	5.0	7.5	10	10	15
A	50 Hz	15/7.5	13.2-12/6.0	21-16.8/9.4	25-24/12	25-24/12	39-37/18.5
	60 Hz			2850			
rpm	50 Hz			3450			
dB(A)	50 Hz	78		79		80	
	60 Hz	79		83		81	
lbs	50 Hz	143	232	243	287	333	333
	60 Hz	143	259	286	307	345	423
qt		0.4		0.55		0.6	
ZRZ		#		40		40	
ZDR		#		40		40	
ZPD		-		-		-	
ZMS / ZAD		#		#		#	

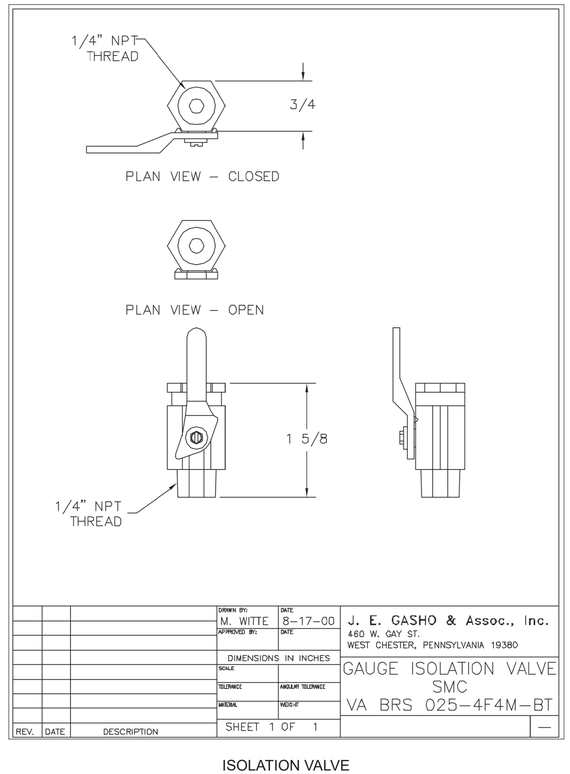
cfm	Capacity	Capacidad	Volume engenoré
psig	Excess pressure	Exceso de presión	Surpression
3 ~	Motor version	Versión motor	Exécution moteur
kw / hp	Motor rating	Datos motor	Puissance moteur
A	Full load amperage	Amperaje de plena carga	Intensité absorbée
rpm	Speed	Velocidad	Vitesse rotation
dB(A)	Average noise level	Nivel de ruido medio	Niveau sonore moyen
lbs	Weight	Peso	Poids
qt	Oil capacity (Gear)	Instrumentos capacidad aceite	Charge d'huile (Engrenage)
ZRZ	Accessories	Accesorios	Accessoires
ZDR	Non return leaf	Válvula retención	Clapet anti-retour
ZPD	Pressure regulating valve	Válvula reguladora de presión	Valve de réglage pression
ZMS	Pulsation silencer	Silenciador de pulsación	Absorbeur de pulsations
ZAD	Motor starter	Arranque motor	Disjoncteur moteur
ZBZ	Soft starter	Soft starter	Démarrage progressif
	Sound box	Caja de sonido	Caisson insonorisant

	Capacidade		
	Pressão excessiva		
	Versão do motor		
	Potência do motor		
	Amperagem da carga total		
	Velocidade		
	Nível médio de ruído		
	Peso		
	Engrenagem da capacidade do óleo		
	Acessórios		
	Válvula sem retorno		
	Válvula de regulagem da pressão		
	Silenciador de pulsação		
	Arranque do motor		
	Soft starter		
	Cunópia		



* Capacity refers to free air at 1 standard atmosphere and 20° C (68° F) / La capacidad se refiere al aire libre a 1 atmosfera estandar de presión y a 20° C (68° F) de temperatura./ Le débit est mesuré à l'atmosphère ds 1 bar (abs.) à 20° C (68° F) / A capacidade refere-se ao ar livre a uma atmosfera padrão 1 e a 20° C (68° F).
Curves and tables refer to compressor at normal operating temperature./ Las curvas y las tablas se refieren al compresor a la temperatura normal de operación./ Les courbes et tableaux sont établies, compresseur à température de fonctionnement./ As curvas e tabelas referem-se ao compressor a temperatura normal de operação.
Technical information is subject to change without notice/ La información técnica está sujeta a cambios sin previo aviso// Sous réserve de modification technique./ A informação técnica está sujeita a mudança sem aviso prévio!
The listed values for q, s/w and full load amperage may vary because of different motor manufacturers./Los valores listados para a, s/w y para el amperaje de carga completa pueden variar para distintos fabricantes de motores./ Les dimensions a et s/w ainsi que l'ampérage peuvent différer des données indiquées ci-dessus, selon le fabricant du moteur./Como variam os fabricantes do motores, poderá haver variação dos valores indicados para a, s/w e para uma amperagem da carga total.
on request # on pedido # sur demande # a pedido

5.08 / edd



REV.	DATE	DESCRIPTION

DRAWN BY: M. WITTE	DATE: 8-17-00
APPROVED BY:	DATE:
DIMENSIONS IN INCHES	
SCALE:	ANGULAR TOLERANCE:
TOLERANCE:	FINISH:
MATERIAL:	MASS: kg
SHEET 1 OF 1	

J. E. GASHO & Assoc., Inc.
460 W. GAY ST.
WEST CHESTER, PENNSYLVANIA 19380

GAUGE ISOLATION VALVE
SMC
VA BRS 025-4F4M-BT

ISOLATION VALVE

REV	DESCRIPTION	DATE	APP

e/e/c/c
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
LICENSED PROFESSIONAL ENGINEER
100006
8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006 — DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

SYSTEM SPECIFICATIONS
(4 of 6)

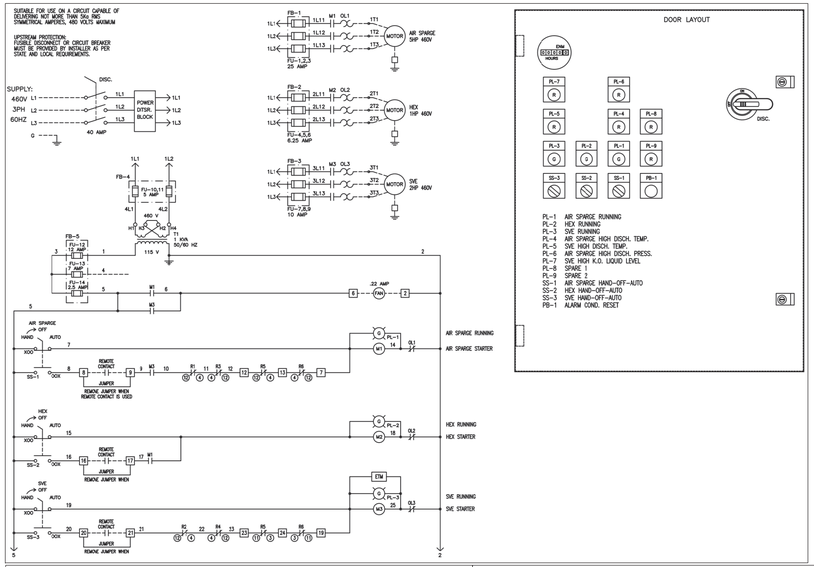
SHEET
13 OF 15

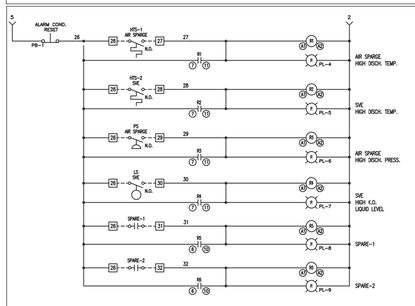
REV 0

Xchanger, Inc.	**Rating for Model AA-250 ref #130914**		**Page 1 of 1**
Engineer: David Wangensteen			January 17, 2017
Prepared for:			
J.E. Gasho & Associates, Inc.			
PERFORMANCE	**PROCESS MEDIA**	**SERVICE MEDIA**	
Fluid Circulated	Air	Ambient Air	
Volumetric Flow Rate	35.0 Std. ft^3/min	1,675.5 Std. ft^3/min	
Total Fluid Entering	157.5 lb/hr	7,540.1 lb/hr	
Liquid			
Vapor			
Non-Condensibles	157.5 lb/hr	7,540.1 lb/hr	
Vaporized or (Cond.)			
Temperature In	270.0 °F	85.0 °F	
Temperature Out	86.0 °F	88.9 °F	
Inlet Pressure (Absolute)	34.696 lb/in^2	14.696 lb/in^2	
Velocity (Standard)	298 ft/min	1,817 ft/min	
Pressure Loss	0.01 lb/in^2	0.04 lb/in^2	
Fouling Factor	0.0001 ft^2-°F-hr/BTU	0.00010 ft^2-°F-hr/BTU	
Total Heat Exchanged: 6,960 BTU/hr			
AVERAGE MEDIA PROPERTIES			
Thermal Conductivity	0.017 BTU/hr-ft-°F	0.015 BTU/hr-ft-°F	
Specific Heat	0.240 BTU/lb-°F	0.240 BTU/lb-°F	
Viscosity	0.051 lb/ft-hr	0.045 lb/ft-hr	
Density (MW)	(29.0)	(29.0)	
Latent Heat of Vapor			
CONSTRUCTION			
Design Temperature	300 °F	Not Applicable	
Design Pressure (Gauge)	21 lb/in^2	Not Applicable	
Test Pressure (Gauge)	21 lb/in^2	Not Applicable	
Flow Direction	Right Hand Horizontal	Vertical Up/Full Through	
Coating	None	None	
Plate-Fin Core : Aluminum		Fan Hood : Galvanized Steel	
Fan Guard : Galvanized Steel		Venturi Frame : Galvanized Steel	
Service Filter : None		Weight : 135 lb	
Thermometers : None		Diff Pres Gauge : No	
Instrument :			
CONNECTIONS			
Process Inlet : 2 inch 150 lb. ANSI pattern FFF, 3/8" thick			
Process Outlet : 2 inch 150 lb. ANSI pattern FFF, 3/8" thick			
MECHANICAL EQUIPMENT			
Fan Diameter : 12 inch		Motor : 1.00 HP TEFC	
Fan Qty/Speed : 1 / 3450 RPM		Motor Qty/Speed : 1 / 3450 RPM	
Fan Type : 4 Blade Mill Galv. St		Motor Electrical: 230/460/3/60	
NOTES			
Approximate unit dimensions (inches): A = 33, B = 32, C = 24, D = 14			
Construction material suitability must be determined by customer.			
The process flow must be uniform, smooth and free of pulsation.			
A motor access panel is included in the fan hood.			

xchanger.com 952-933-2559

AIR TO AIR HEAT EXCHANGER





BILL OF MATERIALS

ITEM	QTY	ITEM LABEL	MFG.	DESCRIPTION	PART NUMBER
1	1	ENCL	RITTAL	30x24x8 NEMA 4 ENCLOSURE	AE1076.500
2	2	ENCL	RITTAL	SCREDRIVER INSERT	SZ2464
3	1	DISC.	ABB	40A 3P NON-FUSED DISC. SWITCH	OT40F3
4	1	DISC.	ABB	NEMA 4 DISCONNECT HANDLE	OHB65L6
5	1	DISC.	ABB	DISCONNECT SHAFT	OXP6X210
6	1	PDB	MERSEN	POWER DISTRIBUTION BLOCK	MPD863133
7	3	FB-1,2,3	MERSEN	3P 30A CLASS CC FUSE BLOCK	30323R
8	3	FU1,2,3	MERSEN	25 AMP CLASS CC FUSE	ATDR25
9	3	FU4,5,6	MERSEN	6.25 AMP CLASS CC FUSE	ATDR6 1/4
10	3	FU7,8,9	MERSEN	10 AMP CLASS CC FUSE	ATDR10
11	1	M1	SIEMENS	12 AMP IEC CONTACTOR	3RT2017-1AK61
12	1	OL1	SIEMENS	OVERLOAD RELAY (7-10 FLA)	3RU2116-1JB0
13	2	M2,M3	SIEMENS	7 AMP IEC CONTACTOR	3RT2015-1AK61
14	2	M1,M3	SIEMENS	1 N.O. AUX. CONTACT	3RH2911-1HA10
15	1	OL2	SIEMENS	OVERLOAD RELAY (1.8-2.5 FLA)	3RU2116-1CB0
16	1	OL3	SIEMENS	OVERLOAD RELAY (2.8-4 FLA)	3RU2116-1EB0
17	3	SS-1,2,3	ABB	3 POS. S.S. SPRG. RET. L TO C (2 N.O.)	M3SS7-30B-20
18	3	PL-1,2,3	ABB	GREEN F.V. PILOT LIGHT - 120V	CL-100G
19	6	PL-4-->9	ABB	RED F.V. PILOT LIGHT - 120V	CL-100R
20	1	PB-1	ABB	BLACK FLUSH P.B. (1 N.C.)	MP1-30B-01
21	1	ETM	ENM	ELAPSED TIME METER	T5CB2-12
22	1	T1	SIEMENS	1 KVA CONTROL TRANSFORMER	MT1000A
23	1	FB-4	MERSEN	2P 30A CLASS CC FUSE BLOCK	30322R
24	2	FU-10,11	MERSEN	5 AMP CLASS CC FUSE	ATDR-5
25	1	FB-5	MERSEN	3P 30A MIDGET BLOCK	30323
26	1	FU-12	MERSEN	12 AMP TIME DELAY FUSE	TRN-12
27	1	FU-13	EDISON	7 AMP TIME DELAY FUSE	MEN-7
28	1	FU-14	EDISON	2.5 AMP TIME DELAY FUSE	MEN-2.5
29	6	R1-->R6	FINDER	4 POLE RELAY - 120V	55.34.8.120.0040
30	6	R1-->R6	FINDER	4 POLE RELAY SOCKET	94.74
31	28	T.B.'S	PHOENIX	TERMINAL BLOCK	3004362
32	1	T.B.'S	PHOENIX	TERMINAL BLOCK END COVER	3003020
33	2	T.B.'S	PHOENIX	DIN RAIL END RETAINER	0800886
34	3	GROUND	BURNDY	14-2 AWG GROUND LUG	DLA2

AS/SVE CONTROL PANEL WIRING DIAGRAM AND BILL OF MATERIALS (AS PROVIDED BY GASHO, INC., THE PANEL MANUFACTURER)

JUMO GmbH & Co. KG
Delivery address: Mackenrodtstraße 14
36039 Fulda, Germany
Postal address: 36035 Fulda, Germany
Phone: +49 661 6003-0
Fax: +49 661 6003-607
E-mail: mail@jumo.net
Internet: www.jumo.net

JUMO Instrument Co. Ltd.
JUMO House
Temple Bank, Riverway
Harlow, Essex CM20 2DY, UK
Phone: +44 1279 635533
Fax: +44 1279 635262
E-mail: sales@jumo.co.uk
Internet: www.jumo.co.uk

JUMO Process Control, Inc.
6733 Myers Road
East Syracuse, NY 13057, USA
Phone: 315-437-5866
1-800-554-5866
Fax: 315-437-5660
E-mail: info.us@jumo.net
Internet: www.jumousa.com

JUMO

Data sheet 608523 Page 1/8

Contact Dial Thermometer

Special features

- Class 1.5
- Display range -40° C to +60° C
- Temperature controller with actual value display as built-in or add-on device in the stainless steel case with a bayonet connection
- Case size ∅: 100 mm
- Protection type IP 65

Brief description

Contact dial thermometers are devices with an actual value display for temperature measurement, control, and monitoring and can be used universally.

The temperature-dependent volume change in a measuring system filled with liquid or the temperature-dependent pressure change in a measuring system filled with gas is converted to a rotational movement of the actual value indicator by a bourdon tube; no transmission gear is required. The microswitch is actuated by the rotational movement of the indicator shaft via a tap system.



Type 608523/2210

Technical data

Basic type extension	0210, 1010, 2010, 2213, 2310
Case	Stainless steel case with bayonet connection (1.4301)
Protection type	IP 65 according to DIN EN 60529
Front pane	Polycarbonate
Scale	White, with black lettering
Display	Class 1.5 similar to DIN EN 13190
Strain relief spring	For capilary devices on the case and the temperature probe
Setpoint value adjustment	By setpoint adjuster in the front pane; with screwdriver, protected by the bolted cover.
Display correction	On the rear, no display correction with design type 20
Limit value temperatures	For transport and storage -23°C to +73°C (for display range 0 to +60°C up to max. 65°C, -40 to +40°C up to max. 50°C; -30 to +50°C up to max. 60°C)
Rated position (NL)	Any

JUMO GmbH & Co. KG
Delivery address: Mackenrodtstraße 14
36039 Fulda, Germany
Postal address: 36035 Fulda, Germany
Phone: +49 661 6003-0
Fax: +49 661 6003-607
E-mail: mail@jumo.net
Internet: www.jumo.net

JUMO Instrument Co. Ltd.
JUMO House
Temple Bank, Riverway
Harlow, Essex CM20 2DY, UK
Phone: +44 1279 635533
Fax: +44 1279 635262
E-mail: sales@jumo.co.uk
Internet: www.jumo.co.uk

JUMO Process Control, Inc.
6733 Myers Road
East Syracuse, NY 13057, USA
Phone: 315-437-5866
1-800-554-5866
Fax: 315-437-5860
E-mail: info.us@jumo.net
Internet: www.jumousa.com

JUMO

Data sheet 608523 Page 2/8

Technical data

Display range (AB)	Display range in °C	Measuring range in °C	Tolerance in °C
469	-40 to +40	-30 to +30	1.5
566	-30 to +50	-20 to +40	1.5
643	-20 to +120	-20 to +100	3.0
807	0 to +60	+10 to +50	1.5
810	0 to +80	+10 to +70	1.5
814	0 to +100	+10 to +90	1.5
818	0 to +120	+20 to +100	3.0
826	0 to +160	+20 to +140	3.0
832	0 to +200	+20 to +180	3.0
834	0 to +250	+30 to +220	4.0
926	+50 to +250	+70 to +230	3.0
840	0 to +300	+30 to +270	6.0
927	+50 to +300	+80 to +270	4.0
843	0 to +350	+50 to +300	6.0
932	+50 to +350	+80 to +320	6.0
848	0 to +400	+50 to +350	6.0
851	0 to +450	+50 to +400	6.0
854	0 to +500	+50 to +450	8.0
858	0 to +600	+100 to +500	10.0

	Liquid filling	Gas filling
Measuring system	Display range (AB) ≥ 350°C	Display range (AB) ≥ 400°C
Time constant $t_{0.632}$	Approx. 12 s, measured in water, with a probe Ø of 6 mm made of Cu.	Approx. 4 s, measured in oil, with a probe Ø of 10 mm made of stainless steel.
Ambient temperature influence effect	In % of the display range (referring to the deviation from the reference value +23°C)	
On case	0.15% of the display range per K ambient temperature change	0.05% of the display range per K ambient temperature change
On capillary (per m)	0.03% of the display range per K ambient temperature change	No influence
	At higher ambient temperature – higher temperature display – lower switching point	

	Standard	Extra code (TZ) 650
Electrical contact	Single-pole microswitch with mechanically actuated changeover contact	
Contact type		
Switching capacity	AC 230V, +10/-15%, 48 to 63Hz, cos φ = 1 (0.6)	
	5 (1.5) A	10 (3) A
Switching differential	Approx. 1.5% of the display range	1.5 to 3% of the display range
Switching point accuracy	± 0.5% of the display range referring to the switch-off point with rising temperature	
Switching reliability	To ensure a high switching reliability, we recommend a minimum voltage of 24 V and a minimum current of 100 mA	
Electrical connection	Junction box: conductor cross-section up to 2.5 mm², suitable for cable Ø from 6.5 to 13 mm	

DISCHARGE TEMPERATURE INDICATOR SWITCH

REV	DATE	DESCRIPTION	APP

eecc
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
100006
LICENSED PROFESSIONAL ENGINEER
8/31/21

CERTIFIED BY: NICHOLAS KRASNECKY, NYSPE No. 100006
DATE: 8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO: BRIDGE CLEANERS

SYSTEM SPECIFICATIONS
(5 of 6)

SHEET
14 OF 15

REV 0

Standard Operating Procedure
Installation and Extraction of the Vapor Pin®

Updated March 16, 2018

Scope:

This standard operating procedure describes the installation and extraction of the VAPOR PIN® for use in sub-slab soil-gas sampling.

Purpose:

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the VAPOR PIN® for the collection of sub-slab soil-gas samples or pressure readings.

Equipment Needed:

- Assembled VAPOR PIN® [VAPOR PIN® and silicone sleeve(Figure 1)]; Because of sharp edges, gloves are recommended for sleeve installation;
- Hammer drill;
- 5/8-inch (16mm) diameter hammer bit (hole must be 5/8-inch (16mm) diameter to ensure seal. It is recommended that you use the drill guide). (Hilti™ TE-YX 5/8" x 22" (400 mm) #00206514 or equivalent);
- 1½-inch (38mm) diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent) for flush mount applications;
- ¾-inch (19mm) diameter bottle brush;
- Wet/Dry vacuum with HEPA filter (optional);
- VAPOR PIN® installation/extraction tool;
- Dead blow hammer;
- VAPOR PIN® flush mount cover, if desired;
- VAPOR PIN® drilling guide, if desired;
- VAPOR PIN® protective cap; and
- VOC-free hole patching material (hydraulic cement) and putty knife or trowel for repairing the hole following the extraction of the VAPOR PIN®.



Figure 1. Assembled VAPOR PIN®

Installation Procedure:

1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.

2) Set up wet/dry vacuum to collect drill cuttings.

3) If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. Use of a VAPOR PIN® drilling guide is recommended.

4) Drill a 5/8-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. Hole must be 5/8-inch (16mm) in diameter to ensure seal. It is recommended that you use the drill guide.

VAPOR PIN® protected under US Patent #8,220,347 B2, US 8,291,531 B2 and other patents pending

5) Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.

6) Place the lower end of VAPOR PIN® assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the vapor pin to protect the barb fitting, and tap the vapor pin into place using a dead blow hammer (Figure 2). Make sure the installation/extraction tool is aligned parallel to the vapor pin to avoid damaging the barb fitting.



Figure 2. Installing the VAPOR PIN®

During installation, the silicone sleeve will form a slight bulge between the slab and the VAPOR PIN® shoulder. Place the protective cap on VAPOR PIN® to prevent vapor loss prior to sampling (Figure 3).



Figure 3. Installed VAPOR PIN®

7) For flush mount installations, cover the vapor pin with a flush mount cover, using either the plastic cover or the optional stainless-steel Secure Cover (Figure 4).



Figure 4. Secure Cover Installed

8) Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.

9) Remove protective cap and connect sample tubing to the barb fitting of the VAPOR PIN®. This connection can be made using a short piece of Tygon™ tubing to join the VAPOR PIN® with the

VAPOR PIN® protected under US Patent #8,220,347 B2, US 8,291,531 B2 and other patents pending

Nylaflow tubing (Figure 5). Put the Nylaflow tubing as close to the VAPOR PIN® as possible to minimize contact between soil gas and Tygon™ tubing.

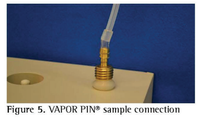


Figure 5. VAPOR PIN® sample connection

10) Conduct leak tests in accordance with applicable guidance. If the method of leak testing is not specified, an alternative can be the use of a water dam and vacuum pump, as described in SOP Leak Testing the VAPOR PIN® via Mechanical Means (Figure 6). For flush-mount installations, distilled water can be poured directly into the 1 1/2 inch (38mm) hole.



Figure 6. Water dam used for leak detection

11) Collect sub-slab soil gas sample or pressure reading. When finished, replace the protective cap and flush mount cover until the next event. If the sampling is complete, extract the VAPOR PIN®.

Extraction Procedure:

1) Remove the protective cap, and thread the installation/extraction tool onto the barrel of the VAPOR PIN® (Figure 7). Turn the tool clockwise continuously, don't stop turning, the VAPOR PIN® will feed into the bottom of the installation/extraction tool and will extract from the hole like a wine cork, DO NOT PULL.

2) Fill the void with hydraulic cement and smooth with a trowel or putty knife.



Figure 7. Removing the VAPOR PIN®

- Prior to reuse, remove the silicone sleeve and protective cap and discard. Decontaminate the VAPOR PIN® in a hot water and Alconox® wash, then heat in an oven to a temperature of 265° F (130° C) for 15 to 30 minutes. For both steps, STAINLESS – ½ hour, BRASS 8 minutes

VAPOR PIN® protected under US Patent #8,220,347 B2, US 8,291,531 B2 and other patents pending

3) Replacement parts and supplies are available online.

VAPORPIN INSTALLATION PROCEDURE FOR VM-7R

Standard Operating Procedure
Leak Testing VAPOR PIN® Via Mechanical Means

Updated March 29, 2016

Scope:

The operating procedure describes the methodology to test a VAPOR PIN® or equivalent sub-slab sampling device and sample train for leakage of indoor air. Mechanical leak testing is generally simpler and less costly than testing with tracer gases such as helium, but relevant state, program, or other guidance documents should be consulted to determine if a specific type of leak test is needed.

Purpose:

The purpose of this procedure is to ensure that indoor air does not leak past the VAPOR PIN® or associated tubing and hardware, and dilute the sub-slab soil gas sample with indoor air.

Equipment Needed:

- VAPOR PIN®;
- 3 stopcocks
- 2 Tee fittings
- Vacuum pump or peristaltic pump
- Photo-Ionization Detector (PID) or other pump for purging soil gas
- Sample container
- Vacuum gauge
- 0.25-inch Outer Diameter sample tubing (Nylaflow LM shown)
- Tubing or fittings to connect sample tubing to equipment (Tygon™ R-3803 tubing shown)
- Distilled Water

For stick-up configuration only:

- Play-Doh or VOC-free modeling clay
- 2-inch diameter plastic pipe couple;

Procedure:

1) Drill a 5/8" diameter hole in the concrete slab and install the VAPOR PIN® as per the Standard Operating Procedure (SOP). For a flush-mount installation, drill the 1-1/2" diameter hole first, and follow the SOP Use of the VAPOR PIN® Drilling Guide and Secure Cover. Testing evacuated ("Summa") canisters and regulators in accordance with ASTM standard D7663-11 or Restek Corporation's A Guide to Whole Air Canister Sampling prior to starting field work eliminates most risk of leakage when sampling with the VAPOR PIN®. Leave the canister closed until leak testing is completed.

2) Install the VAPOR PIN® as described in the SOP Installation and Extraction of the VAPOR PIN®.

3) Clean the slab within a 2-inch radius of the VAPOR PIN® to remove all dust. Avoid wetting the concrete or wait until the concrete is dry before proceeding, and avoid cleaning with VOC-containing substances. A whisk broom or shop vacuum is recommended. Remaining dust can be picked up with a scrap of clay.

VAPOR PIN® protected under US Patent #8,220,347 B2

4) For a flush-mount installation, water is poured directly into the 1-1/2" depression without the PVC couple or modeling clay-proceed to the next step. For a stick-up installation, roll a 1-inch diameter ball of clay between your palms to form a "snake" approximately 7 inches long and press it against the end of the 2" pipe couple. Push the couple against the slab to form a seal between the pipe and the concrete. Notice that water soluble clays such as Play-Doh may absorb enough water to be unsuitable for tests lasting more than one hour.

5) Assemble the sample train as shown in Figure 1. Notice that the figure shows Photo-Ionization Detector (PID) at the end of the sample train, which should be replaced with the hand-held vacuum pump next to it, or a peristaltic pump, during shut-in testing. The shut-in test is conducted by closing stopcock 1, opening stopcocks 2 and 3, and imposing a vacuum of 15" mercury equivalent (in Hg) with the vacuum pump or peristaltic pump. Close stopcock 3, and observe the vacuum gauge for one to five minutes to verify that pressure in the sample train increases no more than 0.5 in Hg. Tighten or replace leaking components, if needed. The compression fitting connecting sample tubing to the sample canister is a common leak point.

6) Attach the peristaltic pump or PID and pour enough distilled water into the pipe couple or flush-mount depression to immerse the tubing connection to the VAPOR PIN®.

7) Open all stopcocks and purge and sample the sample point as required by the data quality objectives. Water level might drop slightly due to absorption into the concrete, but if there is a sudden drop in water level, the appearance of water in sample tubing, or other indication of water entering the sub-slab, remove the distilled water from the couple or depression, and reposition the VAPOR PIN® to stop the leakage before resuming the leak test and sampling.

8) If long-term sampling is conducted (e.g. 8-hour or 24-hour), the vacuum gauge, stopcock 3, PID and pumps can be removed immediately after closing stopcock 2, for use at subsequent sample locations.

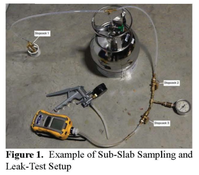


Figure 1. Example of Sub-Slab Sampling and Leak-Test Setup

Vapor Pin® protected under US Patent # 8,220,347 B2

VAPORPIN MECHANICAL LEAK TEST PROCEDURE FOR VM-7R

REV	DATE	DESCRIPTION	APP

e/e/c/c
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

STATE OF NEW YORK
NICHOLAS KRASNECKY
100006
LICENSED PROFESSIONAL ENGINEER
8/31/21

CERTIFIED BY	DATE
NICHOLAS KRASNECKY, NYSPE No. 100006	8/31/2021

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN: AN	DATE: 8-19-2021
DES: NK	DATE: 8-19-2021
CHK: NK	DATE: 8-19-2021
SCALE: NOT TO SCALE	PROJECT NO.: BRIDGE CLEANERS

SYSTEM SPECIFICATIONS
(6 of 6)

SHEET
15 OF 15

REV 0

Appendix E
Disposal Manifest

MXI Maumee Express, Inc.

MANIFEST

297 Zimmerman Lane
Langhorne, PA 19047
Phone: (267) 590-0043
Fax: (267) 590-0050

26319 Old Trail Road
Abingdon, VA 24210
Phone: (276) 628-1156
Fax: (276) 628-4435

14750 Boyle Ave.
Fontana, CA 92337
Phone: (909) 350-9090
Fax: (909) 350-9287

Transporter EPA ID#:
NJD986607380

No BRIDGE92220-1

GENERATOR NAME / MAILING ADDRESS	TELEPHONE NUMBER:	GENERATOR EPA ID NO:
BRIDGE CLEANERS 39-26 30TH ST LONG ISLAND NY 11101 GENERATOR SITE ADDRESS (IF DIFFERENT)	908-391-6646	NOT REQUIRED
	TRACTOR 511 TRAILER TDA	APPOINTMENT TIME: :
DRIVER PRINT NAME: Terrence Wells / SIGNATURE	BOX SPOTTED	BOX REMOVED
		TIME AT GENERATOR (MILITARY TIME ONLY) : ARRIVAL TIME : DEPARTURE TIME
COMMENTS OR DELAYS AT GENERATOR / EQUIPMENT & MATERIALS USED		**STATE MANIFEST NO.:**

(X) HM	UN/NA/No.	PROPER U.S. D.O.T. SHIPPING NAME	U.S. D.O.T. HAZ. CLASS	PACKING GROUP	NO. CONT.	CONT. TYPE	NET QUANTITY	UNIT MEASURE	APPROVAL NUMBER
	NONE	NON DOT NON RCRA REGUALTED MATERIAL (SOIL CUTTINGS)	N/A	N/A	1x4	DM	5,200	P	
	NONE	NON DOT NON RCRA REGUALTED MATERIAL (SOIL/ CONCRETE)	N/A	N/A	1x1	DM	5,900	P	

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION

24 HOUR EMERGENCY TELEPHONE NUMBER
800-424-9300 CCN701926

GENERATOR'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The wastes described above were consigned to the Transporter named. The Treatment, Storage or Disposal Facility can and will accept the shipment of waste, and has a valid permit to do so. I certify that the forgoing is true and correct to the best of my knowledge.

Payment to the contractor/broker for waste removal does not constitute payment to the carrier and if the contractor/broker does not pay the carrier, the generator is obligated to pay the agreed rate offered to the contractor/broker.

GENERATOR'S NAME (PRINT)	GENERATOR'S SIGNATURE	DATE LOADED
AL Nesthaum	X _____ I HAVE READ THE ABOVE AND UNDERSTAND AND AGREE TO ALL OF ITS CONTENT	9 / 22 / 2020 MO. DAY YR.

TSDF NAME / ADDRESS	TELEPHONE NUMBER	TSDF EPA ID NO.:
MXI Environmental Services **26319 Old Trail Road** **Abingdon, VA 24210**	**(276) 628-1156**	VAR000503920
	TRACTOR TRAILER	APPOINTMENT TIME: :
DRIVER UNLOADING PRINT NAME / SIGNATURE	BOX SPOTTED	BOX REMOVED
		TIME AT TSDF (MILITARY TIME ONLY) : ARRIVAL TIME : DEPARTURE TIME
COMMENTS OR DELAYS AT TSDF		EQUIPMENT USED

TSDF PRINT NAME / TITLE	TSDF SIGNATURE	DATE UNLOADED
	X _____	___ / ___ / ___ MO. DAY YR.

ADDITIONAL INFORMATION:

White: MXI Original **Canary: Retained by** Transporter **Pink: Retained by** Generator

Appendix F
CAMP Reports

Community Air Monitoring Report – Week 1
Bridge Cleaners
39-26 30th Street, Long Island City, Queens County,
New York

Tuesday, August 25, 2020 – Friday, August 28, 2020

PREPARED BY	N. Krasnecky

General Notes:

REFER TO FIGURE 1 FOR AIR MONITORING STATION LOCATIONS

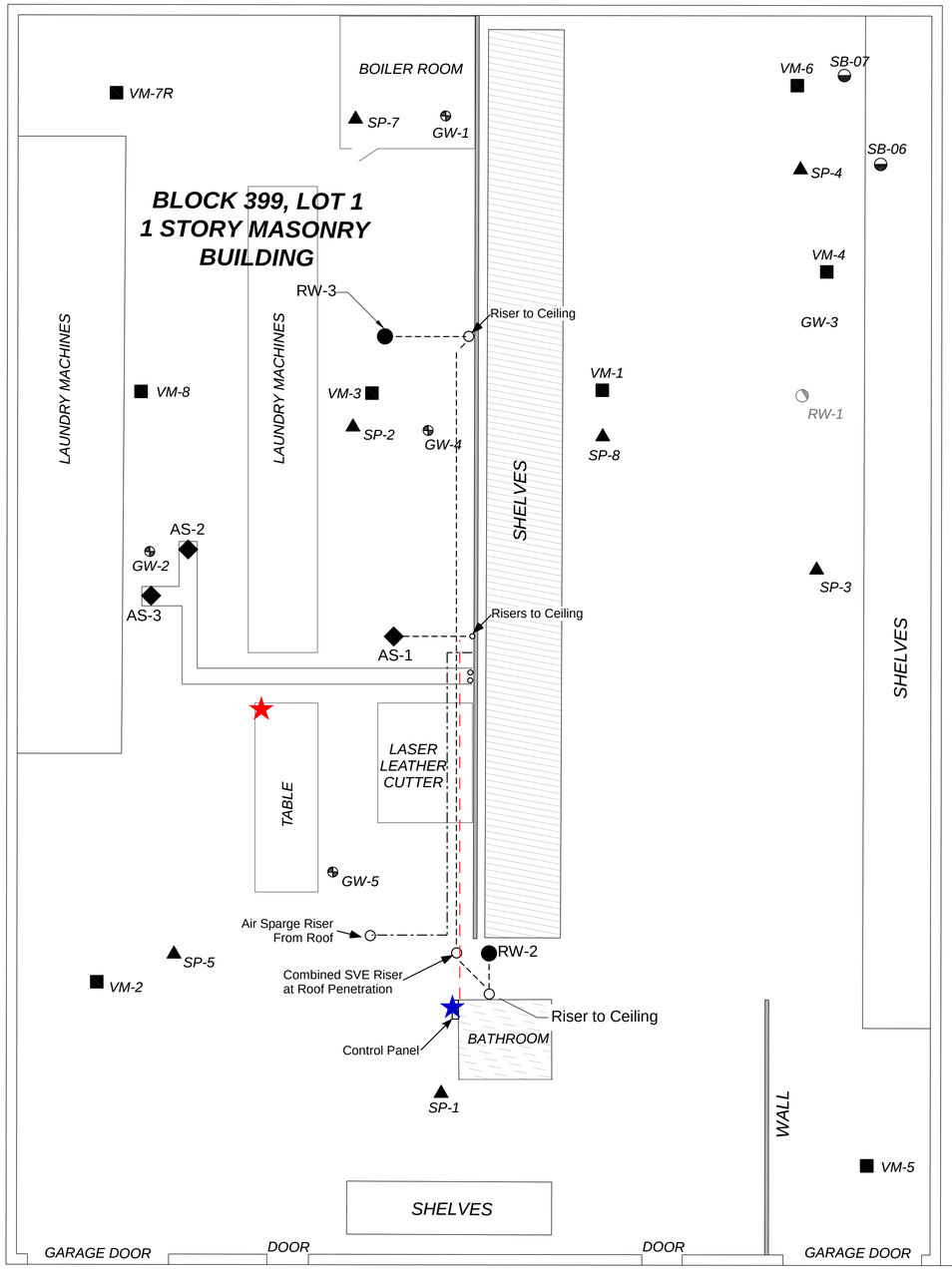
Air Monitoring Station #1	Within Work Area Exclusion Zone

- Set-up onsite to gather site data for VOCs and particulates during general site activities, air sparge well installation, and concrete trenching within the work-zone for comparison to the "downwind" data.
- Collected data was utilized as a comparison and precursor for dust/VOC suppression techniques as opposed to sole reliance on the "downwind", building occupant protection, air monitoring.
    - There were several exceedances of dust above the 150 µg/m^3 limit between the background and work area Personal Data RAM (pDR) readings on each day.
    - On Tuesday 8/25, saw cutting activities and augering for well installation caused work area concentrations to be above the limit.
    - The exceedances on Wednesday 8/26 were a result of grout mixing for the well installation and were not caused by ground-intrusive activities.
    - The morning of Thursday 8/27, dust concentration exceedances were a result of augering, installing the well screen filter pack, and mixing grout to set the well. In the afternoon, trench saw-cutting activities commenced, and work area dust concentrations were elevated above background conditions. Excess water was added to the saw-cutting area to suppress dust migration to the "downwind" location.
    - Exceedances were detected on Friday 8/28 while breaking up the concrete with a jack hammer, and while sweeping to clean debris off the floor. On Friday 8/28, employees of the washing facility were on-site and many of the washing and drying machines were in operation. See Table 1 for data and notes on work performed during periods of dust concentration exceedances.

Air Monitoring Station #2	"Downwind" of Exclusion Zone – Between Work Area and Building Occupants

- Set-up onsite to gather site data for particulates during general site activities, air sparge well installation, and concrete trenching.
    - PDR-1000 malfunctioned and did not log data on Tuesday, 8/25. Periodic manual collection of particulate readings was conducted throughout the day and that data is provided.

- Several exceedances were reported on Wednesday, 8/26 and Thursday, 8/27 above the 150 µg/m^3 limit between background and downwind pDR readings. The exceedances occurred beginning at 15:35 and end at 16:05 on 8/26, and between 11:10 and 11:34 on 8/27. Exceedances occurred due to grout mixing for the well installation and were not caused by intrusive activities. Dust control measures were performed, therefore work continued.
- On Thursday, 8/27 exceedances were detected at 150 µg/m^3 above the background level while saw-cutting the trench. Exceedances were detected on Friday 8/28 while breaking up the concrete with a jack hammer, and while sweeping to clean debris off the floor. Dust suppression measures, which included adjusting fan locations and adding water to the work area, were continuously employed until dust concentrations decreased to below the threshold. When dust suppression measures were insufficient in reducing the concentration below the threshold, work ceased until allowable working conditions were met.
- On Friday 8/28, employees of the washing facility were on-site and many of the washing and drying machines were in operation. Dust concentrations were elevated due to the additional traffic near the “downwind” pDR location.
- Collected data was monitored against background data, work-area monitoring data, and limits set forth in the CAMP.



0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

PVC PIPE

STEEL PIPE

AIR SPARGE WELL

VAPOR EXTRACTION WELL

GROUNDWATER MONITORING WELL/SOIL BORING

SOIL BORING

VACUUM MONITORING POINT

SOIL VAPOR POINT

ABANDONED

TRENCHING

PROPOSED ELECTRIC TO RUN ALONG STRUTS ON CEILING

RISER LOCATION

CAMP MONITORING - WORK AREA

CAMP MONITORING - DOWNWIND

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY ECC HORIZON (SEPTEMBER 2020)

REV	DATE	DESCRIPTION	APP

CERTIFIED BY DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN AN	DATE 9-9-2020
DES NK	DATE 9-9-2020
CHK AAN	DATE 9-9-2020
SCALE AS NOTED	PROJECT NO BRIDGE CLEANERS

FIRST FLOOR PLAN VIEW
CAMP MONITORING
LOCATIONS

FIGURE

REV **1**

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	08:19	--	--	30	
25-Aug	08:20	--	--	--	
25-Aug	08:21	--	--	--	
25-Aug	08:22	--	--	--	
25-Aug	08:23	--	--	--	
25-Aug	08:24	--	--	--	
25-Aug	08:25	--	--	--	
25-Aug	08:26	--	--	--	
25-Aug	08:27	--	--	--	
25-Aug	08:28	--	--	--	
25-Aug	08:29	--	--	--	
25-Aug	08:30	--	--	--	
25-Aug	08:31	--	--	--	
25-Aug	08:32	--	--	--	
25-Aug	08:33	--	1083.00	--	Begin saw-cutting with gas-powered concrete saw
25-Aug	08:34	--	1238.73	--	
25-Aug	08:35	--	1402.47	--	
25-Aug	08:36	--	1542.27	--	
25-Aug	08:37	---	1655.67	--	
25-Aug	08:38	---	1706.47	--	
25-Aug	08:39	---	1721.27	--	
25-Aug	08:40	---	1726.07	--	
25-Aug	08:41	---	1727.53	--	
25-Aug	08:42	---	1725.13	--	
25-Aug	08:43	---	1538.47	--	
25-Aug	08:44	---	1100.93	--	
25-Aug	08:45	---	990.60	--	
25-Aug	08:46	---	967.53	--	
25-Aug	08:47	---	835.80	--	
25-Aug	08:48	---	667.20	--	
25-Aug	08:49	---	511.80	--	
25-Aug	08:50	---	348.13	--	
25-Aug	08:51	1.4	208.53	--	
25-Aug	08:52	1.4	95.53	--	
25-Aug	08:53	1.0	45.13	--	
25-Aug	08:54	0.5	30.27	--	
25-Aug	08:55	0.2	25.60	--	
25-Aug	08:56	0.0	23.47	--	
25-Aug	08:57	0.0	22.60	--	
25-Aug	08:58	0.0	21.60	--	
25-Aug	08:59	0.0	20.27	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	09:00	0.0	18.93	--	
25-Aug	09:01	0.0	18.53	--	
25-Aug	09:02	0.0	18.20	--	
25-Aug	09:03	0.0	18.00	--	
25-Aug	09:04	0.0	18.07	--	
25-Aug	09:05	0.0	18.20	--	
25-Aug	09:06	0.0	17.80	--	
25-Aug	09:07	0.0	17.40	--	
25-Aug	09:08	0.0	17.13	--	
25-Aug	09:09	0.0	16.87	--	
25-Aug	09:10	0.0	16.67	--	
25-Aug	09:11	0.0	16.40	--	
25-Aug	09:12	0.0	16.00	--	
25-Aug	09:13	0.0	16.07	--	
25-Aug	09:14	0.0	16.00	--	
25-Aug	09:15	0.0	16.20	6	
25-Aug	09:16	0.0	16.40	--	
25-Aug	09:17	0.0	16.40	--	
25-Aug	09:18	0.0	17.07	--	
25-Aug	09:19	0.0	17.20	--	
25-Aug	09:20	0.0	17.13	--	
25-Aug	09:21	0.0	17.27	--	
25-Aug	09:22	0.0	17.27	--	
25-Aug	09:23	0.0	17.33	--	
25-Aug	09:24	0.0	17.53	--	
25-Aug	09:25	0.0	17.60	--	
25-Aug	09:26	0.0	17.73	--	
25-Aug	09:27	0.0	17.80	--	
25-Aug	09:28	0.0	17.67	--	
25-Aug	09:29	0.0	17.67	--	
25-Aug	09:30	0.0	17.60	--	
25-Aug	09:31	0.0	17.13	--	
25-Aug	09:32	0.0	17.07	--	
25-Aug	09:33	0.0	17.20	--	
25-Aug	09:34	0.0	16.87	--	
25-Aug	09:35	0.0	16.53	--	
25-Aug	09:36	0.0	17.60	--	
25-Aug	09:37	0.0	18.80	--	
25-Aug	09:38	0.0	19.93	--	
25-Aug	09:39	0.0	20.40	--	
25-Aug	09:40	0.0	20.80	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	09:41	0.0	21.00	--	
25-Aug	09:42	0.0	21.40	--	
25-Aug	09:43	0.0	22.13	--	
25-Aug	09:44	0.0	22.80	--	
25-Aug	09:45	0.0	23.20	--	
25-Aug	09:46	0.0	23.87	--	
25-Aug	09:47	0.0	24.20	--	
25-Aug	09:48	0.0	23.80	--	
25-Aug	09:49	0.0	23.87	--	
25-Aug	09:50	0.0	24.73	--	
25-Aug	09:51	0.0	23.87	--	
25-Aug	09:52	0.0	22.87	--	
25-Aug	09:53	0.0	21.73	--	
25-Aug	09:54	0.0	21.47	--	
25-Aug	09:55	0.0	21.33	--	
25-Aug	09:56	0.0	21.33	--	
25-Aug	09:57	0.0	21.20	--	
25-Aug	09:58	0.0	20.87	--	
25-Aug	09:59	0.0	36.67	--	
25-Aug	10:00	0.0	67.40	--	
25-Aug	10:01	0.0	87.27	--	
25-Aug	10:02	0.0	97.87	--	
25-Aug	10:03	0.0	105.87	--	
25-Aug	10:04	0.0	124.87	--	
25-Aug	10:05	0.0	139.13	--	
25-Aug	10:06	0.0	148.07	--	
25-Aug	10:07	0.0	152.27	--	
25-Aug	10:08	0.0	160.33	--	
25-Aug	10:09	0.0	168.87	--	Begin saw-cutting with electric-powered concrete saw
25-Aug	10:10	0.0	176.53	--	
25-Aug	10:11	0.0	181.67	--	
25-Aug	10:12	0.0	189.73	--	
25-Aug	10:13	0.0	196.67	--	
25-Aug	10:14	0.0	185.20	--	
25-Aug	10:15	0.0	159.47	6	
25-Aug	10:16	0.0	141.73	--	
25-Aug	10:17	0.0	132.33	--	
25-Aug	10:18	0.0	124.67	--	
25-Aug	10:19	0.0	106.33	--	
25-Aug	10:20	0.0	92.20	--	
25-Aug	10:21	0.0	83.47	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	10:22	0.0	79.40	--	
25-Aug	10:23	0.0	72.53	--	
25-Aug	10:24	0.0	65.87	--	
25-Aug	10:25	0.0	58.80	--	
25-Aug	10:26	0.0	54.60	--	
25-Aug	10:27	0.0	50.07	--	
25-Aug	10:28	0.0	45.93	--	
25-Aug	10:29	0.0	42.60	--	
25-Aug	10:30	0.0	39.47	--	
25-Aug	10:31	0.0	47.40	--	
25-Aug	10:32	0.0	58.00	--	
25-Aug	10:33	0.0	61.20	--	
25-Aug	10:34	0.0	63.93	--	
25-Aug	10:35	0.0	67.53	--	
25-Aug	10:36	0.0	69.33	--	
25-Aug	10:37	0.0	74.33	--	
25-Aug	10:38	0.0	107.87	--	
25-Aug	10:39	0.0	113.73	--	
25-Aug	10:40	0.0	115.87	--	
25-Aug	10:41	0.0	116.07	--	
25-Aug	10:42	0.0	133.53	--	
25-Aug	10:43	0.0	132.87	--	
25-Aug	10:44	0.0	133.27	--	
25-Aug	10:45	0.0	139.93	--	
25-Aug	10:46	0.0	133.40	--	
25-Aug	10:47	0.0	142.73	--	
25-Aug	10:48	0.0	147.60	--	
25-Aug	10:49	0.0	146.27	--	
25-Aug	10:50	0.0	142.80	--	
25-Aug	10:51	0.0	141.33	--	
25-Aug	10:52	0.0	136.80	--	
25-Aug	10:53	0.0	102.80	--	
25-Aug	10:54	0.0	95.67	--	
25-Aug	10:55	0.0	95.67	--	
25-Aug	10:56	0.0	95.00	--	
25-Aug	10:57	0.0	77.73	--	
25-Aug	10:58	0.0	78.47	--	
25-Aug	10:59	0.0	79.27	--	
25-Aug	11:00	0.0	75.47	--	
25-Aug	11:01	0.0	77.93	--	
25-Aug	11:02	0.0	61.13	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	11:03	0.0	61.93	--	
25-Aug	11:04	0.0	65.07	--	
25-Aug	11:05	0.0	68.53	--	
25-Aug	11:06	0.0	71.13	--	
25-Aug	11:07	0.0	78.27	--	
25-Aug	11:08	0.0	84.40	--	
25-Aug	11:09	0.0	92.67	--	
25-Aug	11:10	0.0	95.00	--	
25-Aug	11:11	0.0	99.00	--	
25-Aug	11:12	0.0	96.87	--	
25-Aug	11:13	0.0	95.40	--	
25-Aug	11:14	0.0	94.73	--	
25-Aug	11:15	0.0	90.33	23	
25-Aug	11:16	0.0	84.80	--	
25-Aug	11:17	0.0	80.87	--	
25-Aug	11:18	0.0	72.93	--	
25-Aug	11:19	0.0	68.33	--	
25-Aug	11:20	0.0	64.73	--	
25-Aug	11:21	0.0	62.13	--	
25-Aug	11:22	0.0	56.53	--	
25-Aug	11:23	0.0	51.27	--	
25-Aug	11:24	0.0	53.20	--	
25-Aug	11:25	0.0	52.93	--	
25-Aug	11:26	0.0	56.93	--	
25-Aug	11:27	0.0	70.93	--	
25-Aug	11:28	0.0	73.93	--	
25-Aug	11:29	0.0	74.60	--	
25-Aug	11:30	0.0	78.93	--	
25-Aug	11:31	0.0	79.60	--	
25-Aug	11:32	0.0	82.93	--	
25-Aug	11:33	0.0	85.33	--	
25-Aug	11:34	0.0	86.67	--	
25-Aug	11:35	0.0	87.27	--	
25-Aug	11:36	0.0	87.53	--	
25-Aug	11:37	0.0	86.13	--	
25-Aug	11:38	0.0	86.20	--	
25-Aug	11:39	0.0	77.07	--	
25-Aug	11:40	0.0	73.07	--	
25-Aug	11:41	0.0	65.07	--	
25-Aug	11:42	0.0	49.73	--	
25-Aug	11:43	0.0	46.07	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	11:44	0.0	43.93	--	
25-Aug	11:45	0.0	39.53	--	
25-Aug	11:46	0.0	38.47	--	
25-Aug	11:47	0.0	35.67	--	
25-Aug	11:48	0.0	33.47	--	
25-Aug	11:49	0.0	32.00	--	
25-Aug	11:50	0.0	31.67	--	
25-Aug	11:51	0.0	31.40	--	
25-Aug	11:52	0.0	31.67	--	
25-Aug	11:53	0.0	30.53	--	
25-Aug	11:54	0.0	29.47	--	
25-Aug	11:55	0.0	29.73	--	
25-Aug	11:56	0.0	29.80	--	
25-Aug	11:57	0.0	29.87	--	
25-Aug	11:58	0.0	29.40	--	
25-Aug	11:59	0.0	29.27	--	
25-Aug	12:00	0.0	29.20	--	
25-Aug	12:01	0.0	29.20	--	
25-Aug	12:02	0.0	28.47	--	
25-Aug	12:03	0.0	27.40	--	
25-Aug	12:04	0.0	27.53	--	
25-Aug	12:05	0.0	27.00	--	
25-Aug	12:06	0.0	26.87	--	
25-Aug	12:07	0.0	26.13	--	
25-Aug	12:08	0.0	26.33	--	
25-Aug	12:09	0.0	27.33	--	
25-Aug	12:10	0.0	27.27	--	
25-Aug	12:11	0.0	27.47	--	
25-Aug	12:12	0.0	27.53	--	
25-Aug	12:13	0.0	27.53	--	
25-Aug	12:14	0.0	27.67	--	
25-Aug	12:15	0.0	28.00	24	
25-Aug	12:16	0.0	27.93	--	
25-Aug	12:17	0.0	28.07	--	
25-Aug	12:18	0.0	28.40	--	
25-Aug	12:19	0.0	28.47	--	
25-Aug	12:20	0.0	28.53	--	
25-Aug	12:21	0.0	28.40	--	
25-Aug	12:22	0.0	28.47	--	
25-Aug	12:23	0.0	28.67	--	
25-Aug	12:24	0.0	28.80	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	12:25	0.0	28.53	--	
25-Aug	12:26	0.0	28.47	--	
25-Aug	12:27	0.0	28.87	--	
25-Aug	12:28	0.0	29.67	--	
25-Aug	12:29	0.0	30.20	--	
25-Aug	12:30	0.0	30.53	--	
25-Aug	12:31	0.0	30.73	--	
25-Aug	12:32	0.0	31.20	--	
25-Aug	12:33	0.0	31.53	--	
25-Aug	12:34	0.0	31.33	--	
25-Aug	12:35	0.0	31.73	--	
25-Aug	12:36	0.0	32.60	--	
25-Aug	12:37	0.0	34.20	--	
25-Aug	12:38	0.0	35.27	--	
25-Aug	12:39	0.0	34.27	--	
25-Aug	12:40	0.0	34.33	--	
25-Aug	12:41	0.0	34.27	--	
25-Aug	12:42	0.0	35.07	--	
25-Aug	12:43	0.0	37.07	--	
25-Aug	12:44	0.0	37.33	--	
25-Aug	12:45	0.0	39.20	--	
25-Aug	12:46	0.0	44.67	--	
25-Aug	12:47	0.0	47.53	--	
25-Aug	12:48	0.0	48.93	--	
25-Aug	12:49	0.0	49.93	--	
25-Aug	12:50	0.0	50.60	--	
25-Aug	12:51	0.0	52.47	--	
25-Aug	12:52	0.0	52.47	--	
25-Aug	12:53	0.0	52.73	--	
25-Aug	12:54	0.0	53.73	--	
25-Aug	12:55	0.0	54.93	--	
25-Aug	12:56	0.0	56.20	--	
25-Aug	12:57	0.0	56.33	--	
25-Aug	12:58	0.0	55.47	--	
25-Aug	12:59	0.0	55.87	--	
25-Aug	13:00	0.0	54.80	--	
25-Aug	13:01	0.0	51.67	--	
25-Aug	13:02	0.0	56.60	--	
25-Aug	13:03	0.0	61.47	--	
25-Aug	13:04	0.0	67.73	--	
25-Aug	13:05	0.0	68.67	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	13:06	0.0	71.40	--	
25-Aug	13:07	0.0	74.87	--	
25-Aug	13:08	0.0	77.27	--	
25-Aug	13:09	0.0	79.40	--	
25-Aug	13:10	0.0	80.40	--	
25-Aug	13:11	0.0	83.80	--	
25-Aug	13:12	0.0	84.33	--	
25-Aug	13:13	0.0	85.13	--	
25-Aug	13:14	0.0	85.33	--	
25-Aug	13:15	0.0	84.93	20	
25-Aug	13:16	0.0	84.07	--	
25-Aug	13:17	0.0	77.33	--	
25-Aug	13:18	0.0	71.07	--	
25-Aug	13:19	0.0	65.40	--	
25-Aug	13:20	0.0	64.07	--	
25-Aug	13:21	0.0	58.87	--	
25-Aug	13:22	0.0	57.53	--	
25-Aug	13:23	0.0	53.87	--	
25-Aug	13:24	0.0	50.40	--	
25-Aug	13:25	0.0	48.33	--	
25-Aug	13:26	0.0	43.60	--	
25-Aug	13:27	0.0	41.67	--	
25-Aug	13:28	0.0	38.87	--	
25-Aug	13:29	0.0	38.60	--	
25-Aug	13:30	0.0	37.13	--	
25-Aug	13:31	0.0	35.67	--	
25-Aug	13:32	0.0	37.20	--	
25-Aug	13:33	0.0	40.47	--	
25-Aug	13:34	0.0	43.13	--	
25-Aug	13:35	0.0	46.47	--	
25-Aug	13:36	0.0	49.40	--	
25-Aug	13:37	0.0	49.13	--	
25-Aug	13:38	0.0	52.07	--	
25-Aug	13:39	0.0	56.60	--	
25-Aug	13:40	0.0	61.87	--	
25-Aug	13:41	0.0	67.80	--	
25-Aug	13:42	0.0	73.53	--	
25-Aug	13:43	0.0	79.33	--	
25-Aug	13:44	0.0	82.20	--	
25-Aug	13:45	0.0	86.80	--	
25-Aug	13:46	0.0	89.80	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	13:47	0.0	90.33	--	
25-Aug	13:48	0.0	89.80	--	
25-Aug	13:49	0.0	90.73	--	
25-Aug	13:50	0.0	92.67	--	
25-Aug	13:51	0.0	101.40	--	
25-Aug	13:52	0.0	115.27	--	
25-Aug	13:53	0.0	129.80	--	
25-Aug	13:54	0.0	139.73	--	
25-Aug	13:55	0.0	149.00	--	
25-Aug	13:56	0.0	158.13	--	
25-Aug	13:57	0.0	168.27	--	Begin augering AS-3
25-Aug	13:58	0.0	178.20	--	
25-Aug	13:59	0.0	186.93	--	
25-Aug	14:00	0.0	194.33	--	
25-Aug	14:01	0.0	204.27	--	
25-Aug	14:02	0.0	212.13	--	
25-Aug	14:03	0.0	219.53	--	
25-Aug	14:04	0.0	223.60	--	
25-Aug	14:05	0.0	225.13	--	
25-Aug	14:06	0.0	220.47	--	
25-Aug	14:07	0.0	211.40	--	
25-Aug	14:08	0.0	201.47	--	
25-Aug	14:09	0.0	197.27	--	
25-Aug	14:10	0.0	191.93	--	
25-Aug	14:11	0.0	185.73	--	
25-Aug	14:12	0.0	178.60	--	
25-Aug	14:13	0.0	171.47	--	
25-Aug	14:14	0.0	166.87	--	
25-Aug	14:15	0.0	165.80	120	
25-Aug	14:16	0.0	162.93	--	
25-Aug	14:17	0.0	161.53	--	
25-Aug	14:18	0.0	163.73	--	
25-Aug	14:19	0.0	168.13	--	Augering AS-3
25-Aug	14:20	0.0	174.00	--	
25-Aug	14:21	0.0	181.67	--	
25-Aug	14:22	0.0	184.93	--	
25-Aug	14:23	0.0	191.40	--	
25-Aug	14:24	0.0	193.40	--	
25-Aug	14:25	0.0	197.87	--	
25-Aug	14:26	0.0	201.27	--	
25-Aug	14:27	0.0	206.33	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	14:28	0.0	209.53	--	Augering AS-3
25-Aug	14:29	0.0	211.87	--	
25-Aug	14:30	0.0	214.27	--	
25-Aug	14:31	0.0	216.27	--	
25-Aug	14:32	0.0	216.67	--	
25-Aug	14:33	0.0	213.80	--	
25-Aug	14:34	0.0	211.33	--	
25-Aug	14:35	0.0	212.33	--	
25-Aug	14:36	0.0	212.40	--	
25-Aug	14:37	0.0	216.00	--	
25-Aug	14:38	0.0	214.07	--	
25-Aug	14:39	0.0	214.67	--	
25-Aug	14:40	0.0	213.07	--	
25-Aug	14:41	0.0	213.93	--	
25-Aug	14:42	0.0	213.53	--	
25-Aug	14:43	0.0	215.33	--	
25-Aug	14:44	0.0	218.40	--	
25-Aug	14:45	0.0	219.40	--	
25-Aug	14:46	0.0	218.07	--	
25-Aug	14:47	0.0	218.07	--	
25-Aug	14:48	0.0	219.67	--	
25-Aug	14:49	0.0	220.73	--	
25-Aug	14:50	0.0	223.53	--	
25-Aug	14:51	0.0	224.07	--	
25-Aug	14:52	0.0	228.80	--	
25-Aug	14:53	0.0	240.33	--	
25-Aug	14:54	0.0	248.00	--	
25-Aug	14:55	0.0	258.47	--	
25-Aug	14:56	0.0	266.73	--	
25-Aug	14:57	0.0	271.33	--	
25-Aug	14:58	0.0	274.07	--	
25-Aug	14:59	0.0	273.33	--	
25-Aug	15:00	0.0	269.93	--	
25-Aug	15:01	0.0	268.67	--	
25-Aug	15:02	0.0	266.67	--	
25-Aug	15:03	0.0	263.20	--	
25-Aug	15:04	0.0	260.13	--	
25-Aug	15:05	0.0	251.47	--	
25-Aug	15:06	0.0	243.67	--	
25-Aug	15:07	0.0	231.27	--	
25-Aug	15:08	0.0	214.40	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	15:09	0.0	201.67	--	Augering AS-3
25-Aug	15:10	0.0	185.20	--	
25-Aug	15:11	0.0	170.00	--	
25-Aug	15:12	0.0	157.67	--	
25-Aug	15:13	0.0	148.00	--	
25-Aug	15:14	0.0	139.60	--	
25-Aug	15:15	0.0	133.47	60	
25-Aug	15:16	0.0	128.73	--	
25-Aug	15:17	0.0	125.33	--	
25-Aug	15:18	0.0	122.53	--	
25-Aug	15:19	0.0	118.40	--	
25-Aug	15:20	0.0	114.00	--	
25-Aug	15:21	0.0	109.67	--	
25-Aug	15:22	0.0	105.33	--	
25-Aug	15:23	0.0	100.93	--	
25-Aug	15:24	0.0	96.13	--	
25-Aug	15:25	0.0	92.20	--	
25-Aug	15:26	0.0	89.13	--	
25-Aug	15:27	0.0	86.60	--	
25-Aug	15:28	0.0	82.40	--	
25-Aug	15:29	0.0	80.33	--	
25-Aug	15:30	0.0	79.07	--	
25-Aug	15:31	0.0	77.73	--	
25-Aug	15:32	0.0	75.93	--	
25-Aug	15:33	0.0	73.07	--	
25-Aug	15:34	0.0	76.47	--	
25-Aug	15:35	0.0	85.33	--	
25-Aug	15:36	0.0	131.13	--	
25-Aug	15:37	0.0	176.73	--	Augering AS-3
25-Aug	15:38	0.0	205.33	--	Demob for the day
25-Aug	15:39	0.0	237.27	--	
25-Aug	15:40	0.0	256.00	--	
25-Aug	15:41	0.0	270.47	--	
25-Aug	15:42	0.0	285.47	--	
25-Aug	15:43	0.0	290.93	--	
25-Aug	15:44	0.0	294.60	--	
25-Aug	15:45	0.0	296.87	--	
25-Aug	15:46	0.0	302.00	--	
25-Aug	15:47	0.0	305.33	--	
25-Aug	15:48	0.0	301.00	--	
25-Aug	15:49	0.0	290.87	--	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust Instsantaneous* (µg/m3)	Notes
25-Aug	15:50	0.0	276.33	--	
25-Aug	15:51	0.0	225.53	--	

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter
--	Not collected
151.00	Exceeds 150 µg/m3

* Instantaneous manual readings reported due to datalogger malfunction
PID Calibration: 0.0/97.5
Winds to the East/Southeast

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	09:00	--	--	--	
26-Aug	09:01	--	--	--	
26-Aug	09:02	--	--	--	
26-Aug	09:03	--	--	--	
26-Aug	09:04	--	--	--	
26-Aug	09:05	--	--	--	
26-Aug	09:06	--	--	--	
26-Aug	09:07	--	--	--	
26-Aug	09:08	--	--	--	
26-Aug	09:09	--	--	--	
26-Aug	09:10	--	--	--	
26-Aug	09:11	--	--	--	
26-Aug	09:12	--	--	--	
26-Aug	09:13	--	--	--	
26-Aug	09:14	--	7.27	14.67	
26-Aug	09:15	--	7.60	14.60	
26-Aug	09:16	--	7.33	14.93	
26-Aug	09:17	--	7.47	15.07	
26-Aug	09:18	--	7.40	14.47	
26-Aug	09:19	--	6.27	14.87	
26-Aug	09:20	--	6.20	14.40	
26-Aug	09:21	--	6.47	13.53	
26-Aug	09:22	--	5.53	12.80	
26-Aug	09:23	--	5.27	12.53	
26-Aug	09:24	--	4.73	12.20	
26-Aug	09:25	--	4.47	11.60	
26-Aug	09:26	--	4.80	10.87	
26-Aug	09:27	--	5.00	10.53	
26-Aug	09:28	--	4.47	10.80	
26-Aug	09:29	--	4.27	10.33	
26-Aug	09:30	--	3.93	10.47	
26-Aug	09:31	--	4.13	10.53	
26-Aug	09:32	--	4.33	10.60	
26-Aug	09:33	--	4.47	10.60	
26-Aug	09:34	--	4.20	10.33	
26-Aug	09:35	--	4.00	10.20	
26-Aug	09:36	--	3.87	10.20	
26-Aug	09:37	--	4.87	10.40	
26-Aug	09:38	--	4.87	10.40	
26-Aug	09:39	--	4.73	10.40	
26-Aug	09:40	--	4.80	12.33	
26-Aug	09:41	--	4.33	16.67	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	09:42	--	7.87	18.80	
26-Aug	09:43	--	8.93	20.00	
26-Aug	09:44	--	9.73	20.53	
26-Aug	09:45	--	10.47	20.93	
26-Aug	09:46	--	10.73	21.07	
26-Aug	09:47	--	10.73	21.20	
26-Aug	09:48	--	10.80	21.40	
26-Aug	09:49	--	10.87	21.67	
26-Aug	09:50	--	10.87	22.07	
26-Aug	09:51	--	11.27	22.27	
26-Aug	09:52	--	10.33	22.93	
26-Aug	09:53	--	10.33	23.47	
26-Aug	09:54	--	11.73	24.13	
26-Aug	09:55	--	11.93	22.67	
26-Aug	09:56	--	12.87	18.73	
26-Aug	09:57	--	9.27	17.13	
26-Aug	09:58	--	9.60	16.47	
26-Aug	09:59	--	8.93	16.40	
26-Aug	10:00	0.4*	9.60	16.60	
26-Aug	10:01	--	9.93	16.93	
26-Aug	10:02	--	10.07	17.13	
26-Aug	10:03	--	10.13	18.73	
26-Aug	10:04	--	10.20	21.73	
26-Aug	10:05	--	11.20	22.80	
26-Aug	10:06	--	12.73	23.07	
26-Aug	10:07	--	13.80	22.73	
26-Aug	10:08	--	14.33	23.20	
26-Aug	10:09	--	13.53	22.87	
26-Aug	10:10	--	13.60	23.73	
26-Aug	10:11	--	12.93	24.13	
26-Aug	10:12	--	13.53	24.07	
26-Aug	10:13	--	12.53	23.87	
26-Aug	10:14	--	12.73	24.13	
26-Aug	10:15	--	11.87	23.80	
26-Aug	10:16	--	11.53	23.27	
26-Aug	10:17	--	11.67	23.07	
26-Aug	10:18	--	11.93	21.47	
26-Aug	10:19	--	11.93	18.60	
26-Aug	10:20	--	11.07	17.47	
26-Aug	10:21	--	9.40	17.20	
26-Aug	10:22	--	8.67	17.07	
26-Aug	10:23	--	8.20	16.33	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	10:24	--	7.87	16.20	
26-Aug	10:25	--	8.40	15.33	
26-Aug	10:26	--	9.00	15.00	
26-Aug	10:27	--	9.13	15.40	
26-Aug	10:28	--	9.20	15.20	
26-Aug	10:29	--	9.07	14.67	
26-Aug	10:30	---	8.87	14.47	
26-Aug	10:31	---	8.53	14.40	
26-Aug	10:32	---	8.13	14.13	
26-Aug	10:33	---	7.93	14.00	
26-Aug	10:34	---	7.93	13.73	
26-Aug	10:35	---	8.67	13.40	
26-Aug	10:36	---	8.53	13.33	
26-Aug	10:37	---	8.20	13.07	
26-Aug	10:38	---	8.20	13.00	
26-Aug	10:39	---	8.20	12.67	
26-Aug	10:40	---	7.27	12.40	
26-Aug	10:41	---	6.13	13.93	
26-Aug	10:42	---	6.67	13.60	
26-Aug	10:43	---	6.53	13.73	
26-Aug	10:44	0.1	6.67	13.80	
26-Aug	10:45	0.1	6.60	13.93	
26-Aug	10:46	0.1	6.47	13.80	
26-Aug	10:47	0.1	6.40	14.00	
26-Aug	10:48	0.1	6.33	14.00	
26-Aug	10:49	0.1	6.27	14.27	
26-Aug	10:50	0.1	5.33	14.33	
26-Aug	10:51	0.1	5.27	14.13	
26-Aug	10:52	0.1	5.27	15.33	
26-Aug	10:53	0.1	6.40	16.73	
26-Aug	10:54	0.1	7.33	17.93	
26-Aug	10:55	0.1	8.07	18.53	
26-Aug	10:56	0.1	8.47	16.80	
26-Aug	10:57	0.1	7.27	16.60	
26-Aug	10:58	0.1	7.07	16.40	
26-Aug	10:59	0.1	7.00	16.07	
26-Aug	11:00	0.1	6.87	15.93	
26-Aug	11:01	0.1	6.93	16.13	
26-Aug	11:02	0.1	6.87	16.27	
26-Aug	11:03	0.1	6.67	16.40	
26-Aug	11:04	0.1	6.87	16.33	
26-Aug	11:05	0.1	7.13	16.47	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	11:06	0.1	7.47	16.60	
26-Aug	11:07	0.1	7.67	15.53	
26-Aug	11:08	0.1	7.07	14.07	
26-Aug	11:09	0.1	5.93	13.00	
26-Aug	11:10	0.1	5.60	12.40	
26-Aug	11:11	0.1	5.13	12.47	
26-Aug	11:12	0.1	6.00	12.47	
26-Aug	11:13	0.1	5.93	12.60	
26-Aug	11:14	0.1	6.00	12.73	
26-Aug	11:15	0.1	6.13	13.20	
26-Aug	11:16	0.1	6.33	14.40	
26-Aug	11:17	0.1	7.93	15.73	
26-Aug	11:18	0.1	9.20	16.27	
26-Aug	11:19	0.1	10.00	16.67	
26-Aug	11:20	0.1	12.73	18.27	
26-Aug	11:21	0.1	14.80	18.73	
26-Aug	11:22	0.1	15.33	18.93	
26-Aug	11:23	0.1	15.33	19.13	
26-Aug	11:24	0.1	15.93	19.33	
26-Aug	11:25	0.1	16.13	19.47	
26-Aug	11:26	0.2	16.73	19.40	
26-Aug	11:27	0.2	17.00	19.33	
26-Aug	11:28	0.2	18.07	19.40	
26-Aug	11:29	0.2	18.33	19.67	
26-Aug	11:30	0.2	18.40	19.33	
26-Aug	11:31	0.2	18.87	18.07	
26-Aug	11:32	0.2	17.47	16.53	
26-Aug	11:33	0.2	16.80	15.93	
26-Aug	11:34	0.2	16.33	15.33	
26-Aug	11:35	0.2	13.80	13.60	
26-Aug	11:36	0.2	12.47	13.27	
26-Aug	11:37	0.2	11.80	12.93	
26-Aug	11:38	0.2	11.20	12.60	
26-Aug	11:39	0.2	10.53	12.27	
26-Aug	11:40	0.2	10.07	12.33	
26-Aug	11:41	0.2	10.13	13.33	
26-Aug	11:42	0.2	10.27	13.47	
26-Aug	11:43	0.1	9.67	13.40	
26-Aug	11:44	0.1	9.80	13.53	
26-Aug	11:45	0.1	10.20	13.80	
26-Aug	11:46	0.1	13.47	16.07	
26-Aug	11:47	0.1	17.33	16.73	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	11:48	0.1	18.27	16.93	
26-Aug	11:49	0.1	18.53	17.67	
26-Aug	11:50	0.1	19.87	18.00	
26-Aug	11:51	0.1	19.60	18.27	
26-Aug	11:52	0.2	20.00	18.80	
26-Aug	11:53	0.2	20.73	19.53	
26-Aug	11:54	0.2	22.00	20.33	
26-Aug	11:55	0.2	23.47	20.33	
26-Aug	11:56	0.2	23.80	19.20	
26-Aug	11:57	0.2	22.60	18.87	
26-Aug	11:58	0.2	22.20	18.80	
26-Aug	11:59	0.2	22.87	19.60	
26-Aug	12:00	0.2	23.87	19.60	
26-Aug	12:01	0.2	20.67	17.60	
26-Aug	12:02	0.2	17.80	16.93	
26-Aug	12:03	0.2	16.67	16.60	
26-Aug	12:04	0.2	16.27	15.87	
26-Aug	12:05	0.2	14.60	16.67	
26-Aug	12:06	0.2	15.33	17.07	
26-Aug	12:07	0.2	16.20	16.93	
26-Aug	12:08	0.2	16.80	16.93	
26-Aug	12:09	0.2	17.20	16.60	
26-Aug	12:10	0.2	16.53	16.53	
26-Aug	12:11	0.2	16.33	16.53	
26-Aug	12:12	0.2	16.73	17.07	
26-Aug	12:13	0.2	17.53	17.27	
26-Aug	12:14	0.2	16.87	16.13	
26-Aug	12:15	0.2	16.00	16.40	
26-Aug	12:16	0.2	16.27	16.80	
26-Aug	12:17	0.2	17.60	17.53	
26-Aug	12:18	0.2	20.20	18.33	
26-Aug	12:19	0.2	22.00	20.13	
26-Aug	12:20	0.2	28.87	20.00	
26-Aug	12:21	0.2	30.20	19.53	
26-Aug	12:22	0.2	30.60	19.53	
26-Aug	12:23	0.2	31.00	19.33	
26-Aug	12:24	0.2	31.33	19.53	
26-Aug	12:25	0.2	31.67	19.47	
26-Aug	12:26	0.2	31.47	19.67	
26-Aug	12:27	0.2	31.40	19.33	
26-Aug	12:28	0.2	32.20	19.13	
26-Aug	12:29	0.2	32.27	19.13	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	12:30	0.2	31.93	18.67	
26-Aug	12:31	0.2	31.53	18.07	
26-Aug	12:32	0.2	29.27	17.33	
26-Aug	12:33	0.2	26.87	16.67	
26-Aug	12:34	0.2	24.87	14.73	
26-Aug	12:35	0.2	17.93	13.73	
26-Aug	12:36	0.2	15.20	13.33	
26-Aug	12:37	0.2	18.07	12.93	
26-Aug	12:38	0.2	17.80	12.60	
26-Aug	12:39	0.2	16.33	12.07	
26-Aug	12:40	0.2	16.40	12.13	
26-Aug	12:41	0.2	20.67	13.00	
26-Aug	12:42	0.2	47.13	13.67	
26-Aug	12:43	0.2	48.93	13.93	
26-Aug	12:44	0.1	50.87	14.93	
26-Aug	12:45	0.1	52.93	15.13	
26-Aug	12:46	0.1	53.73	15.27	
26-Aug	12:47	0.1	54.93	16.40	
26-Aug	12:48	0.1	59.53	18.20	
26-Aug	12:49	0.1	65.87	19.20	
26-Aug	12:50	0.1	67.73	19.73	
26-Aug	12:51	0.1	69.00	20.00	
26-Aug	12:52	0.1	65.27	20.67	
26-Aug	12:53	0.1	64.80	20.73	
26-Aug	12:54	0.1	65.07	20.80	
26-Aug	12:55	0.1	64.40	22.27	
26-Aug	12:56	0.1	61.53	21.93	
26-Aug	12:57	0.1	36.87	21.53	
26-Aug	12:58	0.1	36.13	21.40	
26-Aug	12:59	0.1	34.27	20.53	
26-Aug	13:00	0.1	32.67	20.40	
26-Aug	13:01	0.1	33.07	20.53	
26-Aug	13:02	0.1	33.67	19.80	
26-Aug	13:03	0.2	31.07	18.07	
26-Aug	13:04	0.2	25.60	17.53	
26-Aug	13:05	0.2	29.53	18.33	
26-Aug	13:06	0.2	30.73	18.93	
26-Aug	13:07	0.2	31.47	18.87	
26-Aug	13:08	0.2	73.93	20.80	
26-Aug	13:09	0.2	107.00	21.87	
26-Aug	13:10	0.2	110.60	20.87	
26-Aug	13:11	0.2	113.47	20.93	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	13:12	0.2	114.00	22.13	
26-Aug	13:13	0.2	114.47	22.87	
26-Aug	13:14	0.2	116.87	23.20	
26-Aug	13:15	0.2	117.53	23.27	
26-Aug	13:16	0.2	117.13	24.73	
26-Aug	13:17	0.2	118.00	25.00	
26-Aug	13:18	0.2	117.47	25.20	
26-Aug	13:19	0.2	118.13	25.20	
26-Aug	13:20	0.2	113.80	24.33	
26-Aug	13:21	0.2	121.07	29.20	
26-Aug	13:22	0.2	207.87	30.60	Begin mixing grout for well
26-Aug	13:23	0.2	186.27	31.67	
26-Aug	13:24	0.2	175.60	31.73	
26-Aug	13:25	0.2	178.13	33.40	
26-Aug	13:26	0.2	179.13	33.73	
26-Aug	13:27	0.2	180.13	34.60	
26-Aug	13:28	0.2	246.00	39.40	
26-Aug	13:29	0.2	295.73	40.60	
26-Aug	13:30	0.2	299.80	41.07	
26-Aug	13:31	0.2	302.67	39.60	
26-Aug	13:32	0.2	301.80	39.13	
26-Aug	13:33	0.2	301.67	39.13	
26-Aug	13:34	0.2	302.13	39.13	
26-Aug	13:35	0.2	311.40	41.93	
26-Aug	13:36	0.2	385.47	39.07	
26-Aug	13:37	0.2	310.00	38.27	
26-Aug	13:38	0.2	291.80	36.00	
26-Aug	13:39	0.2	274.40	35.40	
26-Aug	13:40	0.2	273.80	33.53	
26-Aug	13:41	0.2	272.27	33.20	
26-Aug	13:42	0.2	341.13	35.13	
26-Aug	13:43	0.2	355.47	31.67	
26-Aug	13:44	0.2	308.27	31.20	
26-Aug	13:45	0.2	313.27	31.60	
26-Aug	13:46	0.2	314.87	32.00	
26-Aug	13:47	0.2	316.87	32.60	
26-Aug	13:48	0.2	319.27	34.00	
26-Aug	13:49	0.2	402.93	35.53	
26-Aug	13:50	0.2	399.87	33.53	
26-Aug	13:51	0.2	322.80	31.60	
26-Aug	13:52	0.2	313.33	30.80	
26-Aug	13:53	0.2	312.00	30.87	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	13:54	0.2	310.00	31.47	Mixing grout for well
26-Aug	13:55	0.2	307.47	31.60	
26-Aug	13:56	0.2	305.07	31.13	
26-Aug	13:57	0.2	234.87	27.07	
26-Aug	13:58	0.2	152.60	25.13	
26-Aug	13:59	0.2	149.87	25.07	
26-Aug	14:00	0.2	141.87	24.40	
26-Aug	14:01	0.2	137.60	24.47	
26-Aug	14:02	0.2	172.07	26.13	Mixing grout for well
26-Aug	14:03	0.2	196.67	25.60	
26-Aug	14:04	0.2	135.73	28.13	
26-Aug	14:05	0.2	198.40	29.40	Mixing grout for well
26-Aug	14:06	0.2	197.47	29.27	
26-Aug	14:07	0.2	198.53	29.53	
26-Aug	14:08	0.2	200.40	29.53	
26-Aug	14:09	0.2	203.40	29.00	
26-Aug	14:10	0.2	248.93	30.73	
26-Aug	14:11	0.2	290.67	32.13	
26-Aug	14:12	0.2	291.80	33.07	
26-Aug	14:13	0.2	296.07	33.40	
26-Aug	14:14	0.2	296.87	32.60	
26-Aug	14:15	0.2	296.13	32.47	
26-Aug	14:16	0.2	296.93	32.07	
26-Aug	14:17	0.2	260.73	29.93	
26-Aug	14:18	0.2	233.80	29.20	
26-Aug	14:19	0.1	210.27	25.33	
26-Aug	14:20	0.1	140.93	23.07	
26-Aug	14:21	0.1	135.60	22.33	
26-Aug	14:22	0.1	131.67	21.80	
26-Aug	14:23	0.1	127.93	20.87	
26-Aug	14:24	0.1	121.40	20.13	
26-Aug	14:25	0.1	72.53	17.87	
26-Aug	14:26	0.2	29.13	16.27	
26-Aug	14:27	0.2	26.27	16.47	
26-Aug	14:28	0.2	26.53	16.60	
26-Aug	14:29	0.2	24.07	16.60	
26-Aug	14:30	0.2	23.20	16.67	
26-Aug	14:31	0.2	22.40	17.33	
26-Aug	14:32	0.2	23.33	17.67	
26-Aug	14:33	0.2	23.27	17.53	
26-Aug	14:34	0.2	23.13	17.20	
26-Aug	14:35	0.2	23.73	17.33	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	14:36	0.2	23.80	17.33	
26-Aug	14:37	0.2	24.40	17.67	
26-Aug	14:38	0.2	24.53	17.87	
26-Aug	14:39	0.2	25.07	18.07	
26-Aug	14:40	0.2	25.73	18.27	
26-Aug	14:41	0.2	26.20	18.80	
26-Aug	14:42	0.2	28.00	17.80	
26-Aug	14:43	0.2	24.00	17.27	
26-Aug	14:44	0.2	28.47	17.33	
26-Aug	14:45	0.2	29.07	17.27	
26-Aug	14:46	0.2	28.53	16.47	
26-Aug	14:47	0.2	27.40	17.07	
26-Aug	14:48	0.2	28.67	17.93	
26-Aug	14:49	0.2	30.60	18.33	
26-Aug	14:50	0.2	30.67	18.20	
26-Aug	14:51	0.2	31.60	18.40	
26-Aug	14:52	0.2	31.87	18.13	
26-Aug	14:53	0.2	32.60	18.20	
26-Aug	14:54	0.2	34.33	19.53	
26-Aug	14:55	0.2	36.67	20.07	
26-Aug	14:56	0.2	38.67	20.07	
26-Aug	14:57	0.2	38.27	20.27	
26-Aug	14:58	0.2	38.93	20.47	
26-Aug	14:59	0.2	35.47	21.93	
26-Aug	15:00	0.3	35.33	22.87	
26-Aug	15:01	0.3	37.67	25.87	
26-Aug	15:02	0.3	37.33	27.80	
26-Aug	15:03	0.3	35.80	27.93	
26-Aug	15:04	0.3	34.67	29.00	
26-Aug	15:05	0.3	34.33	29.33	
26-Aug	15:06	0.3	33.60	30.40	
26-Aug	15:07	0.3	32.33	30.93	
26-Aug	15:08	0.3	32.13	31.40	
26-Aug	15:09	0.3	33.27	30.20	
26-Aug	15:10	0.2	30.93	29.47	
26-Aug	15:11	0.2	29.07	28.87	
26-Aug	15:12	0.2	27.33	28.93	
26-Aug	15:13	0.2	25.40	28.93	
26-Aug	15:14	0.2	23.53	27.07	
26-Aug	15:15	0.2	22.27	26.00	
26-Aug	15:16	0.2	19.87	22.80	
26-Aug	15:17	0.3	18.27	19.60	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	15:18	0.3	17.00	18.27	
26-Aug	15:19	0.3	15.00	18.73	
26-Aug	15:20	0.3	13.93	20.67	
26-Aug	15:21	0.3	23.53	24.40	
26-Aug	15:22	0.3	26.40	26.27	
26-Aug	15:23	0.3	27.00	26.60	
26-Aug	15:24	0.4	32.27	27.73	
26-Aug	15:25	0.4	39.13	28.00	
26-Aug	15:26	0.4	41.40	28.20	
26-Aug	15:27	0.4	43.73	27.73	
26-Aug	15:28	0.4	44.80	27.60	
26-Aug	15:29	0.4	45.20	27.67	
26-Aug	15:30	0.4	45.47	31.40	
26-Aug	15:31	0.4	177.33	54.73	Mixing grout for well
26-Aug	15:32	0.4	447.20	74.33	
26-Aug	15:33	0.4	843.33	125.87	All fans on
26-Aug	15:34	0.4	1505.80	160.87	
26-Aug	15:35	0.4	1630.00	191.33	
26-Aug	15:36	0.4	1798.47	212.13	
26-Aug	15:37	0.4	1964.60	245.40	
26-Aug	15:38	0.4	2031.80	261.20	
26-Aug	15:39	0.3	2068.87	276.93	
26-Aug	15:40	0.3	2269.33	295.93	
26-Aug	15:41	0.3	2403.20	306.27	
26-Aug	15:42	0.3	2432.87	312.33	
26-Aug	15:43	0.3	2465.00	316.00	
26-Aug	15:44	0.3	2481.40	318.93	
26-Aug	15:45	0.3	2493.67	317.53	
26-Aug	15:46	0.3	2371.20	296.73	
26-Aug	15:47	0.3	2109.47	279.40	
26-Aug	15:48	0.3	1721.07	244.87	
26-Aug	15:49	0.3	1183.60	223.20	
26-Aug	15:50	0.3	1095.40	214.33	
26-Aug	15:51	0.3	1000.07	199.93	
26-Aug	15:52	0.3	852.20	180.87	
26-Aug	15:53	0.3	930.60	223.80	
26-Aug	15:54	0.3	1233.73	226.67	
26-Aug	15:55	0.3	1061.27	215.20	
26-Aug	15:56	0.3	953.00	210.33	
26-Aug	15:57	0.3	939.33	210.27	
26-Aug	15:58	0.3	928.33	210.07	
26-Aug	15:59	0.3	927.20	222.20	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
26-Aug	16:00	0.2	933.07	227.60	Mixing grout for well
26-Aug	16:01	0.2	935.20	228.33	
26-Aug	16:02	0.2	933.00	228.47	
26-Aug	16:03	0.2	933.87	212.73	
26-Aug	16:04	0.2	814.73	197.93	
26-Aug	16:05	0.2	781.87	175.33	
26-Aug	16:06	0.2	700.13	164.67	
26-Aug	16:07	0.2	680.47	148.67	
26-Aug	16:08	0.2	535.40	89.53	
26-Aug	16:09	0.2	187.53	70.00	
26-Aug	16:10	0.2	152.47	63.67	
26-Aug	16:11	0.2	125.80	58.47	
26-Aug	16:12	0.2	108.27	52.87	
26-Aug	16:13	0.2	86.47	49.67	
26-Aug	16:14	0.2	71.53	35.40	
26-Aug	16:15	0.2	55.40	28.13	
26-Aug	16:16	0.2	44.47	25.60	
26-Aug	16:17	0.2	40.40	23.80	
26-Aug	16:18	0.2	33.80	23.73	
26-Aug	16:19	0.2	29.47	23.93	
26-Aug	16:20	0.2	27.20	23.20	
26-Aug	16:21	0.2	25.13	21.67	
26-Aug	16:22	0.2	23.20	20.13	
26-Aug	16:23	0.2	20.73	18.67	

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter
--	Not collected
164.67	Exceeds background levels by 150 µg/m3

PID Calibration: 0.0/100.1
Winds to the Southeast

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	08:14	---	--	--	
27-Aug	08:15	---	--	--	
27-Aug	08:16	---	--	--	
27-Aug	08:17	---	--	--	
27-Aug	08:18	---	--	--	
27-Aug	08:19	---	--	--	
27-Aug	08:20	---	--	--	
27-Aug	08:21	---	--	--	
27-Aug	08:22	---	--	--	
27-Aug	08:23	---	--	--	
27-Aug	08:24	---	--	--	
27-Aug	08:25	---	--	--	
27-Aug	08:26	---	--	--	
27-Aug	08:27	---	--	--	
27-Aug	08:28	---	162.20	63.40	
27-Aug	08:29	---	217.07	73.27	
27-Aug	08:30	---	251.53	84.87	
27-Aug	08:31	---	268.33	91.13	
27-Aug	08:32	0.1	291.53	97.00	
27-Aug	08:33	0.1	308.27	99.73	
27-Aug	08:34	0.1	318.07	102.73	Begin augering AS-2
27-Aug	08:35	0.1	322.47	104.47	
27-Aug	08:36	0.1	329.40	105.60	
27-Aug	08:37	0.1	333.80	107.40	
27-Aug	08:38	0.1	335.80	107.67	
27-Aug	08:39	0.1	334.47	107.93	
27-Aug	08:40	0.1	313.27	105.27	
27-Aug	08:41	0.1	288.00	97.80	
27-Aug	08:42	0.1	268.40	91.27	
27-Aug	08:43	0.1	249.27	84.60	
27-Aug	08:44	0.1	199.60	77.87	
27-Aug	08:45	0.1	170.93	68.13	
27-Aug	08:46	0.1	162.27	65.80	
27-Aug	08:47	0.1	144.87	64.13	
27-Aug	08:48	0.1	133.40	61.87	
27-Aug	08:49	0.1	124.67	60.27	
27-Aug	08:50	0.1	128.93	61.07	
27-Aug	08:51	0.1	133.20	64.87	
27-Aug	08:52	0.1	134.87	67.00	
27-Aug	08:53	0.1	135.80	68.87	
27-Aug	08:54	0.1	142.87	71.20	
27-Aug	08:55	0.2	146.67	72.27	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	08:56	0.2	143.33	74.47	
27-Aug	08:57	0.2	146.27	76.07	
27-Aug	08:58	0.2	149.33	75.80	
27-Aug	08:59	0.2	149.47	74.47	
27-Aug	09:00	0.2	147.20	73.60	
27-Aug	09:01	0.2	142.60	70.73	
27-Aug	09:02	0.2	141.73	67.67	
27-Aug	09:03	0.2	143.67	68.13	
27-Aug	09:04	0.2	143.80	68.53	
27-Aug	09:05	0.2	136.13	67.00	
27-Aug	09:06	0.2	124.80	62.13	
27-Aug	09:07	0.2	118.53	58.67	
27-Aug	09:08	0.2	114.87	56.27	
27-Aug	09:09	0.2	107.67	53.47	
27-Aug	09:10	0.2	102.20	50.07	
27-Aug	09:11	0.2	96.40	47.80	
27-Aug	09:12	0.2	90.80	45.20	
27-Aug	09:13	0.2	81.73	43.67	
27-Aug	09:14	0.2	83.80	43.40	
27-Aug	09:15	0.1	83.87	44.93	
27-Aug	09:16	0.1	81.33	45.40	
27-Aug	09:17	0.1	77.13	44.87	
27-Aug	09:18	0.2	71.33	43.13	
27-Aug	09:19	0.2	67.00	41.07	
27-Aug	09:20	0.2	64.20	40.00	
27-Aug	09:21	0.2	63.00	39.27	
27-Aug	09:22	0.2	62.27	39.27	
27-Aug	09:23	0.2	60.40	39.27	
27-Aug	09:24	0.2	63.13	39.87	
27-Aug	09:25	0.2	63.80	40.67	
27-Aug	09:26	0.2	64.73	40.53	
27-Aug	09:27	0.2	61.00	39.53	
27-Aug	09:28	0.2	58.73	38.80	
27-Aug	09:29	0.2	51.80	37.53	
27-Aug	09:30	0.2	49.27	35.40	
27-Aug	09:31	0.2	50.80	35.07	
27-Aug	09:32	0.2	51.60	35.87	
27-Aug	09:33	0.2	51.27	36.13	
27-Aug	09:34	0.2	51.80	36.73	
27-Aug	09:35	0.2	64.40	36.80	
27-Aug	09:36	0.2	65.93	36.53	
27-Aug	09:37	0.2	68.20	37.27	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	09:38	0.2	70.80	37.67	
27-Aug	09:39	0.2	67.87	37.00	
27-Aug	09:40	0.2	67.47	35.93	
27-Aug	09:41	0.2	65.73	35.93	
27-Aug	09:42	0.2	66.33	35.80	
27-Aug	09:43	0.2	67.93	35.73	
27-Aug	09:44	0.2	72.07	36.80	
27-Aug	09:45	0.2	196.27	40.13	
27-Aug	09:46	0.2	236.87	52.73	
27-Aug	09:47	0.2	312.53	73.73	Setting well screen filter pack
27-Aug	09:48	0.1	376.00	86.47	
27-Aug	09:49	0.1	427.60	106.93	
27-Aug	09:50	0.1	471.87	127.20	
27-Aug	09:51	0.1	495.20	138.93	
27-Aug	09:52	0.1	511.20	144.80	
27-Aug	09:53	0.1	573.53	150.33	
27-Aug	09:54	0.1	605.40	160.73	
27-Aug	09:55	0.1	645.60	169.60	
27-Aug	09:56	0.1	661.07	177.80	
27-Aug	09:57	0.1	673.20	182.27	
27-Aug	09:58	0.1	689.47	185.33	
27-Aug	09:59	0.1	699.93	186.33	
27-Aug	10:00	0.1	583.80	184.67	
27-Aug	10:01	0.1	546.00	173.53	
27-Aug	10:02	0.1	473.73	153.80	
27-Aug	10:03	0.1	412.93	142.07	
27-Aug	10:04	0.1	361.13	121.40	
27-Aug	10:05	0.1	305.33	101.20	
27-Aug	10:06	0.1	280.80	89.93	
27-Aug	10:07	0.1	264.80	83.07	
27-Aug	10:08	0.2	200.73	77.67	
27-Aug	10:09	0.2	168.47	67.40	
27-Aug	10:10	0.2	128.40	58.67	
27-Aug	10:11	0.2	113.60	50.27	
27-Aug	10:12	0.2	101.20	46.60	
27-Aug	10:13	0.2	84.53	44.47	
27-Aug	10:14	0.2	74.33	43.07	
27-Aug	10:15	0.2	69.13	42.33	
27-Aug	10:16	0.2	65.07	41.33	
27-Aug	10:17	0.2	61.47	39.93	
27-Aug	10:18	0.2	58.60	38.73	
27-Aug	10:19	0.2	57.80	38.00	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	10:20	0.2	58.13	37.73	
27-Aug	10:21	0.2	57.47	37.87	
27-Aug	10:22	0.2	56.13	38.07	
27-Aug	10:23	0.2	56.07	38.47	
27-Aug	10:24	0.2	55.20	38.60	
27-Aug	10:25	0.2	55.73	39.07	
27-Aug	10:26	0.2	56.53	40.60	
27-Aug	10:27	0.2	56.80	40.07	
27-Aug	10:28	0.2	56.40	39.47	
27-Aug	10:29	0.2	53.40	39.27	
27-Aug	10:30	0.2	51.87	39.00	
27-Aug	10:31	0.2	51.93	38.60	
27-Aug	10:32	0.2	52.60	39.20	
27-Aug	10:33	0.2	53.87	39.93	
27-Aug	10:34	0.2	55.73	40.73	
27-Aug	10:35	0.2	54.00	40.93	
27-Aug	10:36	0.3	54.00	40.53	
27-Aug	10:37	0.3	54.73	40.67	
27-Aug	10:38	0.3	58.27	40.47	
27-Aug	10:39	0.3	58.73	41.47	
27-Aug	10:40	0.3	60.20	41.40	
27-Aug	10:41	0.3	60.67	41.53	
27-Aug	10:42	0.3	61.13	42.33	
27-Aug	10:43	0.3	61.00	42.80	
27-Aug	10:44	0.3	61.47	43.07	
27-Aug	10:45	0.3	62.27	42.87	
27-Aug	10:46	0.3	63.80	43.93	
27-Aug	10:47	0.3	68.53	44.00	
27-Aug	10:48	0.3	69.87	45.20	
27-Aug	10:49	0.3	69.80	46.27	
27-Aug	10:50	0.3	71.67	46.80	
27-Aug	10:51	0.3	72.13	47.53	
27-Aug	10:52	0.3	72.33	48.40	
27-Aug	10:53	0.2	68.53	48.60	
27-Aug	10:54	0.2	77.07	51.00	
27-Aug	10:55	0.2	102.07	58.40	
27-Aug	10:56	0.2	121.67	70.40	
27-Aug	10:57	0.2	168.67	85.73	
27-Aug	10:58	0.2	195.47	104.80	
27-Aug	10:59	0.2	254.80	113.20	
27-Aug	11:00	0.2	286.87	125.67	
27-Aug	11:01	0.2	314.33	133.80	Mix grout for well

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	11:02	0.2	343.13	140.00	All fans on
27-Aug	11:03	0.2	385.13	153.87	
27-Aug	11:04	0.2	404.93	160.60	
27-Aug	11:05	0.2	417.00	165.40	
27-Aug	11:06	0.2	423.27	169.67	
27-Aug	11:07	0.2	426.40	171.33	
27-Aug	11:08	0.2	431.20	173.93	
27-Aug	11:09	0.2	518.00	176.33	
27-Aug	11:10	0.2	613.00	273.20	
27-Aug	11:11	0.2	669.87	307.00	
27-Aug	11:12	0.2	691.13	328.07	
27-Aug	11:13	0.2	714.13	338.93	
27-Aug	11:14	0.2	700.87	352.60	
27-Aug	11:15	0.2	735.53	358.40	
27-Aug	11:16	0.2	952.80	382.60	
27-Aug	11:17	0.2	988.67	439.53	
27-Aug	11:18	0.2	1001.20	458.13	
27-Aug	11:19	0.2	1011.47	478.67	
27-Aug	11:20	0.2	1024.87	490.40	
27-Aug	11:21	0.2	1041.27	496.27	
27-Aug	11:22	0.2	1054.40	501.13	
27-Aug	11:23	0.2	1081.27	518.07	
27-Aug	11:24	0.2	1020.40	536.27	
27-Aug	11:25	0.2	987.33	464.40	
27-Aug	11:26	0.2	934.00	441.13	
27-Aug	11:27	0.2	879.93	410.33	
27-Aug	11:28	0.2	844.13	386.20	
27-Aug	11:29	0.2	871.27	372.07	
27-Aug	11:30	0.2	830.00	370.93	
27-Aug	11:31	0.2	600.93	341.93	
27-Aug	11:32	0.2	542.13	280.87	
27-Aug	11:33	0.2	496.80	249.27	
27-Aug	11:34	0.2	480.40	223.20	
27-Aug	11:35	0.2	460.33	208.27	
27-Aug	11:36	0.2	442.87	199.33	
27-Aug	11:37	0.2	432.47	193.00	
27-Aug	11:38	0.2	403.60	174.00	
27-Aug	11:39	0.2	370.93	150.93	
27-Aug	11:40	0.2	281.93	118.93	
27-Aug	11:41	0.2	258.80	96.07	
27-Aug	11:42	0.2	247.33	90.60	
27-Aug	11:43	0.2	233.47	85.47	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	11:44	0.2	159.33	77.47	
27-Aug	11:45	0.2	132.13	60.67	
27-Aug	11:46	0.2	113.87	56.87	
27-Aug	11:47	0.2	102.27	53.93	
27-Aug	11:48	0.2	91.13	51.73	
27-Aug	11:49	0.2	76.40	49.60	
27-Aug	11:50	0.2	68.93	47.80	
27-Aug	11:51	0.2	63.07	46.33	
27-Aug	11:52	0.2	55.47	45.87	
27-Aug	11:53	0.2	52.67	45.27	
27-Aug	11:54	0.2	50.13	44.33	
27-Aug	11:55	0.2	49.13	44.00	
27-Aug	11:56	0.2	47.27	43.67	
27-Aug	11:57	0.2	44.47	43.67	
27-Aug	11:58	0.2	44.87	43.07	
27-Aug	11:59	0.2	44.60	43.20	
27-Aug	12:00	0.2	44.47	43.47	
27-Aug	12:01	0.2	44.20	43.00	
27-Aug	12:02	0.2	43.73	43.07	
27-Aug	12:03	0.2	42.60	43.53	
27-Aug	12:04	0.2	41.40	43.40	
27-Aug	12:05	0.2	40.93	43.20	
27-Aug	12:06	0.2	40.53	43.13	
27-Aug	12:07	0.2	40.33	42.93	
27-Aug	12:08	0.2	40.13	42.80	
27-Aug	12:09	0.2	39.93	42.67	
27-Aug	12:10	0.2	39.87	42.73	
27-Aug	12:11	0.2	40.47	42.67	
27-Aug	12:12	0.2	40.67	42.47	
27-Aug	12:13	0.2	39.87	42.40	
27-Aug	12:14	0.2	39.87	43.13	
27-Aug	12:15	0.2	40.80	43.07	
27-Aug	12:16	0.2	41.73	43.00	
27-Aug	12:17	0.2	41.87	43.33	
27-Aug	12:18	0.2	42.20	43.27	
27-Aug	12:19	0.2	42.80	43.27	
27-Aug	12:20	0.2	43.13	43.33	
27-Aug	12:21	0.2	46.87	43.13	
27-Aug	12:22	0.2	47.07	43.00	
27-Aug	12:23	0.2	47.27	43.67	
27-Aug	12:24	0.2	47.40	44.27	
27-Aug	12:25	0.2	47.27	44.27	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	12:26	0.2	47.40	44.27	
27-Aug	12:27	0.2	47.93	46.27	
27-Aug	12:28	0.2	53.40	51.47	
27-Aug	12:29	0.2	57.67	55.27	
27-Aug	12:30	0.2	59.47	56.40	
27-Aug	12:31	0.2	60.27	57.33	
27-Aug	12:32	0.2	62.47	57.93	
27-Aug	12:33	0.2	65.73	62.00	
27-Aug	12:34	0.2	68.60	67.53	
27-Aug	12:35	0.2	83.00	74.13	
27-Aug	12:36	0.2	84.67	80.07	
27-Aug	12:37	0.2	87.47	85.47	
27-Aug	12:38	0.2	87.47	86.13	
27-Aug	12:39	0.2	91.93	86.33	
27-Aug	12:40	0.2	128.87	97.67	
27-Aug	12:41	0.2	144.80	116.67	
27-Aug	12:42	0.2	152.73	120.73	
27-Aug	12:43	0.2	157.20	117.93	
27-Aug	12:44	0.2	160.00	114.67	
27-Aug	12:45	0.2	161.67	118.73	
27-Aug	12:46	0.2	163.87	121.47	
27-Aug	12:47	0.2	167.87	122.07	
27-Aug	12:48	0.2	178.00	120.80	
27-Aug	12:49	0.2	194.73	119.53	
27-Aug	12:50	0.4	193.80	116.93	
27-Aug	12:51	0.5	199.13	115.27	
27-Aug	12:52	0.5	205.93	111.87	
27-Aug	12:53	0.6	240.60	124.07	
27-Aug	12:54	0.6	272.47	135.00	
27-Aug	12:55	0.6	268.60	130.80	
27-Aug	12:56	0.7	269.80	118.67	
27-Aug	12:57	1.0	306.13	116.87	
27-Aug	12:58	1.2	342.07	119.33	Saw-cut trench
27-Aug	12:59	1.5	358.67	122.33	
27-Aug	13:00	2.0	367.00	118.93	
27-Aug	13:01	2.5	368.53	118.47	
27-Aug	13:02	3.4	370.20	119.20	
27-Aug	13:03	3.5	361.67	117.00	
27-Aug	13:04	3.7	362.93	116.47	
27-Aug	13:05	4.1	356.27	117.67	
27-Aug	13:06	4.1	351.47	115.13	
27-Aug	13:07	4.3	345.67	113.80	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	13:08	4.4	314.47	101.00	
27-Aug	13:09	4.5	282.00	91.67	
27-Aug	13:10	4.6	251.33	85.27	
27-Aug	13:11	4.6	235.27	79.20	
27-Aug	13:12	4.6	193.00	79.67	
27-Aug	13:13	4.4	149.07	91.67	
27-Aug	13:14	4.4	128.20	93.67	
27-Aug	13:15	4.2	120.73	98.20	
27-Aug	13:16	3.7	119.87	101.47	
27-Aug	13:17	3.3	119.07	106.20	
27-Aug	13:18	2.4	119.93	107.47	
27-Aug	13:19	2.3	103.60	105.07	
27-Aug	13:20	2.2	133.00	105.27	
27-Aug	13:21	1.9	149.80	112.00	
27-Aug	13:22	1.8	189.13	115.00	
27-Aug	13:23	1.5	266.07	124.40	
27-Aug	13:24	1.4	275.27	140.47	
27-Aug	13:25	1.3	281.73	146.13	
27-Aug	13:26	1.2	289.87	148.00	
27-Aug	13:27	1.2	295.93	147.40	
27-Aug	13:28	1.1	303.40	133.13	
27-Aug	13:29	1.1	315.87	180.80	Saw-cut trench
27-Aug	13:30	1.0	323.00	190.00	
27-Aug	13:31	0.8	334.13	189.07	
27-Aug	13:32	0.8	339.60	185.40	
27-Aug	13:33	0.8	342.27	187.67	
27-Aug	13:34	0.8	346.87	189.47	
27-Aug	13:35	0.8	323.13	192.73	
27-Aug	13:36	0.8	307.87	188.40	
27-Aug	13:37	0.7	270.80	189.13	
27-Aug	13:38	0.7	211.93	181.73	
27-Aug	13:39	0.7	220.20	164.80	
27-Aug	13:40	0.7	256.13	165.53	
27-Aug	13:41	0.6	266.93	165.33	
27-Aug	13:42	0.6	274.27	163.07	
27-Aug	13:43	0.9	284.67	161.60	
27-Aug	13:44	0.9	298.87	108.80	
27-Aug	13:45	0.9	319.33	96.33	Saw-cut trench
27-Aug	13:46	0.9	318.60	93.53	All fans on
27-Aug	13:47	0.9	324.60	92.67	
27-Aug	13:48	0.9	346.20	90.00	
27-Aug	13:49	0.8	391.67	93.73	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	13:50	0.8	405.13	93.00	
27-Aug	13:51	0.8	414.00	94.73	
27-Aug	13:52	0.8	425.60	94.00	
27-Aug	13:53	0.8	428.00	94.73	
27-Aug	13:54	0.8	419.73	95.53	
27-Aug	13:55	0.8	387.20	90.27	
27-Aug	13:56	0.8	373.67	88.67	
27-Aug	13:57	0.8	361.27	87.40	
27-Aug	13:58	0.7	344.00	87.47	
27-Aug	13:59	0.5	407.27	86.60	
27-Aug	14:00	0.5	516.80	87.93	
27-Aug	14:01	0.5	616.27	94.60	
27-Aug	14:02	0.5	741.13	107.60	
27-Aug	14:03	0.5	839.53	124.93	
27-Aug	14:04	0.6	947.80	136.87	
27-Aug	14:05	0.6	995.00	150.60	
27-Aug	14:06	0.6	1110.33	177.73	
27-Aug	14:07	0.6	1180.20	217.20	
27-Aug	14:08	0.6	1194.00	235.60	Add excess water for dust suppression
27-Aug	14:09	0.7	1209.40	240.33	
27-Aug	14:10	0.7	1224.67	243.60	
27-Aug	14:11	0.7	1240.40	248.40	
27-Aug	14:12	0.7	1256.87	252.53	
27-Aug	14:13	0.7	1278.73	255.33	
27-Aug	14:14	0.7	1199.40	259.33	
27-Aug	14:15	0.6	1067.60	259.27	
27-Aug	14:16	0.6	962.27	251.33	
27-Aug	14:17	0.6	824.93	237.33	
27-Aug	14:18	0.6	701.40	221.27	
27-Aug	14:19	0.6	542.27	203.00	
27-Aug	14:20	0.5	472.27	183.07	
27-Aug	14:21	0.5	344.40	152.27	
27-Aug	14:22	0.5	258.47	109.87	
27-Aug	14:23	0.4	222.47	88.47	
27-Aug	14:24	0.4	204.00	82.27	
27-Aug	14:25	0.4	182.87	78.60	
27-Aug	14:26	0.4	166.47	73.67	
27-Aug	14:27	0.4	152.00	69.73	
27-Aug	14:28	0.4	133.67	66.53	
27-Aug	14:29	0.4	125.47	63.07	
27-Aug	14:30	0.4	117.47	59.13	
27-Aug	14:31	0.4	110.60	57.80	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
27-Aug	14:32	0.3	107.13	56.80	
27-Aug	14:33	0.3	103.60	53.80	
27-Aug	14:34	0.3	100.67	53.07	
27-Aug	14:35	0.3	97.93	51.87	
27-Aug	14:36	0.3	91.53	50.07	
27-Aug	14:37	0.3	87.13	49.47	
28-Aug	14:38	0.3	82.40	46.33	
29-Aug	14:39	0.3	69.73	42.93	

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter
--	Not collected
213.40	Exceeds background levels by 150 µg/m3

PID Calibration: 0.0/100.0
Winds to the East/Northeast

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	08:22	--	--	--	
28-Aug	08:23	--	--	--	
28-Aug	08:24	--	--	--	
28-Aug	08:25	--	--	--	
28-Aug	08:26	---	--	--	
28-Aug	08:27	---	--	--	
28-Aug	08:28	---	--	--	
28-Aug	08:29	---	--	--	
28-Aug	08:30	---	--	--	
28-Aug	08:31	---	--	--	
28-Aug	08:32	---	--	--	
28-Aug	08:33	---	--	--	
28-Aug	08:34	---	--	--	
28-Aug	08:35	---	111.80	75.33	
28-Aug	08:36	---	119.73	77.60	
28-Aug	08:37	---	128.93	80.60	
28-Aug	08:38	---	119.40	82.33	
28-Aug	08:39	---	112.47	84.73	
28-Aug	08:40	0.2	111.47	87.67	
28-Aug	08:41	0.2	109.40	89.00	
28-Aug	08:42	0.2	107.33	91.07	
28-Aug	08:43	0.2	106.60	88.53	
28-Aug	08:44	0.2	103.33	88.40	
28-Aug	08:45	0.2	101.20	87.73	
28-Aug	08:46	0.2	100.07	86.20	
28-Aug	08:47	0.2	97.20	84.00	
28-Aug	08:48	0.2	91.73	80.53	
28-Aug	08:49	0.2	88.80	82.13	
28-Aug	08:50	0.2	84.87	82.20	
28-Aug	08:51	0.2	78.60	80.13	
28-Aug	08:52	0.2	76.53	80.87	
28-Aug	08:53	0.2	74.87	81.87	
28-Aug	08:54	0.2	73.67	81.53	
28-Aug	08:55	0.2	72.60	78.40	
28-Aug	08:56	0.2	72.80	73.27	
28-Aug	08:57	0.2	79.53	74.07	
28-Aug	08:58	0.2	80.47	72.07	
28-Aug	08:59	0.2	81.27	71.27	
28-Aug	09:00	0.1	80.93	71.00	
28-Aug	09:01	0.1	81.27	71.47	
28-Aug	09:02	0.1	81.07	70.87	
28-Aug	09:03	0.1	80.73	67.07	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	09:04	0.1	78.13	65.87	
28-Aug	09:05	0.1	75.87	64.13	
28-Aug	09:06	0.1	74.53	59.00	
28-Aug	09:07	0.1	77.87	54.33	
28-Aug	09:08	0.1	102.67	54.73	
28-Aug	09:09	0.1	121.33	59.07	
28-Aug	09:10	0.1	128.07	63.47	
28-Aug	09:11	0.1	126.40	66.40	
28-Aug	09:12	0.1	130.27	73.53	
28-Aug	09:13	0.1	132.93	78.87	
28-Aug	09:14	0.1	143.47	81.93	
28-Aug	09:15	0.1	164.33	88.13	
28-Aug	09:16	0.1	195.67	95.73	
28-Aug	09:17	0.1	210.27	106.73	
28-Aug	09:18	0.1	226.93	117.80	
28-Aug	09:19	0.1	239.80	128.00	
28-Aug	09:20	0.1	250.27	135.40	
28-Aug	09:21	0.1	253.07	141.13	
28-Aug	09:22	0.1	234.80	144.87	
28-Aug	09:23	0.1	224.87	145.33	
28-Aug	09:24	0.1	225.13	146.60	
28-Aug	09:25	0.1	224.53	145.80	
28-Aug	09:26	0.1	223.67	142.93	
28-Aug	09:27	0.1	227.00	141.67	
28-Aug	09:28	0.1	250.00	146.87	
28-Aug	09:29	0.1	247.20	152.67	
28-Aug	09:30	0.1	228.80	162.40	
28-Aug	09:31	0.1	225.80	163.20	
28-Aug	09:32	0.1	220.27	159.93	
28-Aug	09:33	0.1	217.67	158.13	
28-Aug	09:34	0.1	214.13	156.60	
28-Aug	09:35	0.1	214.87	156.67	
28-Aug	09:36	0.1	213.47	154.07	
28-Aug	09:37	0.1	208.07	153.53	
28-Aug	09:38	0.1	214.60	157.47	
28-Aug	09:39	0.1	239.87	164.67	
28-Aug	09:40	0.1	247.87	167.93	
28-Aug	09:41	0.1	252.47	170.73	
28-Aug	09:42	0.1	227.73	170.53	
28-Aug	09:43	0.1	215.20	163.87	
28-Aug	09:44	0.1	209.07	153.47	
28-Aug	09:45	0.1	205.33	149.13	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	09:46	0.1	209.47	150.00	
28-Aug	09:47	0.1	213.40	151.93	
28-Aug	09:48	0.1	220.60	157.53	
28-Aug	09:49	0.2	225.33	163.33	
28-Aug	09:50	0.2	230.53	163.40	
28-Aug	09:51	0.2	236.93	164.80	
28-Aug	09:52	0.2	233.93	165.13	
28-Aug	09:53	0.2	219.93	164.60	
28-Aug	09:54	0.2	222.73	167.87	
28-Aug	09:55	0.2	229.47	175.13	
28-Aug	09:56	0.2	241.87	184.47	
28-Aug	09:57	0.2	259.33	193.27	
28-Aug	09:58	0.2	278.00	203.27	Jack-hammering concrete in trench
28-Aug	09:59	0.2	298.00	216.07	
28-Aug	10:00	0.2	305.00	217.73	
28-Aug	10:01	0.2	311.80	221.53	
28-Aug	10:02	0.2	312.13	219.40	
28-Aug	10:03	0.2	313.33	217.73	
28-Aug	10:04	0.2	313.00	221.20	
28-Aug	10:05	0.2	310.73	221.47	
28-Aug	10:06	0.2	306.00	217.20	
28-Aug	10:07	0.2	296.00	212.67	
28-Aug	10:08	0.2	286.93	209.13	
28-Aug	10:09	0.2	273.80	199.13	
28-Aug	10:10	0.2	257.73	185.60	
28-Aug	10:11	0.2	237.93	174.00	
28-Aug	10:12	0.2	216.27	160.20	
28-Aug	10:13	0.2	192.33	143.07	
28-Aug	10:14	0.2	174.40	135.93	
28-Aug	10:15	0.2	158.40	125.60	
28-Aug	10:16	0.2	148.60	120.13	
28-Aug	10:17	0.2	138.33	112.87	
28-Aug	10:18	0.2	130.13	106.07	
28-Aug	10:19	0.2	123.33	101.00	
28-Aug	10:20	0.2	118.00	97.07	
28-Aug	10:21	0.2	112.33	92.73	
28-Aug	10:22	0.2	107.67	87.53	
28-Aug	10:23	0.2	104.53	85.60	
28-Aug	10:24	0.2	101.87	84.73	
28-Aug	10:25	0.2	100.40	83.53	
28-Aug	10:26	0.2	100.07	82.40	
28-Aug	10:27	0.1	99.33	82.40	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	10:28	0.1	98.27	81.07	
28-Aug	10:29	0.1	96.80	80.53	
28-Aug	10:30	0.1	94.53	78.20	
28-Aug	10:31	0.1	92.60	77.47	
28-Aug	10:32	0.1	92.00	76.27	
28-Aug	10:33	0.1	91.20	75.67	
28-Aug	10:34	0.1	90.67	77.00	
28-Aug	10:35	0.1	91.27	76.60	
28-Aug	10:36	0.1	93.27	75.80	
28-Aug	10:37	0.1	93.07	74.47	
28-Aug	10:38	0.1	91.60	72.53	
28-Aug	10:39	0.1	89.47	71.40	
28-Aug	10:40	0.1	86.93	69.73	
28-Aug	10:41	0.1	84.73	67.67	
28-Aug	10:42	0.1	82.87	66.13	
28-Aug	10:43	0.1	81.60	63.53	
28-Aug	10:44	0.1	80.73	62.27	
28-Aug	10:45	0.1	80.00	61.13	
28-Aug	10:46	0.1	78.07	60.40	
28-Aug	10:47	0.1	78.07	60.27	
28-Aug	10:48	0.1	77.73	57.40	
28-Aug	10:49	0.1	76.80	55.87	
28-Aug	10:50	0.1	74.20	54.53	
28-Aug	10:51	0.1	71.00	53.07	
28-Aug	10:52	0.1	69.80	52.07	
28-Aug	10:53	0.1	68.33	50.80	
28-Aug	10:54	0.1	67.13	50.53	
28-Aug	10:55	0.1	66.20	49.80	
28-Aug	10:56	0.1	64.93	49.07	
28-Aug	10:57	0.1	63.73	48.40	
28-Aug	10:58	0.1	61.93	47.93	
28-Aug	10:59	0.1	60.27	46.27	
28-Aug	11:00	0.1	58.53	44.93	
28-Aug	11:01	0.1	56.60	43.13	
28-Aug	11:02	0.1	53.67	42.13	
28-Aug	11:03	0.1	51.33	41.20	
28-Aug	11:04	0.1	48.93	40.20	
28-Aug	11:05	0.1	48.20	39.33	
28-Aug	11:06	0.1	47.27	38.07	
28-Aug	11:07	0.1	46.00	36.93	
28-Aug	11:08	0.1	44.40	35.87	
28-Aug	11:09	0.1	43.07	34.93	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	11:10	0.1	42.00	34.27	
28-Aug	11:11	0.1	40.80	33.67	
28-Aug	11:12	0.1	40.13	33.20	
28-Aug	11:13	0.1	39.60	32.60	
28-Aug	11:14	0.1	38.87	31.87	
28-Aug	11:15	0.1	37.20	32.07	
28-Aug	11:16	0.1	37.40	33.40	
28-Aug	11:17	0.1	38.53	34.07	
28-Aug	11:18	0.1	39.87	35.07	
28-Aug	11:19	0.1	41.67	37.60	
28-Aug	11:20	0.1	43.47	38.87	
28-Aug	11:21	0.1	45.40	40.87	
28-Aug	11:22	0.1	47.53	43.20	
28-Aug	11:23	0.1	49.93	44.33	
28-Aug	11:24	0.1	53.13	45.73	
28-Aug	11:25	0.1	56.20	47.80	
28-Aug	11:26	0.1	58.13	49.20	
28-Aug	11:27	0.1	61.07	51.27	
28-Aug	11:28	0.1	65.13	56.93	
28-Aug	11:29	0.1	73.27	61.13	
28-Aug	11:30	0.1	84.00	62.60	
28-Aug	11:31	0.1	89.60	66.60	
28-Aug	11:32	0.1	94.20	69.60	
28-Aug	11:33	0.1	98.20	69.47	
28-Aug	11:34	0.1	100.40	72.07	
28-Aug	11:35	0.1	103.53	73.67	
28-Aug	11:36	0.1	106.20	74.07	
28-Aug	11:37	0.1	109.07	76.80	
28-Aug	11:38	0.1	112.40	80.87	
28-Aug	11:39	0.1	116.00	84.00	
28-Aug	11:40	0.1	122.20	86.13	
28-Aug	11:41	0.1	126.27	88.87	
28-Aug	11:42	0.2	133.40	88.87	
28-Aug	11:43	0.2	135.00	88.20	
28-Aug	11:44	0.2	147.07	88.73	
28-Aug	11:45	0.2	154.47	88.73	
28-Aug	11:46	0.2	153.40	86.07	
28-Aug	11:47	0.2	153.53	88.33	
28-Aug	11:48	0.2	153.60	87.13	
28-Aug	11:49	0.2	153.20	87.07	
28-Aug	11:50	0.2	156.33	92.40	
28-Aug	11:51	0.2	158.07	94.33	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	11:52	0.2	169.67	93.80	
28-Aug	11:53	0.2	173.47	93.93	
28-Aug	11:54	0.2	184.87	98.00	
28-Aug	11:55	0.2	197.87	101.00	
28-Aug	11:56	0.2	203.27	105.00	
28-Aug	11:57	0.2	207.60	108.47	
28-Aug	11:58	0.2	195.27	111.07	
28-Aug	11:59	0.2	191.53	109.93	
28-Aug	12:00	0.2	192.67	111.20	
28-Aug	12:01	0.2	191.20	109.00	
28-Aug	12:02	0.2	191.73	110.73	
28-Aug	12:03	0.2	192.33	109.73	
28-Aug	12:04	0.2	189.73	104.87	
28-Aug	12:05	0.2	189.87	101.07	
28-Aug	12:06	0.2	176.13	100.13	
28-Aug	12:07	0.2	170.07	98.73	
28-Aug	12:08	0.2	154.33	94.27	
28-Aug	12:09	0.2	137.00	89.73	
28-Aug	12:10	0.2	123.27	82.20	
28-Aug	12:11	0.2	112.80	76.40	
28-Aug	12:12	0.2	104.33	73.27	
28-Aug	12:13	0.2	95.27	70.67	
28-Aug	12:14	0.2	91.00	69.67	
28-Aug	12:15	0.2	87.47	68.00	
28-Aug	12:16	0.2	83.47	64.87	
28-Aug	12:17	0.2	79.20	62.73	
28-Aug	12:18	0.2	75.20	60.27	
28-Aug	12:19	0.2	69.33	58.67	
28-Aug	12:20	0.2	65.73	55.73	
28-Aug	12:21	0.2	63.13	52.60	
28-Aug	12:22	0.2	67.13	54.47	
28-Aug	12:23	0.2	74.20	58.67	
28-Aug	12:24	0.2	82.20	65.33	
28-Aug	12:25	0.2	86.93	69.47	
28-Aug	12:26	0.2	91.40	71.20	
28-Aug	12:27	0.2	94.67	73.00	
28-Aug	12:28	0.2	96.87	74.07	
28-Aug	12:29	0.2	99.53	76.67	
28-Aug	12:30	0.2	101.47	78.87	
28-Aug	12:31	0.2	103.67	79.93	
28-Aug	12:32	0.2	105.40	80.40	
28-Aug	12:33	0.2	106.33	82.53	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	12:34	0.2	107.87	82.53	
28-Aug	12:35	0.2	107.53	82.60	
28-Aug	12:36	0.2	101.47	79.07	
28-Aug	12:37	0.2	92.80	74.67	
28-Aug	12:38	0.2	83.73	66.53	
28-Aug	12:39	0.2	77.07	61.80	
28-Aug	12:40	0.2	71.47	57.80	
28-Aug	12:41	0.2	67.27	55.13	
28-Aug	12:42	0.2	63.53	52.80	
28-Aug	12:43	0.2	60.47	49.73	
28-Aug	12:44	0.2	58.13	47.07	
28-Aug	12:45	0.2	55.67	47.87	
28-Aug	12:46	0.2	53.33	46.87	
28-Aug	12:47	0.2	51.73	44.87	
28-Aug	12:48	0.2	49.80	44.20	
28-Aug	12:49	0.2	48.60	43.47	
28-Aug	12:50	0.2	47.40	42.60	
28-Aug	12:51	0.2	47.33	40.13	
28-Aug	12:52	0.2	47.07	40.67	
28-Aug	12:53	0.2	58.87	43.33	
28-Aug	12:54	0.2	62.33	44.67	
28-Aug	12:55	0.2	66.47	45.93	
28-Aug	12:56	0.2	70.40	49.40	
28-Aug	12:57	0.2	76.87	51.40	
28-Aug	12:58	0.2	83.33	57.13	
28-Aug	12:59	0.2	90.67	65.93	
28-Aug	13:00	0.2	102.87	72.67	
28-Aug	13:01	0.2	115.93	88.07	
28-Aug	13:02	0.2	140.67	104.07	
28-Aug	13:03	0.2	159.27	119.47	
28-Aug	13:04	0.2	175.87	132.20	
28-Aug	13:05	0.2	189.60	141.20	
28-Aug	13:06	0.2	200.53	149.07	
28-Aug	13:07	0.2	200.40	154.07	
28-Aug	13:08	0.2	208.27	162.73	
28-Aug	13:09	0.2	215.80	169.20	
28-Aug	13:10	0.2	224.33	174.67	
28-Aug	13:11	0.2	228.80	182.47	
28-Aug	13:12	0.2	233.13	185.60	
28-Aug	13:13	0.2	239.40	180.07	
28-Aug	13:14	0.2	236.33	180.67	
28-Aug	13:15	0.2	230.53	169.13	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	13:16	0.2	212.20	157.80	
28-Aug	13:17	0.2	199.27	146.20	
28-Aug	13:18	0.2	188.73	141.73	
28-Aug	13:19	0.2	505.20	159.73	Breaking up concrete
28-Aug	13:20	0.2	571.80	212.20	Sweeping Floor
28-Aug	13:21	0.2	634.60	266.13	All fans on
28-Aug	13:22	0.2	697.40	308.53	
28-Aug	13:23	0.2	753.93	371.40	Clothes washing operations in effect. Many workers on-site moving around, increasing dust concentrations
28-Aug	13:24	0.2	862.53	432.93	
28-Aug	13:25	0.2	946.13	488.20	
28-Aug	13:26	0.2	1022.33	554.27	
28-Aug	13:27	0.2	1146.67	658.87	
28-Aug	13:28	0.2	1273.53	721.53	
28-Aug	13:29	0.2	1363.13	777.13	
28-Aug	13:30	0.2	1428.40	824.33	
28-Aug	13:31	0.2	1572.73	872.73	
28-Aug	13:32	0.2	1633.40	910.60	
28-Aug	13:33	0.2	1359.53	921.80	
28-Aug	13:34	0.2	1333.53	898.07	
28-Aug	13:35	0.2	1307.20	872.33	
28-Aug	13:36	0.2	1294.27	860.47	
28-Aug	13:37	0.2	1323.33	839.80	
28-Aug	13:38	0.2	1470.33	845.33	
28-Aug	13:39	0.2	1481.93	851.07	
28-Aug	13:40	0.2	1525.40	878.20	
28-Aug	13:41	0.2	1504.13	859.40	
28-Aug	13:42	0.2	1472.20	866.67	
28-Aug	13:43	0.2	1464.47	873.40	
28-Aug	13:44	0.2	1464.40	878.40	
28-Aug	13:45	0.2	1376.67	873.73	
28-Aug	13:46	0.2	1364.53	870.07	
28-Aug	13:47	0.2	1359.13	873.60	
28-Aug	13:48	0.2	1355.27	869.13	
28-Aug	13:49	0.2	1348.53	861.60	
28-Aug	13:50	0.2	1319.53	843.13	
28-Aug	13:51	0.2	1249.40	810.13	
28-Aug	13:52	0.2	1006.67	751.07	
28-Aug	13:53	0.2	924.20	697.73	
28-Aug	13:54	0.2	813.33	610.20	
28-Aug	13:55	0.2	713.87	530.47	
28-Aug	13:56	0.2	626.60	464.20	
28-Aug	13:57	0.2	553.13	406.80	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
28-Aug	13:58	0.2	494.20	358.33	
28-Aug	13:59	0.2	444.80	320.33	
28-Aug	14:00	0.2	403.33	286.27	
28-Aug	14:01	0.2	362.87	252.73	
28-Aug	14:02	0.2	324.67	228.20	
28-Aug	14:03	0.2	293.33	206.53	
28-Aug	14:04	0.2	269.53	190.27	
28-Aug	14:05	0.2	251.20	178.73	
28-Aug	14:06	0.2	233.53	166.73	
28-Aug	14:07	0.2	215.60	152.80	
28-Aug	14:08	0.2	200.87	142.67	
28-Aug	14:09	0.2	188.60	135.53	
28-Aug	14:10	0.2	176.40	128.93	
28-Aug	14:11	0.2	164.87	123.87	
28-Aug	14:12	0.2	156.40	120.13	
28-Aug	14:13	0.2	148.07	113.60	
28-Aug	14:14	0.2	138.80	108.20	
28-Aug	14:15	0.2	131.00	103.20	
28-Aug	14:16	0.2	124.80	98.80	
28-Aug	14:17	0.2	117.40	94.73	
28-Aug	14:18	0.2	111.93	92.60	
28-Aug	14:19	0.2	107.80	91.27	
28-Aug	14:20	0.2	104.73	91.80	
28-Aug	14:21	0.2	105.20	93.13	
28-Aug	14:22	0.2	105.20	93.33	
28-Aug	14:23	0.2	104.73	92.00	
28-Aug	14:24	0.2	104.40	90.67	
28-Aug	14:25	0.2	104.00	90.20	
28-Aug	14:26	0.2	103.00	88.87	
28-Aug	14:27	0.2	103.27	90.00	
28-Aug	14:28	0.2	101.40	89.07	
28-Aug	14:29	0.2	100.27	87.53	
28-Aug	14:30	0.2	98.60	85.67	
28-Aug	14:31	0.2	97.33	83.73	
28-Aug	14:32	0.2	95.73	81.27	
28-Aug	14:33	0.2	92.27	80.07	
28-Aug	14:34	0.2	93.07	75.80	
28-Aug	14:35	0.2	95.67	73.20	
28-Aug	14:36	0.2	93.80	71.13	
28-Aug	14:37	0.2	86.07	65.73	
28-Aug	14:38	0.2	78.67	60.20	
28-Aug	14:39	0.2	71.80	54.13	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter
--	Not collected
225.33	Exceeds background levels by 150 µg/m3

PID Calibration: 0.0/100.0
Winds to the East/Southeast

Community Air Monitoring Report – Week 2
Bridge Cleaners
39-26 30th Street, Long Island City, Queens County,
New York

Monday, August 31, 2020 –Thursday, September 3, 2020

PREPARED BY	N. Krasnecky

General Notes:

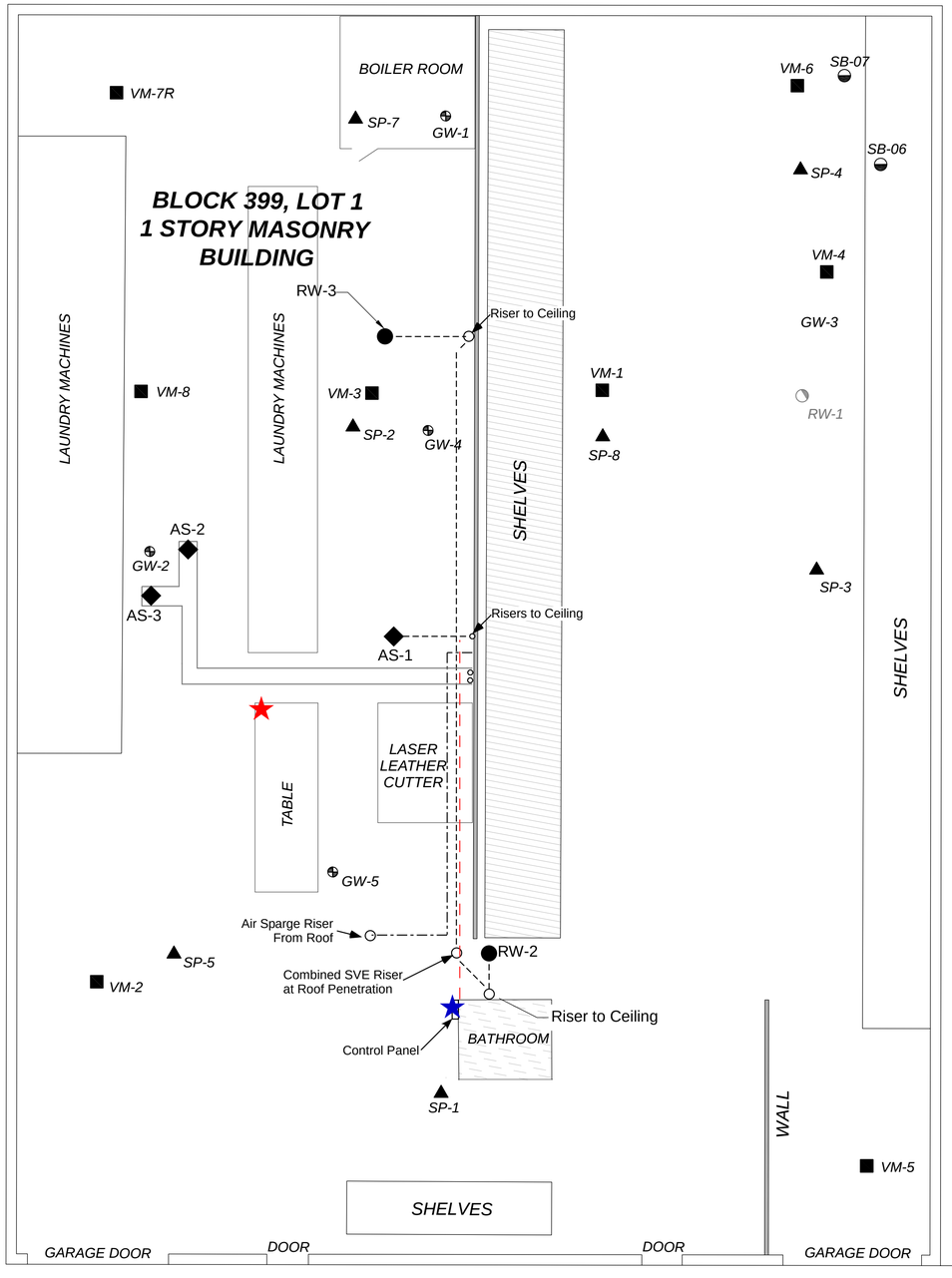
REFER TO FIGURE 1 FOR AIR MONITORING STATION LOCATIONS

Air Monitoring Station #1	Within Work Area Exclusion Zone

- Set-up onsite to gather site data for VOCs and particulates during general site activities, air sparge well installation, and concrete trenching within the work-zone for comparison to the "downwind" data.
- Collected data was utilized as a comparison and precursor for dust/VOC suppression techniques as opposed to sole reliance on the "downwind", building occupant protection, air monitoring.
    - On Monday 8/31, employees of the washing facility were on-site and many of the washing and drying machines were in operation. See Table 1 for data and notes on work performed during periods of dust concentration exceedances.
    - Exceedances in the work area were measured on September 3 which were caused by mixing of concrete and was not a result of subsurface intrusive work.

Air Monitoring Station #2	"Downwind" of Exclusion Zone – Between Work Area and Building Occupants

- Set-up onsite to gather site data for particulates during general site activities, air sparge well installation, and concrete trenching.
    - There were no exceedances of VOCs at the downwind location.
    - On Monday 8/31, employees of the washing facility were on-site and many of the washing and drying machines were in operation. Dust concentrations were elevated due to the additional traffic near the "downwind" pDR location.
    - Collected data was monitored against background data, work-area monitoring data, and limits set forth in the CAMP.



0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

PVC PIPE

STEEL PIPE

AIR SPARGE WELL

VAPOR EXTRACTION WELL

GROUNDWATER MONITORING WELL/SOIL BORING

SOIL BORING

VACUUM MONITORING POINT

SOIL VAPOR POINT

ABANDONED

TRENCHING

PROPOSED ELECTRIC TO RUN ALONG STRUTS ON CEILING

RISER LOCATION

CAMP MONITORING - WORK AREA

CAMP MONITORING - DOWNWIND

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY ECC HORIZON (SEPTEMBER 2020)

REV	DATE	DESCRIPTION	APP

CERTIFIED BY DATE

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER ANY DOCUMENT THAT BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THE PERSON IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

LONG ISLAND CITY NEW YORK

DRN AN	DATE 9-9-2020
DES NK	DATE 9-9-2020
CHK AAN	DATE 9-9-2020
SCALE AS NOTED	PROJECT NO BRIDGE CLEANERS

FIRST FLOOR PLAN VIEW
CAMP MONITORING
LOCATIONS

FIGURE

REV **1**

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	09:17	--	--	--	
31-Aug	09:18	--	--	--	
31-Aug	09:19	--	--	--	
31-Aug	09:20	--	--	--	
31-Aug	09:21	--	--	--	
31-Aug	09:22	--	--	--	
31-Aug	09:23	--	--	--	
31-Aug	09:24	--	--	--	
31-Aug	09:25	--	--	--	
31-Aug	09:26	--	--	--	
31-Aug	09:27	--	--	--	
31-Aug	09:28	--	--	--	
31-Aug	09:29	--	--	--	
31-Aug	09:30	--	--	--	
31-Aug	09:31	--	38.13	30.93	
31-Aug	09:32	--	40.67	29.93	
31-Aug	09:33	--	39.80	29.47	
31-Aug	09:34	--	39.27	28.33	
31-Aug	09:35	--	39.27	28.07	
31-Aug	09:36	--	39.47	28.67	
31-Aug	09:37	---	39.40	28.67	
31-Aug	09:38	---	37.80	28.80	
31-Aug	09:39	---	37.60	28.93	
31-Aug	09:40	---	37.20	28.80	
31-Aug	09:41	---	36.73	29.40	
31-Aug	09:42	---	37.40	29.00	
31-Aug	09:43	---	37.27	29.40	
31-Aug	09:44	---	36.67	30.07	
31-Aug	09:45	---	35.93	31.27	
31-Aug	09:46	---	36.07	32.93	
31-Aug	09:47	---	36.20	34.00	
31-Aug	09:48	---	36.60	33.93	
31-Aug	09:49	---	38.00	34.87	
31-Aug	09:50	---	37.13	35.33	
31-Aug	09:51	0.0	37.13	34.80	
31-Aug	09:52	0.0	36.87	34.80	
31-Aug	09:53	0.0	37.40	34.80	
31-Aug	09:54	0.0	36.73	34.40	
31-Aug	09:55	0.0	36.73	33.80	
31-Aug	09:56	0.0	36.87	33.47	
31-Aug	09:57	0.0	36.93	33.20	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	09:58	0.0	35.93	32.40	
31-Aug	09:59	0.0	35.93	31.20	
31-Aug	10:00	0.0	35.73	29.80	
31-Aug	10:01	0.0	36.13	28.00	
31-Aug	10:02	0.0	35.53	26.60	
31-Aug	10:03	0.0	35.60	26.13	
31-Aug	10:04	0.0	33.60	25.07	
31-Aug	10:05	0.0	33.60	24.00	
31-Aug	10:06	0.0	32.60	24.60	
31-Aug	10:07	0.0	33.27	24.00	
31-Aug	10:08	0.0	32.53	24.13	
31-Aug	10:09	0.0	34.40	25.07	
31-Aug	10:10	0.0	33.53	25.80	
31-Aug	10:11	0.0	33.60	25.80	
31-Aug	10:12	0.0	32.80	25.53	
31-Aug	10:13	0.0	34.07	25.60	
31-Aug	10:14	0.0	33.60	26.40	
31-Aug	10:15	0.1	33.20	27.07	
31-Aug	10:16	0.1	34.93	27.47	
31-Aug	10:17	0.1	34.53	27.93	
31-Aug	10:18	0.1	34.07	28.53	
31-Aug	10:19	0.1	35.27	29.07	
31-Aug	10:20	0.1	35.33	29.87	
31-Aug	10:21	0.1	35.53	29.00	
31-Aug	10:22	0.1	34.40	30.80	
31-Aug	10:23	0.1	34.93	32.20	
31-Aug	10:24	0.1	33.13	31.47	
31-Aug	10:25	0.1	33.40	31.33	
31-Aug	10:26	0.1	33.40	31.73	
31-Aug	10:27	0.1	33.20	32.67	
31-Aug	10:28	0.1	33.80	36.07	
31-Aug	10:29	0.1	35.47	36.60	
31-Aug	10:30	0.1	35.40	39.93	
31-Aug	10:31	0.1	32.80	41.27	
31-Aug	10:32	0.1	34.87	42.67	
31-Aug	10:33	0.1	35.93	43.93	
31-Aug	10:34	0.1	35.80	44.27	
31-Aug	10:35	0.1	36.07	45.60	
31-Aug	10:36	0.1	36.53	47.67	
31-Aug	10:37	0.1	37.47	46.40	
31-Aug	10:38	0.1	37.33	45.80	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	10:39	0.1	37.40	45.47	
31-Aug	10:40	0.1	41.87	45.07	
31-Aug	10:41	0.1	42.60	45.07	
31-Aug	10:42	0.1	45.80	45.40	
31-Aug	10:43	0.1	45.07	44.73	
31-Aug	10:44	0.1	46.13	46.67	
31-Aug	10:45	0.2	48.13	46.53	
31-Aug	10:46	0.2	50.07	46.47	
31-Aug	10:47	0.2	48.93	46.67	
31-Aug	10:48	0.3	49.20	47.00	
31-Aug	10:49	0.3	49.47	47.60	
31-Aug	10:50	0.3	48.67	47.00	
31-Aug	10:51	0.4	48.93	45.60	
31-Aug	10:52	0.4	48.00	48.27	
31-Aug	10:53	0.4	49.07	48.40	
31-Aug	10:54	0.4	49.47	48.93	
31-Aug	10:55	0.5	45.53	51.40	
31-Aug	10:56	0.5	46.20	51.73	
31-Aug	10:57	0.5	45.07	52.33	
31-Aug	10:58	0.5	46.00	53.53	
31-Aug	10:59	0.5	45.20	52.47	
31-Aug	11:00	0.5	44.40	51.33	
31-Aug	11:01	0.5	42.60	52.33	
31-Aug	11:02	0.5	42.33	52.60	
31-Aug	11:03	0.5	41.47	52.80	
31-Aug	11:04	0.5	41.67	54.73	
31-Aug	11:05	0.4	42.73	54.53	
31-Aug	11:06	0.5	43.00	55.20	
31-Aug	11:07	0.5	43.87	55.27	
31-Aug	11:08	0.5	43.87	54.93	
31-Aug	11:09	0.5	45.53	55.33	
31-Aug	11:10	0.5	46.40	53.73	
31-Aug	11:11	0.5	45.73	54.93	
31-Aug	11:12	0.5	44.87	56.00	
31-Aug	11:13	0.5	44.40	54.47	
31-Aug	11:14	0.5	42.60	52.93	
31-Aug	11:15	0.5	42.93	51.27	
31-Aug	11:16	0.5	42.80	50.33	
31-Aug	11:17	0.5	43.27	50.67	
31-Aug	11:18	0.5	42.73	49.27	
31-Aug	11:19	0.5	42.40	49.20	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	11:20	0.5	42.13	49.07	
31-Aug	11:21	0.5	41.27	48.20	
31-Aug	11:22	0.5	43.87	47.20	
31-Aug	11:23	0.5	43.07	47.27	
31-Aug	11:24	0.5	44.33	46.67	
31-Aug	11:25	0.7	45.53	47.13	
31-Aug	11:26	0.8	44.47	46.40	
31-Aug	11:27	0.9	48.47	44.47	
31-Aug	11:28	1.0	48.80	43.00	
31-Aug	11:29	1.1	50.33	43.47	
31-Aug	11:30	2.8	52.20	44.00	
31-Aug	11:31	3.0	54.40	43.33	
31-Aug	11:32	3.1	54.80	43.53	
31-Aug	11:33	3.4	56.33	43.80	
31-Aug	11:34	3.6	57.80	43.00	
31-Aug	11:35	3.7	58.53	43.80	
31-Aug	11:36	3.8	59.87	44.87	
31-Aug	11:37	4.0	59.13	44.80	
31-Aug	11:38	4.1	60.27	45.13	
31-Aug	11:39	4.2	58.87	46.73	
31-Aug	11:40	4.3	59.13	46.93	
31-Aug	11:41	4.2	60.47	47.00	
31-Aug	11:42	4.3	56.93	46.93	
31-Aug	11:43	4.2	57.13	47.60	
31-Aug	11:44	4.2	56.87	47.80	
31-Aug	11:45	4.2	55.00	47.33	
31-Aug	11:46	2.6	53.47	47.67	
31-Aug	11:47	2.6	53.53	46.93	
31-Aug	11:48	2.6	53.80	48.67	
31-Aug	11:49	2.6	53.13	47.40	
31-Aug	11:50	2.5	53.33	47.47	
31-Aug	11:51	2.6	54.33	46.00	
31-Aug	11:52	2.6	52.20	45.53	
31-Aug	11:53	2.6	51.47	45.33	
31-Aug	11:54	2.6	51.93	45.07	
31-Aug	11:55	2.6	49.93	44.80	
31-Aug	11:56	2.6	49.73	44.13	
31-Aug	11:57	2.6	48.93	43.93	
31-Aug	11:58	2.6	48.53	43.27	
31-Aug	11:59	2.6	47.87	44.53	
31-Aug	12:00	2.7	46.93	44.27	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	12:01	2.7	46.87	43.27	
31-Aug	12:02	2.7	46.27	43.20	
31-Aug	12:03	2.7	45.00	41.33	
31-Aug	12:04	2.7	44.60	41.73	
31-Aug	12:05	2.5	44.20	40.73	
31-Aug	12:06	2.5	42.27	40.87	
31-Aug	12:07	2.4	42.53	39.73	
31-Aug	12:08	2.4	42.00	38.93	
31-Aug	12:09	2.4	40.27	37.40	
31-Aug	12:10	2.4	39.93	36.60	
31-Aug	12:11	2.4	39.53	36.47	
31-Aug	12:12	2.4	39.93	36.13	
31-Aug	12:13	2.4	39.00	35.47	
31-Aug	12:14	2.3	38.87	33.13	
31-Aug	12:15	2.3	38.93	32.93	
31-Aug	12:16	2.3	38.00	33.13	
31-Aug	12:17	2.3	37.00	31.60	
31-Aug	12:18	2.2	36.53	31.33	
31-Aug	12:19	2.2	35.40	30.53	
31-Aug	12:20	2.2	34.40	30.00	
31-Aug	12:21	2.2	33.93	29.73	
31-Aug	12:22	2.2	32.93	29.33	
31-Aug	12:23	2.1	33.07	29.20	
31-Aug	12:24	2.1	32.40	29.27	
31-Aug	12:25	2.1	32.27	28.60	
31-Aug	12:26	2.1	31.20	28.07	
31-Aug	12:27	2.1	29.80	28.27	
31-Aug	12:28	2.0	28.80	28.07	
31-Aug	12:29	2.0	28.00	28.07	
31-Aug	12:30	2.0	27.47	27.53	
31-Aug	12:31	2.0	27.40	27.07	
31-Aug	12:32	1.9	27.40	27.13	
31-Aug	12:33	1.9	27.00	26.60	
31-Aug	12:34	1.9	26.40	26.00	
31-Aug	12:35	1.9	25.93	25.93	
31-Aug	12:36	1.9	25.73	26.20	
31-Aug	12:37	1.8	25.80	26.27	
31-Aug	12:38	1.8	25.33	26.20	
31-Aug	12:39	1.8	25.00	26.13	
31-Aug	12:40	1.8	25.27	26.47	
31-Aug	12:41	1.8	25.27	26.07	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	12:42	1.7	25.87	26.00	
31-Aug	12:43	1.7	25.93	26.27	
31-Aug	12:44	1.7	26.07	27.60	
31-Aug	12:45	1.7	26.27	27.60	
31-Aug	12:46	1.7	25.93	27.60	
31-Aug	12:47	1.7	26.27	28.27	
31-Aug	12:48	1.7	26.60	28.67	
31-Aug	12:49	1.6	27.27	29.00	
31-Aug	12:50	1.6	27.73	29.27	
31-Aug	12:51	1.6	28.00	29.80	
31-Aug	12:52	1.6	28.80	30.07	
31-Aug	12:53	1.6	28.73	30.87	
31-Aug	12:54	1.6	28.40	31.47	
31-Aug	12:55	1.5	27.53	31.13	
31-Aug	12:56	1.5	27.80	31.53	
31-Aug	12:57	1.5	26.53	31.07	
31-Aug	12:58	1.5	26.80	30.53	
31-Aug	12:59	1.5	26.07	29.47	
31-Aug	13:00	1.4	25.53	29.47	
31-Aug	13:01	1.4	25.67	29.00	
31-Aug	13:02	1.4	24.73	28.33	
31-Aug	13:03	1.4	24.13	27.73	
31-Aug	13:04	1.3	23.33	27.80	
31-Aug	13:05	1.3	22.60	27.53	
31-Aug	13:06	1.3	22.13	26.60	
31-Aug	13:07	1.2	21.27	26.47	
31-Aug	13:08	1.2	21.13	26.80	
31-Aug	13:09	1.2	21.13	25.67	
31-Aug	13:10	1.2	20.93	25.47	
31-Aug	13:11	1.1	20.87	25.53	
31-Aug	13:12	1.1	20.87	25.47	
31-Aug	13:13	1.1	20.33	26.00	
31-Aug	13:14	1.1	20.53	25.67	
31-Aug	13:15	1.0	20.67	25.40	
31-Aug	13:16	1.0	20.93	26.07	
31-Aug	13:17	1.0	21.27	26.13	
31-Aug	13:18	1.0	23.53	26.40	
31-Aug	13:19	1.0	24.33	25.93	
31-Aug	13:20	1.0	24.67	26.33	
31-Aug	13:21	1.0	25.20	26.80	
31-Aug	13:22	1.0	25.20	27.33	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	13:23	0.9	26.07	26.27	
31-Aug	13:24	0.9	26.93	27.00	
31-Aug	13:25	0.9	26.73	27.40	
31-Aug	13:26	1.0	26.60	27.13	
31-Aug	13:27	1.0	26.87	27.20	
31-Aug	13:28	1.0	26.80	27.07	
31-Aug	13:29	1.1	26.60	27.13	
31-Aug	13:30	1.1	26.13	28.40	
31-Aug	13:31	1.1	25.67	28.13	
31-Aug	13:32	1.1	25.53	28.07	
31-Aug	13:33	1.2	23.00	28.87	
31-Aug	13:34	1.2	22.73	28.87	
31-Aug	13:35	1.2	22.47	28.80	
31-Aug	13:36	1.3	21.60	29.73	
31-Aug	13:37	1.3	22.07	32.07	
31-Aug	13:38	1.3	21.13	33.60	
31-Aug	13:39	1.3	23.53	34.33	
31-Aug	13:40	1.4	39.60	47.07	
31-Aug	13:41	1.4	60.73	67.00	
31-Aug	13:42	1.3	82.13	91.20	
31-Aug	13:43	1.3	97.00	108.80	
31-Aug	13:44	1.3	103.67	121.00	
31-Aug	13:45	1.2	109.60	131.20	
31-Aug	13:46	1.2	115.33	142.93	
31-Aug	13:47	1.2	119.67	151.40	
31-Aug	13:48	1.1	125.80	156.67	
31-Aug	13:49	1.1	132.40	164.27	
31-Aug	13:50	1.0	136.87	170.93	Dry cleaning/ washing machines in operation - many people working
31-Aug	13:51	1.0	144.40	174.20	
31-Aug	13:52	1.0	150.20	176.80	
31-Aug	13:53	0.9	156.93	180.67	
31-Aug	13:54	0.9	158.60	184.47	
31-Aug	13:55	0.8	146.13	176.27	
31-Aug	13:56	0.8	133.67	161.20	
31-Aug	13:57	0.8	167.80	140.27	
31-Aug	13:58	0.7	163.60	129.53	
31-Aug	13:59	0.7	164.53	126.40	
31-Aug	14:00	0.7	163.00	119.93	
31-Aug	14:01	0.7	164.40	113.53	
31-Aug	14:02	0.7	170.87	109.07	
31-Aug	14:03	0.7	231.67	158.27	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
31-Aug	14:04	0.7	291.40	200.07	Dry cleaning/ washing machines in operation - many people working
31-Aug	14:05	0.7	285.80	238.13	
31-Aug	14:06	0.6	277.27	297.00	
31-Aug	14:07	0.6	269.33	338.60	
31-Aug	14:08	0.6	261.07	374.80	

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter
--	Not collected
170.93	Exceeds background levels by 150 µg/m3

PID Calibration: 0.0/100.0
Winds to the Northwest

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	08:18	--	--	--	
1-Sep	08:19	--	--	--	
1-Sep	08:20	--	--	--	
1-Sep	08:21	--	--	--	
1-Sep	08:22	--	--	--	
1-Sep	08:23	--	--	--	
1-Sep	08:24	--	--	--	
1-Sep	08:25	--	--	--	
1-Sep	08:26	--	--	--	
1-Sep	08:27	--	--	--	
1-Sep	08:28	--	--	--	
1-Sep	08:29	---	--	--	
1-Sep	08:30	---	--	--	
1-Sep	08:31	---	--	--	
1-Sep	08:32	---	--	40.40	
1-Sep	08:33	---	51.27	38.27	
1-Sep	08:34	---	49.40	36.93	
1-Sep	08:35	---	48.13	36.00	
1-Sep	08:36	---	47.00	35.47	
1-Sep	08:37	---	46.80	35.67	
1-Sep	08:38	---	46.07	35.73	
1-Sep	08:39	---	44.73	34.80	
1-Sep	08:40	---	42.47	32.73	
1-Sep	08:41	---	40.33	31.00	
1-Sep	08:42	---	38.20	29.93	
1-Sep	08:43	0.0	35.07	28.80	
1-Sep	08:44	0.0	33.07	27.93	
1-Sep	08:45	0.0	31.73	27.27	
1-Sep	08:46	0.0	31.47	27.27	
1-Sep	08:47	0.0	30.93	27.67	
1-Sep	08:48	0.0	33.07	29.07	
1-Sep	08:49	0.0	34.80	30.07	
1-Sep	08:50	0.0	36.80	31.60	
1-Sep	08:51	0.0	38.27	32.67	
1-Sep	08:52	0.0	42.40	33.80	
1-Sep	08:53	0.0	51.33	34.93	
1-Sep	08:54	0.0	58.73	36.33	
1-Sep	08:55	0.0	63.87	37.80	
1-Sep	08:56	0.0	67.40	39.60	
1-Sep	08:57	0.0	70.47	40.00	
1-Sep	08:58	0.0	73.40	40.67	
1-Sep	08:59	0.0	75.53	40.67	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	09:00	0.0	77.07	40.80	
1-Sep	09:01	0.0	79.40	41.67	
1-Sep	09:02	0.0	81.40	41.93	
1-Sep	09:03	0.0	80.33	41.20	
1-Sep	09:04	0.0	79.87	40.93	
1-Sep	09:05	0.0	79.53	40.13	
1-Sep	09:06	0.0	79.27	39.93	
1-Sep	09:07	0.0	75.87	39.27	
1-Sep	09:08	0.0	67.40	38.73	
1-Sep	09:09	0.0	60.73	37.53	
1-Sep	09:10	0.0	55.87	36.00	
1-Sep	09:11	0.0	52.07	34.07	
1-Sep	09:12	0.0	49.60	33.67	
1-Sep	09:13	0.0	46.73	33.07	
1-Sep	09:14	0.0	44.67	33.33	
1-Sep	09:15	0.0	43.27	33.67	
1-Sep	09:16	0.0	40.87	33.53	
1-Sep	09:17	0.0	38.27	33.67	
1-Sep	09:18	0.0	36.87	33.13	
1-Sep	09:19	0.0	35.47	32.53	
1-Sep	09:20	0.0	33.80	31.53	
1-Sep	09:21	0.0	32.67	30.80	
1-Sep	09:22	0.0	31.73	31.27	
1-Sep	09:23	0.0	31.33	31.07	
1-Sep	09:24	0.0	30.67	31.53	
1-Sep	09:25	0.0	30.27	31.47	
1-Sep	09:26	0.0	30.13	31.53	
1-Sep	09:27	0.0	28.87	30.87	
1-Sep	09:28	0.0	28.60	30.27	
1-Sep	09:29	0.0	28.40	29.80	
1-Sep	09:30	0.0	28.20	29.47	
1-Sep	09:31	0.0	28.07	28.87	
1-Sep	09:32	0.0	28.00	27.80	
1-Sep	09:33	0.0	27.67	27.67	
1-Sep	09:34	0.0	27.73	27.80	
1-Sep	09:35	0.0	28.40	27.87	
1-Sep	09:36	0.0	28.60	28.73	
1-Sep	09:37	0.0	28.33	27.80	
1-Sep	09:38	0.1	28.07	27.07	
1-Sep	09:39	0.1	28.00	26.13	
1-Sep	09:40	0.0	28.13	25.93	
1-Sep	09:41	0.0	28.13	25.73	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	09:42	0.0	28.33	26.00	
1-Sep	09:43	0.0	28.27	26.00	
1-Sep	09:44	0.0	27.93	25.67	
1-Sep	09:45	0.0	27.40	25.07	
1-Sep	09:46	0.0	26.67	24.73	
1-Sep	09:47	0.0	26.67	24.67	
1-Sep	09:48	0.0	26.53	24.80	
1-Sep	09:49	0.0	26.00	24.27	
1-Sep	09:50	0.0	24.93	24.27	
1-Sep	09:51	0.0	24.60	22.87	
1-Sep	09:52	0.1	24.27	22.53	
1-Sep	09:53	0.1	23.47	22.33	
1-Sep	09:54	0.1	23.33	22.07	
1-Sep	09:55	0.1	26.00	23.93	
1-Sep	09:56	0.1	26.13	25.47	
1-Sep	09:57	0.1	27.07	25.53	
1-Sep	09:58	0.1	27.67	26.13	
1-Sep	09:59	0.1	28.00	26.60	
1-Sep	10:00	0.1	28.60	27.00	
1-Sep	10:01	0.1	29.13	27.27	
1-Sep	10:02	0.1	28.60	27.20	
1-Sep	10:03	0.1	28.20	26.60	
1-Sep	10:04	0.1	29.07	26.27	
1-Sep	10:05	0.1	28.87	25.80	
1-Sep	10:06	0.1	29.47	26.00	
1-Sep	10:07	0.1	29.40	25.93	
1-Sep	10:08	0.1	29.47	26.07	
1-Sep	10:09	0.1	29.40	26.13	
1-Sep	10:10	0.1	26.13	24.27	
1-Sep	10:11	0.1	25.27	22.47	
1-Sep	10:12	0.1	23.93	21.73	
1-Sep	10:13	0.1	22.80	20.80	
1-Sep	10:14	0.1	22.93	20.13	
1-Sep	10:15	0.1	22.00	19.47	
1-Sep	10:16	0.1	21.13	18.93	
1-Sep	10:17	0.1	21.33	18.73	
1-Sep	10:18	0.1	21.33	18.67	
1-Sep	10:19	0.1	20.60	18.67	
1-Sep	10:20	0.1	20.73	18.80	
1-Sep	10:21	0.1	19.60	18.53	
1-Sep	10:22	0.1	21.93	18.47	
1-Sep	10:23	0.1	22.00	18.47	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	10:24	0.1	23.53	18.67	
1-Sep	10:25	0.1	24.40	18.93	
1-Sep	10:26	0.1	25.47	19.07	
1-Sep	10:27	0.1	26.07	19.27	
1-Sep	10:28	0.1	26.33	19.33	
1-Sep	10:29	0.1	25.73	19.53	
1-Sep	10:30	0.1	26.07	19.93	
1-Sep	10:31	0.1	27.93	20.00	
1-Sep	10:32	0.1	28.00	20.27	
1-Sep	10:33	0.2	28.53	20.47	
1-Sep	10:34	0.2	28.47	20.60	
1-Sep	10:35	0.2	28.60	20.73	
1-Sep	10:36	0.2	28.73	21.00	
1-Sep	10:37	0.2	26.40	21.20	
1-Sep	10:38	0.2	26.80	21.27	
1-Sep	10:39	0.2	25.07	21.07	
1-Sep	10:40	0.2	24.87	20.87	
1-Sep	10:41	0.2	24.13	20.93	
1-Sep	10:42	0.2	23.87	21.00	
1-Sep	10:43	0.2	24.53	21.27	
1-Sep	10:44	0.2	24.93	21.47	
1-Sep	10:45	0.2	25.00	21.67	
1-Sep	10:46	0.2	24.33	22.07	
1-Sep	10:47	0.2	25.13	22.13	
1-Sep	10:48	0.2	26.33	22.27	
1-Sep	10:49	0.2	26.67	22.60	
1-Sep	10:50	0.2	27.20	22.87	
1-Sep	10:51	0.2	27.53	22.87	
1-Sep	10:52	0.2	28.07	23.00	
1-Sep	10:53	0.2	28.27	23.20	
1-Sep	10:54	0.2	29.27	23.40	
1-Sep	10:55	0.3	30.20	23.60	
1-Sep	10:56	0.3	31.73	23.87	
1-Sep	10:57	0.4	32.60	24.00	
1-Sep	10:58	0.4	32.47	24.13	
1-Sep	10:59	0.4	32.67	24.40	
1-Sep	11:00	0.4	33.47	24.33	
1-Sep	11:01	0.4	34.93	24.87	
1-Sep	11:02	0.4	35.07	25.27	
1-Sep	11:03	0.4	33.80	25.60	
1-Sep	11:04	0.4	34.13	25.87	
1-Sep	11:05	0.4	35.07	25.87	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	11:06	0.5	35.27	26.47	
1-Sep	11:07	0.5	36.00	26.87	
1-Sep	11:08	0.5	37.13	27.00	
1-Sep	11:09	0.5	37.33	27.00	
1-Sep	11:10	0.5	36.33	26.87	
1-Sep	11:11	0.6	35.67	26.87	
1-Sep	11:12	0.6	35.47	27.20	
1-Sep	11:13	0.6	35.67	27.20	
1-Sep	11:14	0.6	36.33	27.07	
1-Sep	11:15	0.6	35.67	27.13	
1-Sep	11:16	0.6	34.07	26.53	
1-Sep	11:17	0.6	34.13	26.53	
1-Sep	11:18	0.6	34.80	26.27	
1-Sep	11:19	0.6	34.47	25.73	
1-Sep	11:20	0.6	33.00	25.53	
1-Sep	11:21	0.6	34.13	25.00	
1-Sep	11:22	0.5	33.27	24.47	
1-Sep	11:23	0.5	31.60	24.07	
1-Sep	11:24	0.5	30.27	23.93	
1-Sep	11:25	0.5	29.60	23.67	
1-Sep	11:26	0.4	28.60	23.27	
1-Sep	11:27	0.3	28.33	22.60	
1-Sep	11:28	0.3	27.40	22.27	
1-Sep	11:29	0.3	26.93	22.20	
1-Sep	11:30	0.2	28.33	21.80	
1-Sep	11:31	0.2	27.93	21.33	
1-Sep	11:32	0.2	27.33	20.80	
1-Sep	11:33	0.2	26.67	20.60	
1-Sep	11:34	0.2	26.73	20.60	
1-Sep	11:35	0.2	26.67	20.60	
1-Sep	11:36	0.2	25.60	20.53	
1-Sep	11:37	0.2	26.07	20.53	
1-Sep	11:38	0.2	26.27	20.67	
1-Sep	11:39	0.2	26.60	20.80	
1-Sep	11:40	0.2	26.67	20.87	
1-Sep	11:41	0.2	26.67	20.87	
1-Sep	11:42	0.2	26.27	20.93	
1-Sep	11:43	0.2	26.73	21.13	
1-Sep	11:44	0.2	26.47	21.00	
1-Sep	11:45	0.2	25.60	21.27	
1-Sep	11:46	0.2	25.73	21.33	
1-Sep	11:47	0.2	25.60	21.73	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	11:48	0.2	26.13	22.33	
1-Sep	11:49	0.2	26.53	22.53	
1-Sep	11:50	0.2	26.73	22.80	
1-Sep	11:51	0.2	26.53	23.33	
1-Sep	11:52	0.2	26.20	23.93	
1-Sep	11:53	0.2	26.73	24.47	
1-Sep	11:54	0.2	26.93	24.73	
1-Sep	11:55	0.2	27.27	25.20	
1-Sep	11:56	0.2	27.80	25.27	
1-Sep	11:57	0.2	27.80	25.40	
1-Sep	11:58	0.2	27.80	25.20	
1-Sep	11:59	0.2	27.47	25.27	
1-Sep	12:00	0.2	26.73	25.33	
1-Sep	12:01	0.2	26.93	25.73	
1-Sep	12:02	0.2	27.73	25.47	
1-Sep	12:03	0.2	28.53	24.87	
1-Sep	12:04	0.2	28.27	24.80	
1-Sep	12:05	0.2	28.33	24.53	
1-Sep	12:06	0.2	28.07	24.00	
1-Sep	12:07	0.2	27.73	23.40	
1-Sep	12:08	0.2	27.27	22.93	
1-Sep	12:09	0.2	27.33	22.53	
1-Sep	12:10	0.2	27.20	22.27	
1-Sep	12:11	0.2	26.87	22.53	
1-Sep	12:12	0.2	27.40	23.00	
1-Sep	12:13	0.2	30.93	25.93	
1-Sep	12:14	0.2	35.20	29.53	
1-Sep	12:15	0.2	39.13	32.13	
1-Sep	12:16	0.2	41.80	34.47	
1-Sep	12:17	0.2	42.20	35.40	
1-Sep	12:18	0.2	41.47	35.80	
1-Sep	12:19	0.2	41.47	35.67	
1-Sep	12:20	0.2	42.13	36.00	
1-Sep	12:21	0.2	43.73	36.67	
1-Sep	12:22	0.2	44.67	37.47	
1-Sep	12:23	0.2	45.27	37.73	
1-Sep	12:24	0.2	46.47	37.73	
1-Sep	12:25	0.2	46.60	37.53	
1-Sep	12:26	0.2	46.93	37.20	
1-Sep	12:27	0.1	46.47	36.53	
1-Sep	12:28	0.1	43.53	33.87	
1-Sep	12:29	0.1	39.73	30.20	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	12:30	0.1	36.00	27.67	
1-Sep	12:31	0.1	33.53	25.13	
1-Sep	12:32	0.1	32.27	24.20	
1-Sep	12:33	0.1	31.80	23.80	
1-Sep	12:34	0.1	31.47	23.60	
1-Sep	12:35	0.1	31.00	24.53	
1-Sep	12:36	0.1	31.73	26.87	
1-Sep	12:37	0.1	32.07	26.33	
1-Sep	12:38	0.1	31.87	25.87	
1-Sep	12:39	0.1	30.67	25.67	
1-Sep	12:40	0.1	30.60	25.47	
1-Sep	12:41	0.1	30.33	25.40	
1-Sep	12:42	0.1	30.33	25.47	
1-Sep	12:43	0.1	29.53	25.13	
1-Sep	12:44	0.1	28.93	24.87	
1-Sep	12:45	0.1	28.67	24.40	
1-Sep	12:46	0.1	28.40	24.07	
1-Sep	12:47	0.1	28.07	23.87	
1-Sep	12:48	0.1	27.73	23.73	
1-Sep	12:49	0.1	27.40	23.87	
1-Sep	12:50	0.1	27.07	22.47	
1-Sep	12:51	0.1	25.53	19.40	
1-Sep	12:52	0.1	24.20	19.00	
1-Sep	12:53	0.1	24.60	18.93	
1-Sep	12:54	0.1	24.27	19.00	
1-Sep	12:55	0.1	24.13	19.07	
1-Sep	12:56	0.1	24.13	19.20	
1-Sep	12:57	0.1	23.87	19.13	
1-Sep	12:58	0.1	23.87	19.20	
1-Sep	12:59	0.1	24.07	19.27	
1-Sep	13:00	0.1	24.20	19.40	
1-Sep	13:01	0.1	24.00	19.73	
1-Sep	13:02	0.1	26.27	23.07	
1-Sep	13:03	0.1	29.40	27.07	
1-Sep	13:04	0.1	39.13	37.53	
1-Sep	13:05	0.1	49.93	45.67	
1-Sep	13:06	0.1	55.53	50.67	
1-Sep	13:07	0.1	60.80	53.60	
1-Sep	13:08	0.1	62.13	54.00	
1-Sep	13:09	0.1	63.33	54.20	
1-Sep	13:10	0.1	64.07	54.53	
1-Sep	13:11	0.1	64.87	55.20	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
1-Sep	13:12	0.1	65.73	55.47	
1-Sep	13:13	0.1	66.27	55.73	
1-Sep	13:14	0.1	66.73	55.93	
1-Sep	13:15	0.1	66.93	56.07	
1-Sep	13:16	0.1	67.40	56.40	
1-Sep	13:17	0.1	66.13	53.67	
1-Sep	13:18	0.1	64.07	50.07	
1-Sep	13:19	0.1	56.07	39.93	
1-Sep	13:20	0.1	46.47	31.93	
1-Sep	13:21	0.1	41.13	27.20	
1-Sep	13:22	0.1	37.53	24.40	
1-Sep	13:23	0.1	37.13	24.73	
1-Sep	13:24	0.1	36.40	24.93	
1-Sep	13:25	0.1	35.93	24.67	
1-Sep	13:26	0.1	35.33	24.33	
1-Sep	13:27	0.1	34.67	24.27	
1-Sep	13:28	0.1	34.80	24.07	
1-Sep	13:29	0.1	34.87	24.00	
1-Sep	13:30	0.1	34.67	24.00	
1-Sep	13:31	0.1	35.27	23.47	
1-Sep	13:32	0.1	34.73	22.87	
1-Sep	13:33	0.1	34.93	22.87	
1-Sep	13:34	0.1	33.73	22.87	
1-Sep	13:35	0.1	33.20	23.00	
1-Sep	13:36	0.1	32.47	22.87	
1-Sep	13:37	0.1	31.60	23.07	
1-Sep	13:38	0.1	30.40	22.87	
1-Sep	13:39	0.1	30.27	22.60	
1-Sep	13:40	0.1	30.00	22.53	
1-Sep	13:41	0.2	30.20	22.40	
1-Sep	13:42	0.2	31.67	22.53	
1-Sep	13:43	0.2	35.60	23.67	
1-Sep	13:44	0.2	39.40	24.67	
1-Sep	13:45	0.2	41.27	25.47	
1-Sep	13:46	0.2	38.53	25.73	
1-Sep	13:47	0.2	36.80	25.93	

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
--	Not collected				
190.40	Exceeds background levels by 150 µg/m3				
PID Calibration: 0.0/100.0					
Winds to the Northwest					

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	08:23	---	--	--	
2-Sep	08:24	---	--	--	
2-Sep	08:25	---	--	--	
2-Sep	08:26	---	--	--	
2-Sep	08:27	---	--	--	
2-Sep	08:28	---	--	--	
2-Sep	08:29	---	--	--	
2-Sep	08:30	---	--	--	
2-Sep	08:31	---	--	--	
2-Sep	08:32	---	--	--	
2-Sep	08:33	---	--	--	
2-Sep	08:34	---	--	--	
2-Sep	08:35	---	--	--	
2-Sep	08:36	---	--	--	
2-Sep	08:37	---	26.07	28.80	
2-Sep	08:38	---	26.40	29.20	
2-Sep	08:39	---	26.53	29.33	
2-Sep	08:40	---	26.60	29.07	
2-Sep	08:41	---	26.73	28.73	
2-Sep	08:42	---	26.40	28.60	
2-Sep	08:43	---	26.80	28.20	
2-Sep	08:44	---	27.47	27.47	
2-Sep	08:45	---	27.33	26.93	
2-Sep	08:46	---	26.00	26.00	
2-Sep	08:47	---	25.73	25.40	
2-Sep	08:48	---	25.40	24.60	
2-Sep	08:49	---	24.80	23.60	
2-Sep	08:50	---	23.00	20.87	
2-Sep	08:51	---	21.07	19.80	
2-Sep	08:52	0.0	19.67	18.93	
2-Sep	08:53	0.0	18.27	18.33	
2-Sep	08:54	0.0	18.13	18.53	
2-Sep	08:55	0.0	18.07	18.40	
2-Sep	08:56	0.0	18.47	18.13	
2-Sep	08:57	0.0	18.93	17.80	
2-Sep	08:58	0.0	18.73	17.40	
2-Sep	08:59	0.0	18.40	17.73	
2-Sep	09:00	0.0	18.53	17.60	
2-Sep	09:01	0.0	18.33	17.80	
2-Sep	09:02	0.0	17.93	17.87	
2-Sep	09:03	0.0	18.07	17.80	
2-Sep	09:04	0.0	18.00	17.93	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	09:05	0.0	18.07	18.00	
2-Sep	09:06	0.0	18.07	17.07	
2-Sep	09:07	0.0	18.00	17.13	
2-Sep	09:08	0.0	18.13	17.13	
2-Sep	09:09	0.0	17.47	16.73	
2-Sep	09:10	0.0	17.13	16.53	
2-Sep	09:11	0.0	16.67	16.67	
2-Sep	09:12	0.0	16.00	16.47	
2-Sep	09:13	0.0	15.27	16.53	
2-Sep	09:14	0.0	14.47	16.67	
2-Sep	09:15	0.0	14.20	16.67	
2-Sep	09:16	0.0	14.20	16.87	
2-Sep	09:17	0.0	15.67	17.20	
2-Sep	09:18	0.0	16.00	17.60	
2-Sep	09:19	0.0	16.13	17.73	
2-Sep	09:20	0.0	16.13	18.00	
2-Sep	09:21	0.0	16.27	18.60	
2-Sep	09:22	0.0	17.67	19.73	
2-Sep	09:23	0.0	18.93	20.40	
2-Sep	09:24	0.0	19.47	20.33	
2-Sep	09:25	0.0	19.67	20.53	
2-Sep	09:26	0.0	19.53	20.73	
2-Sep	09:27	0.0	19.67	21.20	
2-Sep	09:28	0.0	20.07	21.40	
2-Sep	09:29	0.0	20.60	21.20	
2-Sep	09:30	0.0	20.80	21.73	
2-Sep	09:31	0.0	21.33	22.13	
2-Sep	09:32	0.0	20.80	22.27	
2-Sep	09:33	0.0	20.67	22.40	
2-Sep	09:34	0.0	20.80	22.73	
2-Sep	09:35	0.0	21.13	22.73	
2-Sep	09:36	0.0	21.20	22.53	
2-Sep	09:37	0.0	20.20	21.73	
2-Sep	09:38	0.0	19.40	21.40	
2-Sep	09:39	0.0	19.27	21.67	
2-Sep	09:40	0.0	19.47	21.93	
2-Sep	09:41	0.0	19.53	22.13	
2-Sep	09:42	0.0	20.27	22.20	
2-Sep	09:43	0.0	20.60	22.40	
2-Sep	09:44	0.0	20.73	22.80	
2-Sep	09:45	0.0	21.13	22.73	
2-Sep	09:46	0.0	21.33	23.67	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	09:47	0.0	22.47	24.93	
2-Sep	09:48	0.0	23.60	25.27	
2-Sep	09:49	0.0	24.20	25.53	
2-Sep	09:50	0.0	24.33	25.67	
2-Sep	09:51	0.0	24.60	25.73	
2-Sep	09:52	0.0	24.93	25.47	
2-Sep	09:53	0.0	24.87	25.40	
2-Sep	09:54	0.0	24.80	25.20	
2-Sep	09:55	0.0	24.73	25.40	
2-Sep	09:56	0.0	25.07	25.87	
2-Sep	09:57	0.0	25.13	26.40	
2-Sep	09:58	0.0	24.93	26.07	
2-Sep	09:59	0.0	24.40	26.07	
2-Sep	10:00	0.0	24.93	26.53	
2-Sep	10:01	0.0	24.47	25.13	
2-Sep	10:02	0.0	22.73	23.60	
2-Sep	10:03	0.0	21.20	23.33	
2-Sep	10:04	0.0	20.53	22.67	
2-Sep	10:05	0.0	20.40	22.80	
2-Sep	10:06	0.0	20.67	23.13	
2-Sep	10:07	0.0	20.60	23.93	
2-Sep	10:08	0.0	21.47	24.93	
2-Sep	10:09	0.0	21.80	25.00	
2-Sep	10:10	0.0	21.60	24.67	
2-Sep	10:11	0.0	21.33	23.67	
2-Sep	10:12	0.0	20.27	22.80	
2-Sep	10:13	0.0	20.20	22.80	
2-Sep	10:14	0.0	20.20	22.27	
2-Sep	10:15	0.0	19.33	21.27	
2-Sep	10:16	0.0	19.20	21.27	
2-Sep	10:17	0.0	19.20	21.27	
2-Sep	10:18	0.0	19.60	20.80	
2-Sep	10:19	0.0	19.53	20.87	
2-Sep	10:20	0.0	19.33	20.60	
2-Sep	10:21	0.0	18.67	20.20	
2-Sep	10:22	0.0	18.27	19.40	
2-Sep	10:23	0.0	17.13	18.20	
2-Sep	10:24	0.0	16.67	18.20	
2-Sep	10:25	0.0	16.27	18.07	
2-Sep	10:26	0.0	16.00	18.13	
2-Sep	10:27	0.0	16.13	18.13	
2-Sep	10:28	0.0	15.80	18.00	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	10:29	0.0	15.73	18.07	
2-Sep	10:30	0.0	15.33	18.00	
2-Sep	10:31	0.0	15.33	17.93	
2-Sep	10:32	0.0	15.00	17.80	
2-Sep	10:33	0.0	14.80	17.87	
2-Sep	10:34	0.0	14.60	17.67	
2-Sep	10:35	0.0	14.40	17.47	
2-Sep	10:36	0.0	14.33	17.20	
2-Sep	10:37	0.0	14.80	17.13	
2-Sep	10:38	0.0	14.73	17.13	
2-Sep	10:39	0.0	14.87	17.00	
2-Sep	10:40	0.0	15.20	16.80	
2-Sep	10:41	0.0	15.73	16.80	
2-Sep	10:42	0.0	15.40	16.60	
2-Sep	10:43	0.0	15.60	16.60	
2-Sep	10:44	0.0	16.47	16.53	
2-Sep	10:45	0.0	16.40	16.80	
2-Sep	10:46	0.0	16.53	16.67	
2-Sep	10:47	0.0	16.80	17.07	
2-Sep	10:48	0.0	16.80	17.13	
2-Sep	10:49	0.0	17.13	17.87	
2-Sep	10:50	0.0	18.20	18.07	
2-Sep	10:51	0.0	18.87	18.13	
2-Sep	10:52	0.0	18.87	18.33	
2-Sep	10:53	0.0	19.27	18.60	
2-Sep	10:54	0.0	19.27	18.60	
2-Sep	10:55	0.0	19.07	18.80	
2-Sep	10:56	0.0	18.53	18.87	
2-Sep	10:57	0.0	19.00	19.27	
2-Sep	10:58	0.0	18.93	19.53	
2-Sep	10:59	0.0	18.20	19.53	
2-Sep	11:00	0.0	18.87	19.40	
2-Sep	11:01	0.0	18.60	19.47	
2-Sep	11:02	0.0	18.53	19.20	
2-Sep	11:03	0.0	18.60	19.20	
2-Sep	11:04	0.0	18.73	18.80	
2-Sep	11:05	0.0	18.00	18.53	
2-Sep	11:06	0.0	17.73	18.60	
2-Sep	11:07	0.0	17.20	19.07	
2-Sep	11:08	0.0	17.27	19.13	
2-Sep	11:09	0.0	17.40	19.33	
2-Sep	11:10	0.0	18.87	19.60	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	11:11	0.0	19.07	19.93	
2-Sep	11:12	0.0	19.20	19.93	
2-Sep	11:13	0.0	19.20	19.80	
2-Sep	11:14	0.0	19.20	19.80	
2-Sep	11:15	0.0	18.80	19.80	
2-Sep	11:16	0.0	18.80	19.93	
2-Sep	11:17	0.0	19.20	19.93	
2-Sep	11:18	0.0	19.27	20.13	
2-Sep	11:19	0.0	19.93	20.33	
2-Sep	11:20	0.0	20.20	20.53	
2-Sep	11:21	0.0	20.40	20.53	
2-Sep	11:22	0.0	20.53	20.47	
2-Sep	11:23	0.0	20.40	20.80	
2-Sep	11:24	0.0	23.80	20.93	
2-Sep	11:25	0.0	23.07	20.87	
2-Sep	11:26	0.0	23.33	21.00	
2-Sep	11:27	0.0	23.60	21.87	
2-Sep	11:28	0.0	24.93	22.40	
2-Sep	11:29	0.0	25.00	22.73	
2-Sep	11:30	0.0	25.60	23.27	
2-Sep	11:31	0.0	26.00	23.60	
2-Sep	11:32	0.0	26.20	23.87	
2-Sep	11:33	0.0	26.60	24.20	
2-Sep	11:34	0.0	26.07	24.07	
2-Sep	11:35	0.0	25.93	24.20	
2-Sep	11:36	0.0	25.67	25.40	
2-Sep	11:37	0.0	25.93	25.80	
2-Sep	11:38	0.0	26.00	25.47	
2-Sep	11:39	0.0	23.20	25.47	
2-Sep	11:40	0.0	22.67	25.20	
2-Sep	11:41	0.0	22.27	24.73	
2-Sep	11:42	0.0	21.93	23.73	
2-Sep	11:43	0.0	20.60	23.13	
2-Sep	11:44	0.0	20.47	22.73	
2-Sep	11:45	0.0	20.00	22.13	
2-Sep	11:46	0.0	19.73	21.67	
2-Sep	11:47	0.0	19.60	21.47	
2-Sep	11:48	0.0	19.47	20.93	
2-Sep	11:49	0.0	19.13	20.73	
2-Sep	11:50	0.0	19.07	20.67	
2-Sep	11:51	0.0	19.00	19.53	
2-Sep	11:52	0.0	18.73	18.80	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	11:53	0.0	18.80	18.67	
2-Sep	11:54	0.0	18.27	18.47	
2-Sep	11:55	0.0	18.47	18.80	
2-Sep	11:56	0.0	18.73	19.00	
2-Sep	11:57	0.0	19.00	19.00	
2-Sep	11:58	0.0	19.53	19.40	
2-Sep	11:59	0.0	20.40	19.60	
2-Sep	12:00	0.0	20.73	19.67	
2-Sep	12:01	0.0	20.80	19.93	
2-Sep	12:02	0.0	20.53	19.93	
2-Sep	12:03	0.0	20.33	20.33	
2-Sep	12:04	0.0	20.73	20.53	
2-Sep	12:05	0.0	20.73	20.73	
2-Sep	12:06	0.0	21.00	20.73	
2-Sep	12:07	0.0	21.07	20.67	
2-Sep	12:08	0.0	20.80	20.73	
2-Sep	12:09	0.0	21.20	21.27	
2-Sep	12:10	0.0	22.13	21.13	
2-Sep	12:11	0.0	22.00	21.13	
2-Sep	12:12	0.0	21.80	21.07	
2-Sep	12:13	0.0	21.47	20.93	
2-Sep	12:14	0.0	20.93	21.07	
2-Sep	12:15	0.0	20.67	21.20	
2-Sep	12:16	0.0	20.67	21.13	
2-Sep	12:17	0.0	21.07	21.47	
2-Sep	12:18	0.0	21.53	21.40	
2-Sep	12:19	0.0	21.40	21.40	
2-Sep	12:20	0.0	21.73	21.33	
2-Sep	12:21	0.0	21.73	21.47	
2-Sep	12:22	0.0	22.33	21.93	
2-Sep	12:23	0.0	23.20	22.60	
2-Sep	12:24	0.0	24.07	23.00	
2-Sep	12:25	0.0	24.73	23.73	
2-Sep	12:26	0.0	25.80	24.07	
2-Sep	12:27	0.0	27.40	24.73	
2-Sep	12:28	0.0	29.47	24.87	
2-Sep	12:29	0.0	30.33	24.93	
2-Sep	12:30	0.0	30.60	25.20	
2-Sep	12:31	0.0	30.93	25.53	
2-Sep	12:32	0.0	30.80	25.47	
2-Sep	12:33	0.0	30.47	25.67	
2-Sep	12:34	0.0	30.40	26.00	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	12:35	0.0	30.47	26.20	
2-Sep	12:36	0.0	30.87	26.73	
2-Sep	12:37	0.0	31.00	27.40	
2-Sep	12:38	0.0	31.80	27.00	
2-Sep	12:39	0.0	31.00	26.33	
2-Sep	12:40	0.0	29.53	26.00	
2-Sep	12:41	0.0	28.53	25.60	
2-Sep	12:42	0.0	27.07	25.13	
2-Sep	12:43	0.0	24.93	25.20	
2-Sep	12:44	0.0	24.07	25.33	
2-Sep	12:45	0.0	24.53	25.33	
2-Sep	12:46	0.0	24.87	25.27	
2-Sep	12:47	0.0	25.07	25.47	
2-Sep	12:48	0.0	25.73	25.67	
2-Sep	12:49	0.0	26.40	25.47	
2-Sep	12:50	0.0	26.33	25.27	
2-Sep	12:51	0.0	26.07	24.67	
2-Sep	12:52	0.0	25.67	23.67	
2-Sep	12:53	0.0	25.87	23.60	
2-Sep	12:54	0.0	26.00	23.40	
2-Sep	12:55	0.0	32.73	23.07	
2-Sep	12:56	0.0	33.60	23.53	
2-Sep	12:57	0.1	34.07	23.93	
2-Sep	12:58	0.1	35.00	24.87	
2-Sep	12:59	0.1	35.13	24.67	
2-Sep	13:00	0.1	35.73	24.47	
2-Sep	13:01	0.1	35.33	24.47	
2-Sep	13:02	0.1	35.20	24.73	
2-Sep	13:03	0.2	34.80	25.47	
2-Sep	13:04	0.2	35.07	25.73	
2-Sep	13:05	0.2	35.20	26.53	
2-Sep	13:06	0.2	35.27	26.73	
2-Sep	13:07	0.2	35.40	26.80	
2-Sep	13:08	0.2	34.53	26.87	
2-Sep	13:09	0.2	34.47	27.20	
2-Sep	13:10	0.2	28.53	27.53	
2-Sep	13:11	0.2	28.13	27.40	
2-Sep	13:12	0.2	27.87	27.40	
2-Sep	13:13	0.2	27.47	26.73	
2-Sep	13:14	0.2	27.73	26.93	
2-Sep	13:15	0.2	27.13	27.13	
2-Sep	13:16	0.2	28.40	27.20	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	13:17	0.2	28.73	27.47	
2-Sep	13:18	0.2	28.67	26.33	
2-Sep	13:19	0.2	28.20	26.00	
2-Sep	13:20	0.2	28.07	25.47	
2-Sep	13:21	0.2	27.93	25.67	
2-Sep	13:22	0.2	27.73	26.13	
2-Sep	13:23	0.2	27.53	26.00	
2-Sep	13:24	0.2	27.40	25.60	
2-Sep	13:25	0.2	26.73	25.60	
2-Sep	13:26	0.2	26.67	25.73	
2-Sep	13:27	0.2	26.93	25.60	
2-Sep	13:28	0.2	27.47	25.53	
2-Sep	13:29	0.2	27.87	25.40	
2-Sep	13:30	0.2	27.53	25.33	
2-Sep	13:31	0.2	26.53	25.20	
2-Sep	13:32	0.2	26.07	24.47	
2-Sep	13:33	0.2	26.27	24.47	
2-Sep	13:34	0.2	26.07	24.60	
2-Sep	13:35	0.2	26.13	24.33	
2-Sep	13:36	0.2	26.27	24.07	
2-Sep	13:37	0.2	26.47	23.73	
2-Sep	13:38	0.2	26.13	23.73	
2-Sep	13:39	0.2	26.27	23.93	
2-Sep	13:40	0.2	26.47	23.73	
2-Sep	13:41	0.2	26.80	23.80	
2-Sep	13:42	0.2	26.80	23.73	
2-Sep	13:43	0.2	26.27	23.47	
2-Sep	13:44	0.2	25.80	23.33	
2-Sep	13:45	0.2	26.27	23.60	
2-Sep	13:46	0.2	26.60	23.80	
2-Sep	13:47	0.2	28.07	23.93	
2-Sep	13:48	0.2	28.80	24.07	
2-Sep	13:49	0.2	29.27	24.00	
2-Sep	13:50	0.2	29.53	24.00	
2-Sep	13:51	0.2	30.13	24.27	
2-Sep	13:52	0.2	30.13	24.20	
2-Sep	13:53	0.2	30.60	24.40	
2-Sep	13:54	0.2	30.60	24.33	
2-Sep	13:55	0.2	30.73	24.47	
2-Sep	13:56	0.2	30.87	24.53	
2-Sep	13:57	0.2	31.93	24.67	
2-Sep	13:58	0.2	32.80	24.67	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	13:59	0.2	33.40	24.73	
2-Sep	14:00	0.2	33.40	24.33	
2-Sep	14:01	0.2	34.00	24.27	
2-Sep	14:02	0.2	35.33	25.00	
2-Sep	14:03	0.2	35.20	24.87	
2-Sep	14:04	0.2	35.07	24.87	
2-Sep	14:05	0.2	35.07	25.20	
2-Sep	14:06	0.2	35.13	25.13	
2-Sep	14:07	0.2	35.73	25.47	
2-Sep	14:08	0.2	35.93	25.27	
2-Sep	14:09	0.2	36.73	25.40	
2-Sep	14:10	0.2	36.73	25.27	
2-Sep	14:11	0.2	36.73	24.87	
2-Sep	14:12	0.2	36.20	24.53	
2-Sep	14:13	0.2	35.60	24.73	
2-Sep	14:14	0.2	35.47	24.87	
2-Sep	14:15	0.2	35.20	25.13	
2-Sep	14:16	0.2	34.87	25.20	
2-Sep	14:17	0.2	33.00	24.47	
2-Sep	14:18	0.2	32.33	24.47	
2-Sep	14:19	0.1	32.33	24.47	
2-Sep	14:20	0.1	34.07	24.07	
2-Sep	14:21	0.1	34.60	23.93	
2-Sep	14:22	0.1	35.07	23.87	
2-Sep	14:23	0.1	35.20	24.00	
2-Sep	14:24	0.1	34.40	24.07	
2-Sep	14:25	0.1	34.60	24.13	
2-Sep	14:26	0.2	34.13	24.13	
2-Sep	14:27	0.2	33.27	24.20	
2-Sep	14:28	0.2	33.47	24.33	
2-Sep	14:29	0.2	33.00	24.73	
2-Sep	14:30	0.2	33.67	24.87	
2-Sep	14:31	0.2	34.07	24.80	
2-Sep	14:32	0.2	34.27	25.07	
2-Sep	14:33	0.2	34.60	25.33	
2-Sep	14:34	0.2	35.87	25.40	
2-Sep	14:35	0.2	34.07	25.80	
2-Sep	14:36	0.2	33.87	26.20	
2-Sep	14:37	0.2	33.40	25.87	
2-Sep	14:38	0.2	33.80	25.87	
2-Sep	14:39	0.2	35.93	26.27	
2-Sep	14:40	0.2	35.87	26.47	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
2-Sep	14:41	0.2	37.33	26.60	
2-Sep	14:42	0.2	38.07	27.13	
2-Sep	14:43	0.2	38.93	26.93	
2-Sep	14:44	0.2	39.73	26.60	
2-Sep	14:45	0.2	39.47	26.53	
2-Sep	14:46	0.2	39.73	26.67	
2-Sep	14:47	0.2	40.20	27.20	
2-Sep	14:48	0.2	41.87	28.27	
2-Sep	14:49	0.2	42.60	29.87	
2-Sep	14:50	0.2	43.60	30.20	
2-Sep	14:51	0.2	41.00	31.00	
2-Sep	14:52	0.2	38.73	31.13	
2-Sep	14:53	0.2	35.93	31.13	
2-Sep	14:54	0.2	31.93	30.60	
2-Sep	14:55	--	29.87	30.33	

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter
--	Not collected
178.80	Exceeds background levels by 150 µg/m3

PID Calibration: 0.0/100.0
Winds to the North/Northwest

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
3-Sep	08:28	---	--	--	
3-Sep	08:29	---	--	--	
3-Sep	08:30	---	--	--	
3-Sep	08:31	---	--	--	
3-Sep	08:32	---	--	--	
3-Sep	08:33	---	--	--	
3-Sep	08:34	---	--	--	
3-Sep	08:35	---	--	--	
3-Sep	08:36	---	--	--	
3-Sep	08:37	---	--	--	
3-Sep	08:38	---	--	--	
3-Sep	08:39	---	--	--	
3-Sep	08:40	---	--	--	
3-Sep	08:41	---	--	--	
3-Sep	08:42	---	100.40	--	
3-Sep	08:43	---	105.40	--	
3-Sep	08:44	---	108.93	--	
3-Sep	08:45	---	112.20	57.27	
3-Sep	08:46	---	92.40	55.33	
3-Sep	08:47	---	91.27	52.33	
3-Sep	08:48	---	94.67	48.67	
3-Sep	08:49	---	94.60	48.80	
3-Sep	08:50	0.0	105.67	48.87	
3-Sep	08:51	0.0	108.67	47.73	
3-Sep	08:52	0.0	111.67	48.33	
3-Sep	08:53	0.0	121.33	91.27	
3-Sep	08:54	0.0	128.53	98.00	
3-Sep	08:55	0.0	142.40	108.33	
3-Sep	08:56	0.0	151.47	114.40	
3-Sep	08:57	0.0	154.87	115.07	
3-Sep	08:58	0.0	156.00	115.33	
3-Sep	08:59	0.0	162.13	115.47	
3-Sep	09:00	0.0	161.33	115.93	
3-Sep	09:01	0.0	185.40	116.47	
3-Sep	09:02	0.0	196.80	117.80	Mixing of Concrete
3-Sep	09:03	0.0	198.20	120.13	
3-Sep	09:04	0.0	209.73	122.13	
3-Sep	09:05	0.0	203.73	133.93	
3-Sep	09:06	0.0	201.93	134.20	
3-Sep	09:07	0.0	197.40	134.00	
3-Sep	09:08	0.0	187.33	91.13	
3-Sep	09:09	0.0	177.87	84.80	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
3-Sep	09:10	0.0	164.00	73.60	
3-Sep	09:11	0.0	199.13	62.13	
3-Sep	09:12	0.0	246.93	55.67	
3-Sep	09:13	0.0	284.67	51.07	
3-Sep	09:14	0.0	281.20	49.60	
3-Sep	09:15	0.0	299.00	48.67	
3-Sep	09:16	0.0	277.33	54.00	
3-Sep	09:17	0.0	259.27	58.40	
3-Sep	09:18	0.0	252.53	62.87	
3-Sep	09:19	0.0	239.00	62.13	
3-Sep	09:20	0.0	253.07	50.20	
3-Sep	09:21	0.0	331.67	49.40	
3-Sep	09:22	0.0	353.33	48.60	
3-Sep	09:23	0.0	354.80	48.60	
3-Sep	09:24	0.0	357.33	48.93	
3-Sep	09:25	0.1	397.20	50.33	
3-Sep	09:26	0.1	349.80	50.07	
3-Sep	09:27	0.1	295.40	50.47	
3-Sep	09:28	0.1	252.53	52.13	
3-Sep	09:29	0.1	246.73	52.87	Mixing of Concrete
3-Sep	09:30	0.1	226.80	52.73	
3-Sep	09:31	0.1	223.67	47.13	
3-Sep	09:32	0.1	1940.07	41.07	
3-Sep	09:33	0.1	1949.73	34.33	
3-Sep	09:34	0.1	1954.60	32.87	
3-Sep	09:35	0.1	1937.73	34.13	
3-Sep	09:36	0.1	1858.73	34.93	
3-Sep	09:37	0.1	1840.00	37.60	
3-Sep	09:38	0.1	1842.20	41.47	
3-Sep	09:39	0.1	1840.07	43.80	
3-Sep	09:40	0.1	1798.40	43.40	
3-Sep	09:41	0.1	1799.73	44.80	
3-Sep	09:42	0.1	1797.33	44.73	
3-Sep	09:43	0.1	1795.47	44.07	
3-Sep	09:44	0.1	1795.60	44.27	
3-Sep	09:45	0.1	1836.60	45.33	
3-Sep	09:46	0.1	1861.60	45.93	
3-Sep	09:47	0.1	146.40	46.80	
3-Sep	09:48	0.1	150.73	48.07	
3-Sep	09:49	0.1	147.40	48.67	
3-Sep	09:50	0.1	146.33	48.60	
3-Sep	09:51	0.1	147.67	51.60	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
3-Sep	09:52	0.1	431.20	52.07	
3-Sep	09:53	0.1	446.27	48.47	
3-Sep	09:54	0.1	448.47	47.00	
3-Sep	09:55	0.1	449.33	46.80	
3-Sep	09:56	0.1	447.33	46.27	
3-Sep	09:57	0.1	446.80	46.07	
3-Sep	09:58	0.1	447.60	45.33	
3-Sep	09:59	0.1	466.60	46.00	Mixing of Concrete
3-Sep	10:00	0.1	428.07	47.53	
3-Sep	10:01	0.1	403.20	49.73	
3-Sep	10:02	0.1	399.40	50.60	
3-Sep	10:03	0.1	382.47	50.33	
3-Sep	10:04	0.1	381.20	50.27	
3-Sep	10:05	0.1	381.67	49.47	
3-Sep	10:06	0.1	378.67	47.40	
3-Sep	10:07	0.1	92.33	50.87	
3-Sep	10:08	0.1	71.73	50.67	
3-Sep	10:09	0.1	68.73	49.93	
3-Sep	10:10	0.1	68.33	49.40	
3-Sep	10:11	0.1	77.87	48.60	
3-Sep	10:12	0.1	83.07	48.33	
3-Sep	10:13	0.1	84.60	47.93	
3-Sep	10:14	0.1	68.93	48.67	
3-Sep	10:15	0.1	72.27	49.27	
3-Sep	10:16	0.1	74.13	48.67	
3-Sep	10:17	0.1	75.93	48.13	
3-Sep	10:18	0.1	76.07	47.33	
3-Sep	10:19	0.1	77.33	46.73	
3-Sep	10:20	0.1	75.53	46.20	
3-Sep	10:21	0.1	75.33	44.80	
3-Sep	10:22	0.1	78.40	39.33	
3-Sep	10:23	0.1	86.47	40.20	
3-Sep	10:24	0.1	91.93	44.27	
3-Sep	10:25	0.1	94.73	57.00	
3-Sep	10:26	0.1	86.20	57.53	
3-Sep	10:27	0.1	82.40	58.47	
3-Sep	10:28	0.1	82.47	58.33	
3-Sep	10:29	0.1	78.93	56.87	
3-Sep	10:30	0.1	72.47	53.80	
3-Sep	10:31	0.1	68.80	51.20	
3-Sep	10:32	0.1	65.80	49.87	
3-Sep	10:33	0.1	64.67	49.60	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
3-Sep	10:34	0.1	63.07	49.47	
3-Sep	10:35	0.1	64.67	49.73	
3-Sep	10:36	0.1	67.33	49.53	
3-Sep	10:37	0.1	73.20	48.93	
3-Sep	10:38	0.1	69.27	48.20	
3-Sep	10:39	0.1	67.87	43.53	
3-Sep	10:40	0.1	68.47	31.40	
3-Sep	10:41	0.1	72.27	32.87	
3-Sep	10:42	0.1	73.13	32.87	
3-Sep	10:43	0.2	72.47	32.80	
3-Sep	10:44	0.2	86.80	32.33	
3-Sep	10:45	0.2	94.00	32.80	
3-Sep	10:46	0.2	96.93	33.33	
3-Sep	10:47	0.2	101.07	33.60	
3-Sep	10:48	0.2	103.67	33.80	
3-Sep	10:49	0.2	114.20	34.13	
3-Sep	10:50	0.3	116.53	39.80	
3-Sep	10:51	0.3	114.07	40.87	
3-Sep	10:52	0.3	104.80	41.20	
3-Sep	10:53	0.3	100.80	41.27	
3-Sep	10:54	0.4	97.33	41.93	
3-Sep	10:55	0.4	92.40	41.07	
3-Sep	10:56	0.4	85.67	38.93	
3-Sep	10:57	0.4	82.33	37.67	
3-Sep	10:58	0.4	80.13	37.27	
3-Sep	10:59	0.4	64.67	36.53	
3-Sep	11:00	0.4	57.53	36.27	
3-Sep	11:01	0.3	54.60	35.60	
3-Sep	11:02	0.3	51.53	35.87	
3-Sep	11:03	0.3	50.20	36.13	
3-Sep	11:04	0.3	40.07	36.33	
3-Sep	11:05	0.3	38.07	32.07	
3-Sep	11:06	0.3	37.87	32.13	
3-Sep	11:07	0.2	39.00	31.60	
3-Sep	11:08	0.2	38.87	32.13	
3-Sep	11:09	0.2	37.93	32.27	
3-Sep	11:10	0.1	40.20	33.40	
3-Sep	11:11	0.1	41.00	34.07	
3-Sep	11:12	0.1	42.20	35.07	
3-Sep	11:13	0.1	43.60	36.07	
3-Sep	11:14	0.1	46.33	37.53	
3-Sep	11:15	0.1	47.87	37.73	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
3-Sep	11:16	0.1	47.73	38.20	
3-Sep	11:17	0.1	46.67	38.20	
3-Sep	11:18	0.1	45.67	38.47	
3-Sep	11:19	0.1	44.67	38.73	
3-Sep	11:20	0.1	42.87	37.40	
3-Sep	11:21	0.1	42.20	36.47	
3-Sep	11:22	0.1	40.87	36.60	
3-Sep	11:23	0.1	40.53	36.27	
3-Sep	11:24	0.1	40.07	35.80	
3-Sep	11:25	0.1	38.13	35.47	
3-Sep	11:26	0.1	37.00	35.60	
3-Sep	11:27	0.1	37.00	35.53	
3-Sep	11:28	0.2	36.53	35.40	
3-Sep	11:29	0.2	34.60	34.67	
3-Sep	11:30	0.2	33.53	34.27	
3-Sep	11:31	0.2	33.27	33.93	
3-Sep	11:32	0.2	33.20	33.60	
3-Sep	11:33	0.2	32.93	32.67	
3-Sep	11:34	0.2	32.73	31.67	
3-Sep	11:35	0.2	32.27	31.27	
3-Sep	11:36	0.2	31.53	30.73	
3-Sep	11:37	0.2	32.60	30.20	
3-Sep	11:38	0.2	32.40	29.93	
3-Sep	11:39	0.2	32.07	29.20	
3-Sep	11:40	0.2	31.27	28.13	
3-Sep	11:41	0.2	31.67	27.07	
3-Sep	11:42	0.2	30.47	26.00	
3-Sep	11:43	0.2	30.13	25.33	
3-Sep	11:44	0.2	29.67	24.73	
3-Sep	11:45	0.2	28.93	24.73	
3-Sep	11:46	0.2	29.27	25.27	
3-Sep	11:47	0.1	30.93	26.60	
3-Sep	11:48	0.1	32.33	27.27	
3-Sep	11:49	0.1	34.40	28.80	
3-Sep	11:50	0.1	34.73	29.73	
3-Sep	11:51	0.1	36.53	32.13	
3-Sep	11:52	0.1	36.13	33.73	
3-Sep	11:53	0.1	36.13	33.33	
3-Sep	11:54	0.1	37.60	34.40	
3-Sep	11:55	0.1	45.40	40.47	
3-Sep	11:56	0.1	58.80	50.00	
3-Sep	11:57	0.1	65.27	55.47	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
3-Sep	11:58	0.1	66.47	57.60	
3-Sep	11:59	0.1	67.93	58.67	
3-Sep	12:00	0.1	69.53	59.27	
3-Sep	12:01	0.1	70.20	59.80	
3-Sep	12:02	0.2	70.07	59.33	
3-Sep	12:03	0.2	70.33	60.20	
3-Sep	12:04	0.2	68.27	59.27	
3-Sep	12:05	0.2	67.93	58.67	
3-Sep	12:06	0.2	67.87	58.67	
3-Sep	12:07	0.2	67.80	57.80	
3-Sep	12:08	0.2	67.40	58.40	
3-Sep	12:09	0.2	65.80	57.67	
3-Sep	12:10	0.2	58.80	52.13	
3-Sep	12:11	0.2	45.60	43.20	
3-Sep	12:12	0.2	39.20	38.13	
3-Sep	12:13	0.2	37.60	36.13	
3-Sep	12:14	0.2	36.33	35.13	
3-Sep	12:15	0.2	35.00	35.40	
3-Sep	12:16	0.2	34.33	34.93	
3-Sep	12:17	0.1	33.20	34.33	
3-Sep	12:18	0.1	31.60	33.13	
3-Sep	12:19	0.1	31.47	32.93	
3-Sep	12:20	0.1	31.60	33.00	
3-Sep	12:21	0.1	29.87	30.93	
3-Sep	12:22	0.1	28.53	30.60	
3-Sep	12:23	0.1	28.27	30.00	
3-Sep	12:24	0.1	28.13	29.67	
3-Sep	12:25	0.1	27.93	29.33	
3-Sep	12:26	0.1	27.87	28.87	
3-Sep	12:27	0.1	28.47	28.73	
3-Sep	12:28	0.1	29.07	28.53	
3-Sep	12:29	0.1	28.67	29.20	
3-Sep	12:30	0.1	28.60	28.47	
3-Sep	12:31	0.1	28.07	28.33	
3-Sep	12:32	0.1	27.53	28.40	
3-Sep	12:33	0.1	28.07	29.20	
3-Sep	12:34	0.1	28.40	29.00	
3-Sep	12:35	0.1	27.73	29.07	
3-Sep	12:36	0.1	28.00	29.20	
3-Sep	12:37	0.1	27.93	29.27	
3-Sep	12:38	0.1	28.00	29.33	
3-Sep	12:39	0.1	27.87	29.73	

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
3-Sep	12:40	0.1	27.47	29.80	
3-Sep	12:41	0.1	26.73	29.87	
3-Sep	12:42	0.1	26.07	31.33	
3-Sep	12:43	0.1	25.13	32.53	
3-Sep	12:44	0.1	24.73	31.93	
3-Sep	12:45	0.1	25.00	31.60	
3-Sep	12:46	0.1	25.27	31.20	
3-Sep	12:47	0.2	24.80	30.73	
3-Sep	12:48	0.2	24.47	29.47	
3-Sep	12:49	0.2	23.87	29.40	
3-Sep	12:50	0.2	23.80	28.80	
3-Sep	12:51	0.2	23.33	28.47	
3-Sep	12:52	0.2	23.13	27.93	
3-Sep	12:53	0.2	22.80	27.33	
3-Sep	12:54	0.2	22.53	26.80	
3-Sep	12:55	0.2	22.20	26.47	
3-Sep	12:56	0.2	22.27	26.40	
3-Sep	12:57	0.2	21.87	24.93	
3-Sep	12:58	0.2	22.00	23.67	
3-Sep	12:59	0.2	21.87	23.53	
3-Sep	13:00	0.2	21.33	23.47	
3-Sep	13:01	0.2	20.80	23.33	
3-Sep	13:02	0.1	21.00	23.27	
3-Sep	13:03	0.1	20.53	23.27	
3-Sep	13:04	0.1	20.67	23.33	
3-Sep	13:05	0.1	23.47	23.80	
3-Sep	13:06	0.1	31.53	23.80	
3-Sep	13:07	0.1	31.60	23.93	
3-Sep	13:08	0.1	32.47	24.33	
3-Sep	13:09	0.1	33.93	24.53	
3-Sep	13:10	0.1	32.67	25.07	
3-Sep	13:11	0.1	31.20	25.67	
3-Sep	13:12	0.1	29.87	26.87	
3-Sep	13:13	0.1	28.27	25.27	

NOTES

VOC	Volatile organic compound
STEL	Short-term exposure limit (15-minute average)
ppm	Parts per million
µg/m3	Micrograms per cubic meter
--	Not collected

Table 1- CAMP Monitoring
Bridge Cleaners Site
39-26 30th Street
Long Island City, NY
NYSDEC Site No. C241127

Date	Time	VOC STEL (ppm)	Work Area Dust STEL (µg/m3)	Downwind Dust STEL (µg/m3)	Notes
207.27	Exceeds background levels by 150 µg/m3				
PID Calibration: 0.0/100.0					
Winds to the East/Southeast					

Appendix G
Laboratory Data Packages

ANALYTICAL REPORT

Lab Number:	L2024933
Client:	Sustainable Development Inc. 166 Woodside Avenue West Harrison, NY 10604
ATTN:	Al Nesheiwat
Phone:	(914) 761-5708
Project Name:	BRIDGE CLEANERS
Project Number:	BRIDGE CLEANERS
Report Date:	06/22/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2024933
Report Date: 06/22/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2024933-01	SVE-EXHAUST	SOIL_VAPOR	LONG ISLAND CITY, NY	06/15/20 11:00	06/15/20

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2024933
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/22/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2024933
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/22/20

Case Narrative (continued)

Volatile Organics in Air

L2024933-01: The sample has an elevated detection limit due to limited sample volume available for analysis.

The WG1382255-3 LCS recovery for trichlorofluoromethane (132%) is above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of this analyte.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 06/22/20

AIR

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2024933
Report Date: 06/22/20

SAMPLE RESULTS

Lab ID: L2024933-01 D
Client ID: SVE-EXHAUST
Sample Location: LONG ISLAND CITY, NY

Date Collected: 06/15/20 11:00
Date Received: 06/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 06/17/20 06:58
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	2.00	--	ND	9.89	--		10
Chloromethane	ND	2.00	--	ND	4.13	--		10
Freon-114	ND	2.00	--	ND	14.0	--		10
Vinyl chloride	ND	2.00	--	ND	5.11	--		10
1,3-Butadiene	ND	2.00	--	ND	4.42	--		10
Bromomethane	ND	2.00	--	ND	7.77	--		10
Chloroethane	ND	2.00	--	ND	5.28	--		10
Ethanol	141	50.0	--	266	94.2	--		10
Vinyl bromide	ND	2.00	--	ND	8.74	--		10
Acetone	13.5	10.0	--	32.1	23.8	--		10
Trichlorofluoromethane	ND	2.00	--	ND	11.2	--		10
Isopropanol	5.76	5.00	--	14.2	12.3	--		10
1,1-Dichloroethene	ND	2.00	--	ND	7.93	--		10
Tertiary butyl Alcohol	ND	5.00	--	ND	15.2	--		10
Methylene chloride	ND	5.00	--	ND	17.4	--		10
3-Chloropropene	ND	2.00	--	ND	6.26	--		10
Carbon disulfide	ND	2.00	--	ND	6.23	--		10
Freon-113	ND	2.00	--	ND	15.3	--		10
trans-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
1,1-Dichloroethane	ND	2.00	--	ND	8.09	--		10
Methyl tert butyl ether	ND	2.00	--	ND	7.21	--		10
2-Butanone	ND	5.00	--	ND	14.7	--		10
cis-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2024933
Report Date: 06/22/20

SAMPLE RESULTS

Lab ID: L2024933-01 D
Client ID: SVE-EXHAUST
Sample Location: LONG ISLAND CITY, NY

Date Collected: 06/15/20 11:00
Date Received: 06/15/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	5.00	--	ND	18.0	--		10
Chloroform	ND	2.00	--	ND	9.77	--		10
Tetrahydrofuran	ND	5.00	--	ND	14.7	--		10
1,2-Dichloroethane	ND	2.00	--	ND	8.09	--		10
n-Hexane	ND	2.00	--	ND	7.05	--		10
1,1,1-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Benzene	ND	2.00	--	ND	6.39	--		10
Carbon tetrachloride	ND	2.00	--	ND	12.6	--		10
Cyclohexane	ND	2.00	--	ND	6.88	--		10
1,2-Dichloropropane	ND	2.00	--	ND	9.24	--		10
Bromodichloromethane	ND	2.00	--	ND	13.4	--		10
1,4-Dioxane	ND	2.00	--	ND	7.21	--		10
Trichloroethene	ND	2.00	--	ND	10.7	--		10
2,2,4-Trimethylpentane	ND	2.00	--	ND	9.34	--		10
Heptane	ND	2.00	--	ND	8.20	--		10
cis-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
4-Methyl-2-pentanone	ND	5.00	--	ND	20.5	--		10
trans-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
1,1,2-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Toluene	ND	2.00	--	ND	7.54	--		10
2-Hexanone	ND	2.00	--	ND	8.20	--		10
Dibromochloromethane	ND	2.00	--	ND	17.0	--		10
1,2-Dibromoethane	ND	2.00	--	ND	15.4	--		10
Tetrachloroethene	ND	2.00	--	ND	13.6	--		10
Chlorobenzene	ND	2.00	--	ND	9.21	--		10
Ethylbenzene	ND	2.00	--	ND	8.69	--		10

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2024933
Report Date: 06/22/20

SAMPLE RESULTS

Lab ID: L2024933-01 D
Client ID: SVE-EXHAUST
Sample Location: LONG ISLAND CITY, NY

Date Collected: 06/15/20 11:00
Date Received: 06/15/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	4.00	--	ND	17.4	--		10
Bromoform	ND	2.00	--	ND	20.7	--		10
Styrene	ND	2.00	--	ND	8.52	--		10
1,1,2,2-Tetrachloroethane	ND	2.00	--	ND	13.7	--		10
o-Xylene	ND	2.00	--	ND	8.69	--		10
4-Ethyltoluene	ND	2.00	--	ND	9.83	--		10
1,3,5-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
1,2,4-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
Benzyl chloride	ND	2.00	--	ND	10.4	--		10
1,3-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,4-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2,4-Trichlorobenzene	ND	2.00	--	ND	14.8	--		10
Hexachlorobutadiene	ND	2.00	--	ND	21.3	--		10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	91		60-140

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2024933
Report Date: 06/22/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/16/20 14:34

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1382255-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2024933
Report Date: 06/22/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/16/20 14:34

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1382255-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2024933
Report Date: 06/22/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/16/20 14:34

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1382255-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2024933
Report Date: 06/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1382255-3								
Dichlorodifluoromethane	118		-		70-130	-		
Chloromethane	104		-		70-130	-		
Freon-114	114		-		70-130	-		
Vinyl chloride	104		-		70-130	-		
1,3-Butadiene	104		-		70-130	-		
Bromomethane	106		-		70-130	-		
Chloroethane	101		-		70-130	-		
Ethanol	88		-		40-160	-		
Vinyl bromide	99		-		70-130	-		
Acetone	96		-		40-160	-		
Trichlorofluoromethane	**132**	Q	-		70-130	-		
Isopropanol	94		-		40-160	-		
1,1-Dichloroethene	116		-		70-130	-		
Tertiary butyl Alcohol	102		-		70-130	-		
Methylene chloride	109		-		70-130	-		
3-Chloropropene	113		-		70-130	-		
Carbon disulfide	92		-		70-130	-		
Freon-113	100		-		70-130	-		
trans-1,2-Dichloroethene	97		-		70-130	-		
1,1-Dichloroethane	103		-		70-130	-		
Methyl tert butyl ether	104		-		70-130	-		
2-Butanone	110		-		70-130	-		
cis-1,2-Dichloroethene	101		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2024933

Report Date: 06/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1382255-3								
Ethyl Acetate	100		-		70-130	-		
Chloroform	105		-		70-130	-		
Tetrahydrofuran	102		-		70-130	-		
1,2-Dichloroethane	125		-		70-130	-		
n-Hexane	100		-		70-130	-		
1,1,1-Trichloroethane	128		-		70-130	-		
Benzene	95		-		70-130	-		
Carbon tetrachloride	127		-		70-130	-		
Cyclohexane	96		-		70-130	-		
1,2-Dichloropropane	111		-		70-130	-		
Bromodichloromethane	115		-		70-130	-		
1,4-Dioxane	96		-		70-130	-		
Trichloroethene	116		-		70-130	-		
2,2,4-Trimethylpentane	104		-		70-130	-		
Heptane	119		-		70-130	-		
cis-1,3-Dichloropropene	112		-		70-130	-		
4-Methyl-2-pentanone	128		-		70-130	-		
trans-1,3-Dichloropropene	99		-		70-130	-		
1,1,2-Trichloroethane	108		-		70-130	-		
Toluene	86		-		70-130	-		
2-Hexanone	104		-		70-130	-		
Dibromochloromethane	112		-		70-130	-		
1,2-Dibromoethane	89		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2024933

Report Date: 06/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1382255-3								
Tetrachloroethene	79		-		70-130	-		
Chlorobenzene	86		-		70-130	-		
Ethylbenzene	87		-		70-130	-		
p/m-Xylene	93		-		70-130	-		
Bromoform	88		-		70-130	-		
Styrene	83		-		70-130	-		
1,1,2,2-Tetrachloroethane	94		-		70-130	-		
o-Xylene	97		-		70-130	-		
4-Ethyltoluene	89		-		70-130	-		
1,3,5-Trimethylbenzene	90		-		70-130	-		
1,2,4-Trimethylbenzene	96		-		70-130	-		
Benzyl chloride	92		-		70-130	-		
1,3-Dichlorobenzene	96		-		70-130	-		
1,4-Dichlorobenzene	91		-		70-130	-		
1,2-Dichlorobenzene	90		-		70-130	-		
1,2,4-Trichlorobenzene	81		-		70-130	-		
Hexachlorobutadiene	94		-		70-130	-		

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2024933
Report Date: 06/22/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2024933-01A	Tedlar Bag 1 liter-Polypropylene Fitting	NA	NA			Y	Absent		TO15-LL(30)
L2024933-01X	Tedlar Bag 1 liter-Polypropylene Fitting	NA	NA			Y	Absent		TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2024933
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/22/20

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2024933
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/22/20

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2024933
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/22/20

Data Qualifiers

than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2024933
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/22/20

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL — CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 6/16/20

ALPHA Job #: L2024933

Client Information

Client: ECC Horizon
Address: 1 Emory Ave
Randolph NJ 07869
Phone:
Fax:
Email: ANeshiewat@ECCHorizon.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Long Island City NY
Project #: Bridge Cleaners
Project Manager: A Neshiewat
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)
ANeshiewat@EccHorizon.com

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subset Non-petroleum HCs)	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
24933-01	SVE-Exhaust	6/15/20	1058	1100			SV	NC				X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: Tedlar

Relinquished By:	Date/Time	Received By:	Date/Time:
[signature] AAL	6/15/2020 1210	[signature] (AAL)	6/15/2020 1210
[signature] AAL	6/15/2020 1825	[signature] AAL	6/15/20 2200
(AAL)	6/16/20 0245	AAL	6/16/20 0245

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

ANALYTICAL REPORT

Lab Number:	L2025069
Client:	Sustainable Development Inc. 166 Woodside Avenue West Harrison, NY 10604
ATTN:	Al Nesheiwat
Phone:	(914) 761-5708
Project Name:	BRIDGE CLEANERS
Project Number:	BRIDGE CLEANERS
Report Date:	06/18/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2025069
Report Date: 06/18/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2025069-01	GW-1	WATER	LONG ISLAND CITY NY	06/15/20 14:55	06/16/20
L2025069-02	GW-2	WATER	LONG ISLAND CITY NY	06/15/20 12:27	06/16/20
L2025069-03	GW-3	WATER	LONG ISLAND CITY NY	06/15/20 10:55	06/16/20
L2025069-04	GW-4	WATER	LONG ISLAND CITY NY	06/15/20 14:45	06/16/20
L2025069-05	GW-5	WATER	LONG ISLAND CITY NY	06/15/20 13:22	06/16/20
L2025069-06	FB	WATER	LONG ISLAND CITY NY	06/15/20 15:00	06/16/20
L2025069-07	TB	WATER	LONG ISLAND CITY NY	06/12/20 00:00	06/16/20

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2025069
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/18/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2025069
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/18/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 06/18/20

ORGANICS

VOLATILES

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2025069
Report Date: 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-01
Client ID: GW-1
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 14:55
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/17/20 12:03
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	15		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-01 Date Collected: 06/15/20 14:55

Client ID: GW-1 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.65		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-01 Date Collected: 06/15/20 14:55

Client ID: GW-1 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	113		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-02 D
Client ID: GW-2
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 12:27
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/17/20 11:19
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	6.2	1.8	2.5
1,1-Dichloroethane	ND		ug/l	6.2	1.8	2.5
Chloroform	ND		ug/l	6.2	1.8	2.5
Carbon tetrachloride	ND		ug/l	1.2	0.34	2.5
1,2-Dichloropropane	ND		ug/l	2.5	0.34	2.5
Dibromochloromethane	ND		ug/l	1.2	0.37	2.5
1,1,2-Trichloroethane	ND		ug/l	3.8	1.2	2.5
Tetrachloroethene	300		ug/l	1.2	0.45	2.5
Chlorobenzene	ND		ug/l	6.2	1.8	2.5
Trichlorofluoromethane	ND		ug/l	6.2	1.8	2.5
1,2-Dichloroethane	ND		ug/l	1.2	0.33	2.5
1,1,1-Trichloroethane	ND		ug/l	6.2	1.8	2.5
Bromodichloromethane	ND		ug/l	1.2	0.48	2.5
trans-1,3-Dichloropropene	ND		ug/l	1.2	0.41	2.5
cis-1,3-Dichloropropene	ND		ug/l	1.2	0.36	2.5
1,3-Dichloropropene, Total	ND		ug/l	1.2	0.36	2.5
1,1-Dichloropropene	ND		ug/l	6.2	1.8	2.5
Bromoform	ND		ug/l	5.0	1.6	2.5
1,1,2,2-Tetrachloroethane	ND		ug/l	1.2	0.42	2.5
Benzene	ND		ug/l	1.2	0.40	2.5
Toluene	ND		ug/l	6.2	1.8	2.5
Ethylbenzene	ND		ug/l	6.2	1.8	2.5
Chloromethane	ND		ug/l	6.2	1.8	2.5
Bromomethane	ND		ug/l	6.2	1.8	2.5
Vinyl chloride	ND		ug/l	2.5	0.18	2.5
Chloroethane	ND		ug/l	6.2	1.8	2.5
1,1-Dichloroethene	ND		ug/l	1.2	0.42	2.5
trans-1,2-Dichloroethene	ND		ug/l	6.2	1.8	2.5

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-02 D
Client ID: GW-2
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 12:27
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	11		ug/l	1.2	0.44	2.5
1,2-Dichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,3-Dichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,4-Dichlorobenzene	ND		ug/l	6.2	1.8	2.5
Methyl tert butyl ether	ND		ug/l	6.2	1.8	2.5
p/m-Xylene	ND		ug/l	6.2	1.8	2.5
o-Xylene	ND		ug/l	6.2	1.8	2.5
Xylenes, Total	ND		ug/l	6.2	1.8	2.5
cis-1,2-Dichloroethene	ND		ug/l	6.2	1.8	2.5
1,2-Dichloroethene, Total	ND		ug/l	6.2	1.8	2.5
Dibromomethane	ND		ug/l	12	2.5	2.5
1,2,3-Trichloropropane	ND		ug/l	6.2	1.8	2.5
Acrylonitrile	ND		ug/l	12	3.8	2.5
Styrene	ND		ug/l	6.2	1.8	2.5
Dichlorodifluoromethane	ND		ug/l	12	2.5	2.5
Acetone	ND		ug/l	12	3.6	2.5
Carbon disulfide	ND		ug/l	12	2.5	2.5
2-Butanone	ND		ug/l	12	4.8	2.5
Vinyl acetate	ND		ug/l	12	2.5	2.5
4-Methyl-2-pentanone	ND		ug/l	12	2.5	2.5
2-Hexanone	ND		ug/l	12	2.5	2.5
Bromochloromethane	ND		ug/l	6.2	1.8	2.5
2,2-Dichloropropane	ND		ug/l	6.2	1.8	2.5
1,2-Dibromoethane	ND		ug/l	5.0	1.6	2.5
1,3-Dichloropropane	ND		ug/l	6.2	1.8	2.5
1,1,1,2-Tetrachloroethane	ND		ug/l	6.2	1.8	2.5
Bromobenzene	ND		ug/l	6.2	1.8	2.5
n-Butylbenzene	ND		ug/l	6.2	1.8	2.5
sec-Butylbenzene	ND		ug/l	6.2	1.8	2.5
tert-Butylbenzene	ND		ug/l	6.2	1.8	2.5
o-Chlorotoluene	ND		ug/l	6.2	1.8	2.5
p-Chlorotoluene	ND		ug/l	6.2	1.8	2.5
1,2-Dibromo-3-chloropropane	ND		ug/l	6.2	1.8	2.5
Hexachlorobutadiene	ND		ug/l	6.2	1.8	2.5
Isopropylbenzene	ND		ug/l	6.2	1.8	2.5
p-Isopropyltoluene	ND		ug/l	6.2	1.8	2.5
Naphthalene	ND		ug/l	6.2	1.8	2.5

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-02 D
Client ID: GW-2
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 12:27
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	6.2	1.8	2.5
1,2,3-Trichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,2,4-Trichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,3,5-Trimethylbenzene	ND		ug/l	6.2	1.8	2.5
1,2,4-Trimethylbenzene	4.4	J	ug/l	6.2	1.8	2.5
1,4-Dioxane	ND		ug/l	620	150	2.5
p-Diethylbenzene	ND		ug/l	5.0	1.8	2.5
p-Ethyltoluene	2.0	J	ug/l	5.0	1.8	2.5
1,2,4,5-Tetramethylbenzene	ND		ug/l	5.0	1.4	2.5
Ethyl ether	ND		ug/l	6.2	1.8	2.5
trans-1,4-Dichloro-2-butene	ND		ug/l	6.2	1.8	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	107		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2025069
Report Date: 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-03
Client ID: GW-3
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 10:55
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/17/20 12:25
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.9	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	25		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-03 Date Collected: 06/15/20 10:55

Client ID: GW-3 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	1.1		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	1.7	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-03 Date Collected: 06/15/20 10:55

Client ID: GW-3 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	113		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-04
Client ID: GW-4
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 14:45
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/17/20 12:47
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	3.2		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-04 Date Collected: 06/15/20 14:45

Client ID: GW-4 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.26	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-04 Date Collected: 06/15/20 14:45

Client ID: GW-4 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	113		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-05
Client ID: GW-5
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 13:22
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/17/20 11:41
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.1	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	50		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-05 Date Collected: 06/15/20 13:22

Client ID: GW-5 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	1.9		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-05 Date Collected: 06/15/20 13:22

Client ID: GW-5 Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	114		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-06
Client ID: FB
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/15/20 15:00
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/17/20 13:09
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-06 Date Collected: 06/15/20 15:00

Client ID: FB Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	1.6	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-06 Date Collected: 06/15/20 15:00

Client ID: FB Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	119		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-07
Client ID: TB
Sample Location: LONG ISLAND CITY NY

Date Collected: 06/12/20 00:00
Date Received: 06/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 06/17/20 13:31
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-07 Date Collected: 06/12/20 00:00

Client ID: TB Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

SAMPLE RESULTS

Lab ID: L2025069-07 Date Collected: 06/12/20 00:00

Client ID: TB Date Received: 06/16/20

Sample Location: LONG ISLAND CITY NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	119		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/17/20 08:01
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG1382727-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/17/20 08:01
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG1382727-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: BRIDGE CLEANERS **Lab Number:** L2025069

Project Number: BRIDGE CLEANERS **Report Date:** 06/18/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 06/17/20 08:01
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG1382727-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	113		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2025069

Report Date: 06/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1382727-3 WG1382727-4								
Methylene chloride	99		98		70-130	1		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	110		100		70-130	10		20
Carbon tetrachloride	97		95		63-132	2		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	100		100		63-130	0		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	92		88		70-130	4		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	94		96		70-130	2		20
cis-1,3-Dichloropropene	96		97		70-130	1		20
1,1-Dichloropropene	94		90		70-130	4		20
Bromoform	99		100		54-136	1		20
1,1,2,2-Tetrachloroethane	97		100		67-130	3		20
Benzene	100		100		70-130	0		20
Toluene	100		98		70-130	2		20
Ethylbenzene	98		93		70-130	5		20
Chloromethane	94		90		64-130	4		20
Bromomethane	100		94		39-139	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2025069

Report Date: 06/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1382727-3 WG1382727-4								
Vinyl chloride	86		86		55-140	0		20
Chloroethane	120		120		55-138	0		20
1,1-Dichloroethene	95		92		61-145	3		20
trans-1,2-Dichloroethene	100		98		70-130	2		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	110		100		70-130	10		20
1,4-Dichlorobenzene	100		99		70-130	1		20
Methyl tert butyl ether	90		94		63-130	4		20
p/m-Xylene	105		100		70-130	5		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	110		100		70-130	10		20
Dibromomethane	100		100		70-130	0		20
1,2,3-Trichloropropane	94		96		64-130	2		20
Acrylonitrile	98		100		70-130	2		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	60		58		36-147	3		20
Acetone	92		96		58-148	4		20
Carbon disulfide	94		92		51-130	2		20
2-Butanone	84		96		63-138	13		20
Vinyl acetate	88		90		70-130	2		20
4-Methyl-2-pentanone	79		82		59-130	4		20
2-Hexanone	76		85		57-130	11		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2025069

Report Date: 06/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1382727-3 WG1382727-4								
Bromochloromethane	100		100		70-130	0		20
2,2-Dichloropropane	110		110		63-133	0		20
1,2-Dibromoethane	100		100		70-130	0		20
1,3-Dichloropropane	98		100		70-130	2		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	96		91		53-136	5		20
sec-Butylbenzene	95		92		70-130	3		20
tert-Butylbenzene	79		76		70-130	4		20
o-Chlorotoluene	100		97		70-130	3		20
p-Chlorotoluene	100		98		70-130	2		20
1,2-Dibromo-3-chloropropane	94		95		41-144	1		20
Hexachlorobutadiene	94		92		63-130	2		20
Isopropylbenzene	96		90		70-130	6		20
p-Isopropyltoluene	93		89		70-130	4		20
Naphthalene	76		79		70-130	4		20
n-Propylbenzene	96		92		69-130	4		20
1,2,3-Trichlorobenzene	93		92		70-130	1		20
1,2,4-Trichlorobenzene	94		93		70-130	1		20
1,3,5-Trimethylbenzene	98		93		64-130	5		20
1,2,4-Trimethylbenzene	97		91		70-130	6		20
1,4-Dioxane	76		82		56-162	8		20
p-Diethylbenzene	89		87		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2025069
Report Date: 06/18/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1382727-3 WG1382727-4								
p-Ethyltoluene	100		94		70-130	6		20
1,2,4,5-Tetramethylbenzene	75		72		70-130	4		20
Ethyl ether	94		100		59-134	6		20
trans-1,4-Dichloro-2-butene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		102		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	94		94		70-130
Dibromofluoromethane	99		103		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2025069
Report Date: 06/18/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2025069-01A	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-01B	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-01C	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-02A	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-02B	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-02C	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-03A	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-03B	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-03C	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-04A	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-04B	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-04C	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-05A	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-05B	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-05C	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-06A	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-06B	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-06C	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-07A	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)
L2025069-07B	Vial HCl preserved	A	NA		3.2	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2025069
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/18/20

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2025069
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/18/20

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2025069
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/18/20

Data Qualifiers

Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2025069
Project Number:	BRIDGE CLEANERS	**Report Date:**	06/18/20

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 6/16/20

ALPHA Job #: L2025069

Client Information

Client: Sustainable Redevelopment-LIC
Address: 166 Woodside Ave
West Harrison NY
Phone: 914-812-2632
Fax:
Email: ANesheiwat@sustainableredevelopment.com

Project Information

Project Name: Bridge Cleaners
Project Location: Long Island City NY
Project #: Bridge Cleaners
(Use Project name as Project #)
Project Manager: Al Nesheiwat
ALPHAQuote #:

Turn-Around Time

Standard: ☒ Due Date:
Rush (only if pre approved): ☐ # of Days:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☒ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☒ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

ANALYSIS

NYTCL-8260

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments	Total Bottle
25069-01	GW-1	6/15/20	1455	GW	NC		3
-02	GW-2		1227		NC		3
-03	GW-3		1055		RR		3
-04	GW-4		1445		RR		3
-05	GW-5		1322	↓	NC		3
-06	FB	↓	1500	AQ	NC		3
-07	TB	6/12/20		AQ			2
-08	EB						

Container Type: V
Preservative: B

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	6/15/20 1600	D. Santos AAR	6/15/20 1600
D. Santos AAR	6/16/20 1645	Paul Mangella	6/16/20 800
Paul Mangella	6/16/20 2135	Alexa Ruiz AAR	6/16/20 1645
			6/16/20 2135

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2053411
Client:	Environmental Compliance & Control, Inc. 1 Emery Avenue Unit 2 Randolph, NJ 07869
ATTN:	Al Nesheiwat
Phone:	(973) 927-1111
Project Name:	BRIDGE CLEANERS
Project Number:	BRIDGE CLEANERS
Report Date:	12/08/20

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2053411
Report Date: 12/08/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2053411-01	SVE EXHAUST	SOIL_VAPOR	QUEENS, NY	12/02/20 10:12	12/02/20

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2053411
Project Number:	BRIDGE CLEANERS	**Report Date:**	12/08/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2053411
Project Number:	BRIDGE CLEANERS	**Report Date:**	12/08/20

Case Narrative (continued)

Volatile Organics in Air

L2053411-01: Samples were transferred from a Tedlar bag into a fused silica lined canister upon receipt in order to extend the holding time for analysis.

The WG1442013-3 LCS recovery tert-butyl alcohol (68%) is below the lower 70% acceptance limit. Resutls for this analyte may be biased low.

L2053411-01: Samples were transferred from a Tedlar bag into a fused silica lined canister upon receipt in order to extend the holding time for analysis.

The WG1442013-3 LCS recovery tert-butyl alcohol (68%) is below the lower 70% acceptance limit. Resutls for this analyte may be biased low.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 12/08/20

AIR

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2053411
Report Date: 12/08/20

SAMPLE RESULTS

Lab ID: L2053411-01
Client ID: SVE EXHAUST
Sample Location: QUEENS, NY

Date Collected: 12/02/20 10:12
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/08/20 03:31
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.391	0.200	--	1.93	0.989	--		1
Chloromethane	0.421	0.200	--	0.869	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	17.8	5.00	--	33.5	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	2.60	1.00	--	6.18	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	1.43	0.500	--	3.52	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2053411
Report Date: 12/08/20

SAMPLE RESULTS

Lab ID: L2053411-01
Client ID: SVE EXHAUST
Sample Location: QUEENS, NY

Date Collected: 12/02/20 10:12
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.313	0.200	--	1.53	0.977	--		1
Tetrahydrofuran	0.507	0.500	--	1.50	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.214	0.200	--	0.684	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	0.239	0.200	--	1.28	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.656	0.200	--	2.47	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	5.29	0.200	--	35.9	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2053411
Report Date: 12/08/20

SAMPLE RESULTS

Lab ID: L2053411-01
Client ID: SVE EXHAUST
Sample Location: QUEENS, NY

Date Collected: 12/02/20 10:12
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	94		60-140

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2053411
Report Date: 12/08/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/07/20 15:08

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1442013-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2053411
Report Date: 12/08/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/07/20 15:08

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1442013-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2053411
Report Date: 12/08/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/07/20 15:08

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1442013-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2053411

Report Date: 12/08/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1442013-3								
Dichlorodifluoromethane	86		-		70-130	-		
Chloromethane	102		-		70-130	-		
Freon-114	94		-		70-130	-		
Vinyl chloride	81		-		70-130	-		
1,3-Butadiene	98		-		70-130	-		
Bromomethane	81		-		70-130	-		
Chloroethane	86		-		70-130	-		
Ethanol	87		-		40-160	-		
Vinyl bromide	77		-		70-130	-		
Acetone	73		-		40-160	-		
Trichlorofluoromethane	76		-		70-130	-		
Isopropanol	72		-		40-160	-		
1,1-Dichloroethene	77		-		70-130	-		
Tertiary butyl Alcohol	**68**	Q	-		70-130	-		
Methylene chloride	99		-		70-130	-		
3-Chloropropene	88		-		70-130	-		
Carbon disulfide	87		-		70-130	-		
Freon-113	84		-		70-130	-		
trans-1,2-Dichloroethene	76		-		70-130	-		
1,1-Dichloroethane	77		-		70-130	-		
Methyl tert butyl ether	82		-		70-130	-		
2-Butanone	90		-		70-130	-		
cis-1,2-Dichloroethene	80		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2053411

Report Date: 12/08/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1442013-3								
Ethyl Acetate	80		-		70-130	-		
Chloroform	89		-		70-130	-		
Tetrahydrofuran	86		-		70-130	-		
1,2-Dichloroethane	75		-		70-130	-		
n-Hexane	93		-		70-130	-		
1,1,1-Trichloroethane	89		-		70-130	-		
Benzene	100		-		70-130	-		
Carbon tetrachloride	98		-		70-130	-		
Cyclohexane	96		-		70-130	-		
1,2-Dichloropropane	92		-		70-130	-		
Bromodichloromethane	102		-		70-130	-		
1,4-Dioxane	98		-		70-130	-		
Trichloroethene	95		-		70-130	-		
2,2,4-Trimethylpentane	97		-		70-130	-		
Heptane	107		-		70-130	-		
cis-1,3-Dichloropropene	108		-		70-130	-		
4-Methyl-2-pentanone	107		-		70-130	-		
trans-1,3-Dichloropropene	92		-		70-130	-		
1,1,2-Trichloroethane	99		-		70-130	-		
Toluene	93		-		70-130	-		
2-Hexanone	108		-		70-130	-		
Dibromochloromethane	105		-		70-130	-		
1,2-Dibromoethane	107		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2053411

Report Date: 12/08/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1442013-3								
Tetrachloroethene	96		-		70-130	-		
Chlorobenzene	106		-		70-130	-		
Ethylbenzene	98		-		70-130	-		
p/m-Xylene	98		-		70-130	-		
Bromoform	106		-		70-130	-		
Styrene	104		-		70-130	-		
1,1,2,2-Tetrachloroethane	108		-		70-130	-		
o-Xylene	100		-		70-130	-		
4-Ethyltoluene	103		-		70-130	-		
1,3,5-Trimethylbenzene	104		-		70-130	-		
1,2,4-Trimethylbenzene	109		-		70-130	-		
Benzyl chloride	88		-		70-130	-		
1,3-Dichlorobenzene	102		-		70-130	-		
1,4-Dichlorobenzene	103		-		70-130	-		
1,2-Dichlorobenzene	104		-		70-130	-		
1,2,4-Trichlorobenzene	105		-		70-130	-		
Hexachlorobutadiene	106		-		70-130	-		

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2053411
Report Date: 12/08/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2053411-01A	Tedlar Bag 5 liter-Polypropylene Fitting	NA	NA			Y	Absent		TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2053411
Project Number:	BRIDGE CLEANERS	**Report Date:**	12/08/20

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2053411
Project Number:	BRIDGE CLEANERS	**Report Date:**	12/08/20

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2053411
Project Number:	BRIDGE CLEANERS	**Report Date:**	12/08/20

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2053411
Project Number:	BRIDGE CLEANERS	**Report Date:**	12/08/20

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

ALPHA ANALYTICAL — CHAIN OF CUSTODY

PAGE 1 OF 1

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/3/20

ALPHA Job #: L2053411

Client Information

Client: ECC Horizon
Address: 1 Emery Ave, Unit 2
Randolph, NJ 07869
Phone: 973 989 8010
Fax:
Email: anorberg@eccHorizon.com
mkrasnecky@eccHorizon.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Burens, NY
Project #:
Project Manager: Al Nasheiwat
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subset Non-petroleum HCs)	Fixed Gases	Sulfides & Mercaptans by TO-15	☐	Sample Comments (i.e. PID)
5344-01	SVE exhaust	12/2/20	1010	1012	—	—	SV	AN	5L	—	—	X						PID

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: Tedlar bag

Relinquished By:	Date/Time	Received By:	Date/Time:
GJAC 14:50	12/2/20, 12:50	GJAC (AAN)	12/2/20, 12:50
12/3	12/2/20		12/3/20 0200

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

ANALYTICAL REPORT

Lab Number:	L2103234
Client:	Environmental Compliance & Control, Inc. 1 Emery Avenue Unit 2 Randolph, NJ 07869
ATTN:	Al Nesheiwat
Phone:	(973) 927-1111
Project Name:	BRIDGE CLEANERS
Project Number:	BRIDGE CLEANERS
Report Date:	01/27/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2103234-01	GW-1	WATER	QUEENS, NY	01/20/21 16:10	01/21/21
L2103234-02	GW-2	WATER	QUEENS, NY	01/20/21 15:40	01/21/21
L2103234-03	GW-3	WATER	QUEENS, NY	01/20/21 12:40	01/21/21
L2103234-04	GW-4	WATER	QUEENS, NY	01/20/21 14:30	01/21/21
L2103234-05	GW-5	WATER	QUEENS, NY	01/20/21 13:40	01/21/21
L2103234-06	MW-5	WATER	QUEENS, NY	01/20/21 11:45	01/21/21
L2103234-07	FB	WATER	QUEENS, NY	01/20/21 09:15	01/21/21
L2103234-08	TB	TRIP BLANK (AQUEOUS)	QUEENS, NY	01/19/21 00:00	01/21/21

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2103234
Project Number:	BRIDGE CLEANERS	**Report Date:**	01/27/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2103234
Project Number:	BRIDGE CLEANERS	**Report Date:**	01/27/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 01/27/21

ORGANICS

VOLATILES

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-01
Client ID: GW-1
Sample Location: QUEENS, NY

Date Collected: 01/20/21 16:10
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/25/21 09:58
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	0.78	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	19		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-01 Date Collected: 01/20/21 16:10

Client ID: GW-1 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	1.1		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-01 Date Collected: 01/20/21 16:10

Client ID: GW-1 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-02
Client ID: GW-2
Sample Location: QUEENS, NY
Date Collected: 01/20/21 15:40
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/25/21 10:21
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	18		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-02 Date Collected: 01/20/21 15:40

Client ID: GW-2 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-02 Date Collected: 01/20/21 15:40

Client ID: GW-2 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	94		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-03
Client ID: GW-3
Sample Location: QUEENS, NY
Date Collected: 01/20/21 12:40
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/25/21 10:44
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.5	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	23		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-03 Date Collected: 01/20/21 12:40

Client ID: GW-3 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.87		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-03 Date Collected: 01/20/21 12:40

Client ID: GW-3 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	96		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-04
Client ID: GW-4
Sample Location: QUEENS, NY
Date Collected: 01/20/21 14:30
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/24/21 16:47
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	1.4		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-04 Date Collected: 01/20/21 14:30

Client ID: GW-4 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-04 Date Collected: 01/20/21 14:30

Client ID: GW-4 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	102		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-05
Client ID: GW-5
Sample Location: QUEENS, NY
Date Collected: 01/20/21 13:40
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/24/21 16:26
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	67		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-05 Date Collected: 01/20/21 13:40

Client ID: GW-5 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	2.0		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-05 Date Collected: 01/20/21 13:40

Client ID: GW-5 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-06
Client ID: MW-5
Sample Location: QUEENS, NY
Date Collected: 01/20/21 11:45
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/24/21 16:05
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.6	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	5.8		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-06 Date Collected: 01/20/21 11:45

Client ID: MW-5 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.24	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-06 Date Collected: 01/20/21 11:45

Client ID: MW-5 Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	98		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-07
Client ID: FB
Sample Location: QUEENS, NY
Date Collected: 01/20/21 09:15
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/24/21 15:22
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-07 Date Collected: 01/20/21 09:15

Client ID: FB Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-07 Date Collected: 01/20/21 09:15

Client ID: FB Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	102		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2103234
Report Date: 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-08
Client ID: TB
Sample Location: QUEENS, NY
Date Collected: 01/19/21 00:00
Date Received: 01/21/21
Field Prep: Not Specified

Sample Depth:
Matrix: Trip Blank (Aqueous)
Analytical Method: 1,8260C
Analytical Date: 01/24/21 15:43
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-08 Date Collected: 01/19/21 00:00

Client ID: TB Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

SAMPLE RESULTS

Lab ID: L2103234-08 Date Collected: 01/19/21 00:00

Client ID: TB Date Received: 01/21/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	99		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/24/21 15:01
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04-08 Batch: WG1458264-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/24/21 15:01
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04-08 Batch: WG1458264-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/24/21 15:01
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04-08 Batch: WG1458264-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	97		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/25/21 09:35
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1458384-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/25/21 09:35
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1458384-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: BRIDGE CLEANERS **Lab Number:** L2103234

Project Number: BRIDGE CLEANERS **Report Date:** 01/27/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/25/21 09:35
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1458384-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2103234

Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-08 Batch: WG1458264-3 WG1458264-4								
Methylene chloride	89		85		70-130	5		20
1,1-Dichloroethane	100		93		70-130	7		20
Chloroform	90		85		70-130	6		20
Carbon tetrachloride	95		86		63-132	10		20
1,2-Dichloropropane	93		89		70-130	4		20
Dibromochloromethane	86		83		63-130	4		20
1,1,2-Trichloroethane	80		81		70-130	1		20
Tetrachloroethene	91		82		70-130	10		20
Chlorobenzene	92		87		75-130	6		20
Trichlorofluoromethane	96		92		62-150	4		20
1,2-Dichloroethane	90		89		70-130	1		20
1,1,1-Trichloroethane	96		87		67-130	10		20
Bromodichloromethane	91		85		67-130	7		20
trans-1,3-Dichloropropene	81		77		70-130	5		20
cis-1,3-Dichloropropene	80		80		70-130	0		20
1,1-Dichloropropene	88		86		70-130	2		20
Bromoform	86		82		54-136	5		20
1,1,2,2-Tetrachloroethane	78		79		67-130	1		20
Benzene	86		82		70-130	5		20
Toluene	90		86		70-130	5		20
Ethylbenzene	94		87		70-130	8		20
Chloromethane	110		100		64-130	10		20
Bromomethane	110		100		39-139	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-08 Batch: WG1458264-3 WG1458264-4								
Vinyl chloride	94		84		55-140	11		20
Chloroethane	120		110		55-138	9		20
1,1-Dichloroethene	94		90		61-145	4		20
trans-1,2-Dichloroethene	92		87		70-130	6		20
Trichloroethene	90		84		70-130	7		20
1,2-Dichlorobenzene	89		87		70-130	2		20
1,3-Dichlorobenzene	92		90		70-130	2		20
1,4-Dichlorobenzene	90		85		70-130	6		20
Methyl tert butyl ether	83		82		63-130	1		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	84		82		70-130	2		20
Dibromomethane	87		84		70-130	4		20
1,2,3-Trichloropropane	79		79		64-130	0		20
Acrylonitrile	100		96		70-130	4		20
Styrene	95		90		70-130	5		20
Dichlorodifluoromethane	85		77		36-147	10		20
Acetone	84		84		58-148	0		20
Carbon disulfide	90		80		51-130	12		20
2-Butanone	86		88		63-138	2		20
Vinyl acetate	97		100		70-130	3		20
4-Methyl-2-pentanone	78		85		59-130	9		20
2-Hexanone	79		80		57-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-08 Batch: WG1458264-3 WG1458264-4								
Bromochloromethane	90		89		70-130	1		20
2,2-Dichloropropane	100		90		63-133	11		20
1,2-Dibromoethane	82		78		70-130	5		20
1,3-Dichloropropane	79		79		70-130	0		20
1,1,1,2-Tetrachloroethane	87		86		64-130	1		20
Bromobenzene	90		89		70-130	1		20
n-Butylbenzene	89		83		53-136	7		20
sec-Butylbenzene	92		84		70-130	9		20
tert-Butylbenzene	85		78		70-130	9		20
o-Chlorotoluene	98		92		70-130	6		20
p-Chlorotoluene	96		92		70-130	4		20
1,2-Dibromo-3-chloropropane	64		70		41-144	9		20
Hexachlorobutadiene	74		69		63-130	7		20
Isopropylbenzene	98		92		70-130	6		20
p-Isopropyltoluene	95		90		70-130	5		20
Naphthalene	**59**	Q	**60**	Q	70-130	2		20
n-Propylbenzene	99		93		69-130	6		20
1,2,3-Trichlorobenzene	**60**	Q	**62**	Q	70-130	3		20
1,2,4-Trichlorobenzene	**68**	Q	**69**	Q	70-130	1		20
1,3,5-Trimethylbenzene	94		90		64-130	4		20
1,2,4-Trimethylbenzene	95		89		70-130	7		20
1,4-Dioxane	68		76		56-162	11		20
p-Diethylbenzene	91		86		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-08 Batch: WG1458264-3 WG1458264-4								
p-Ethyltoluene	95		88		70-130	8		20
1,2,4,5-Tetramethylbenzene	83		81		70-130	2		20
Ethyl ether	87		81		59-134	7		20
trans-1,4-Dichloro-2-butene	95		98		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		102		70-130
Toluene-d8	98		96		70-130
4-Bromofluorobenzene	98		100		70-130
Dibromofluoromethane	98		98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1458384-3 WG1458384-4								
Methylene chloride	94		95		70-130	1		20
1,1-Dichloroethane	93		95		70-130	2		20
Chloroform	92		92		70-130	0		20
Carbon tetrachloride	84		86		63-132	2		20
1,2-Dichloropropane	92		95		70-130	3		20
Dibromochloromethane	94		96		63-130	2		20
1,1,2-Trichloroethane	95		96		70-130	1		20
Tetrachloroethene	96		98		70-130	2		20
Chlorobenzene	96		95		75-130	1		20
Trichlorofluoromethane	84		86		62-150	2		20
1,2-Dichloroethane	91		92		70-130	1		20
1,1,1-Trichloroethane	92		93		67-130	1		20
Bromodichloromethane	91		92		67-130	1		20
trans-1,3-Dichloropropene	96		96		70-130	0		20
cis-1,3-Dichloropropene	91		93		70-130	2		20
1,1-Dichloropropene	92		94		70-130	2		20
Bromoform	93		93		54-136	0		20
1,1,2,2-Tetrachloroethane	97		95		67-130	2		20
Benzene	93		96		70-130	3		20
Toluene	98		98		70-130	0		20
Ethylbenzene	95		95		70-130	0		20
Chloromethane	73		79		64-130	8		20
Bromomethane	72		73		39-139	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1458384-3 WG1458384-4								
Vinyl chloride	81		81		55-140	0		20
Chloroethane	82		85		55-138	4		20
1,1-Dichloroethene	87		89		61-145	2		20
trans-1,2-Dichloroethene	91		93		70-130	2		20
Trichloroethene	93		96		70-130	3		20
1,2-Dichlorobenzene	95		96		70-130	1		20
1,3-Dichlorobenzene	96		97		70-130	1		20
1,4-Dichlorobenzene	95		96		70-130	1		20
Methyl tert butyl ether	90		89		63-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	92		94		70-130	2		20
Dibromomethane	90		92		70-130	2		20
1,2,3-Trichloropropane	95		96		64-130	1		20
Acrylonitrile	91		88		70-130	3		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	75		76		36-147	1		20
Acetone	130		110		58-148	17		20
Carbon disulfide	93		90		51-130	3		20
2-Butanone	120		110		63-138	9		20
Vinyl acetate	91		89		70-130	2		20
4-Methyl-2-pentanone	90		86		59-130	5		20
2-Hexanone	91		86		57-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2103234

Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1458384-3 WG1458384-4								
Bromochloromethane	100		100		70-130	0		20
2,2-Dichloropropane	97		98		63-133	1		20
1,2-Dibromoethane	94		94		70-130	0		20
1,3-Dichloropropane	95		95		70-130	0		20
1,1,1,2-Tetrachloroethane	93		94		64-130	1		20
Bromobenzene	98		99		70-130	1		20
n-Butylbenzene	98		99		53-136	1		20
sec-Butylbenzene	100		99		70-130	1		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	99		97		70-130	2		20
p-Chlorotoluene	98		98		70-130	0		20
1,2-Dibromo-3-chloropropane	87		84		41-144	4		20
Hexachlorobutadiene	90		100		63-130	11		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	99		100		70-130	1		20
Naphthalene	88		92		70-130	4		20
n-Propylbenzene	100		100		69-130	0		20
1,2,3-Trichlorobenzene	85		97		70-130	13		20
1,2,4-Trichlorobenzene	88		96		70-130	9		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	100		99		70-130	1		20
1,4-Dioxane	120		120		56-162	0		20
p-Diethylbenzene	98		99		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1458384-3 WG1458384-4								
p-Ethyltoluene	100		100		70-130	0		20
1,2,4,5-Tetramethylbenzene	95		100		70-130	5		20
Ethyl ether	90		89		59-134	1		20
trans-1,4-Dichloro-2-butene	96		93		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		94		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	101		101		70-130
Dibromofluoromethane	97		97		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2103234-01A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-01B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-01C	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-02A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-02B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-02C	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-03A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-03B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-03C	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-04A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-04B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-04C	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-05A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-05B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-05C	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-06A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-06B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-06C	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-07A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-07B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-07C	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-08A	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)
L2103234-08B	Vial HCl preserved	A	NA		2.6	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2103234
Report Date: 01/27/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

Container Comments

L2103234-07B	Received frozen, possible headspace - please examine

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2103234
Project Number:	BRIDGE CLEANERS	**Report Date:**	01/27/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2103234
Project Number:	BRIDGE CLEANERS	**Report Date:**	01/27/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2103234
Project Number:	BRIDGE CLEANERS	**Report Date:**	01/27/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 1/21/21

ALPHA Job #: L2103234

Project Information
- Project Name: Bridge Cleaners
- Project Location: Queens, NY
- Project #
- (Use Project name as Project #) [X]
- Project Manager: Al Nasheiwat
- ALPHAQuote #:

Turn-Around Time
- Standard [X] Due Date:
- Rush (only if pre approved) [ ] # of Days:

Client Information
- Client: ECC Horizon
- Address: 1 Emery Ave, Unit 2, Randolph NJ 07869
- Phone: 973 989 8010
- Fax:
- Email: anesheiwat@ecchorizon.com

Deliverables
- [ ] ASP-A
- [X] ASP-B
- [ ] EQuIS (1 File)
- [ ] EQuIS (4 File)
- [ ] Other

Regulatory Requirement
- [ ] NY TOGS
- [ ] NY Part 375 Standards
- [ ] NY CP-51
- [ ] NY Restricted Use
- [ ] Other
- [X] NY Unrestricted Use
- [ ] NYC Sewer Discharge

AN 1/20/21

Billing Information
- [ ] Same as Client Info
- PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
- Disposal Facility:
- [ ] NJ [ ] NY
- [ ] Other:

These samples have been previously analyzed by Alpha [X]

Other project specific requirements/comments:
cc results to nkrasnecky@ecchorizon.com
Samples preserved on ice @ *4°C

Please specify Metals or TAL.

ANALYSIS
- VOC (EPA 8260)

Sample Filtration
- [ ] Done
- [ ] Lab to do

Preservation
- [ ] Lab to do

(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC	Sample Specific Comments
03234-01	GW-1	1/20/21	1610	GW	AN	X	
-02	GW-2		1540		RR	X	
-03	GW-3		1240		AN	X	
-04	GW-4		1430		AN	X	
-05	GW-5		1340		RR	X	
-06	MW-5		1145		RR	X	
-07	FB		0915	FB	RR	X	
-08	TB			TB		X	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type: V
Preservative: B

Relinquished By:	Date/Time	Received By:	Date/Time
	1/20/21 1900		1-21-21 11:40
	1-21-21 13:45		1/21/21 1645
1/21/21 2115			1/21/21 2115

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L2121685
Client:	Environmental Compliance & Control, Inc. 1 Emery Avenue Unit 2 Randolph, NJ 07869
ATTN:	Al Nesheiwat
Phone:	(973) 927-1111
Project Name:	BRIDGE CLEANERS
Project Number:	BRIDGE CLEANERS
Report Date:	05/03/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2121685
Report Date: 05/03/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2121685-01	SVE	SOIL_VAPOR	QUEENS, NY	04/28/21 09:16	04/28/21

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2121685
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/03/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2121685
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/03/21

Case Narrative (continued)

Volatile Organics in Air

WG1492970-3: The LCS recoveries for propylene (136%), pentane (165%), and 3-chloropropene (141%) are above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of these analytes.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly O'Neill

Title: Technical Director/Representative Date: 05/03/21

AIR

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2121685
Report Date: 05/03/21

SAMPLE RESULTS

Lab ID: L2121685-01
Client ID: SVE
Sample Location: QUEENS, NY

Date Collected: 04/28/21 09:16
Date Received: 04/28/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/30/21 20:55
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.433	0.200	--	2.14	0.989	--		1
Chloromethane	0.518	0.200	--	1.07	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	37.9	5.00	--	71.4	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	6.62	1.00	--	15.7	2.38	--		1
Trichlorofluoromethane	0.245	0.200	--	1.38	1.12	--		1
Isopropanol	6.70	0.500	--	16.5	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	16.0	0.500	--	48.5	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	0.206	0.200	--	0.642	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	0.870	0.200	--	3.45	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2121685
Report Date: 05/03/21

SAMPLE RESULTS

Lab ID: L2121685-01
Client ID: SVE
Sample Location: QUEENS, NY

Date Collected: 04/28/21 09:16
Date Received: 04/28/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	1.82	0.200	--	8.89	0.977	--		1
Tetrahydrofuran	0.504	0.500	--	1.49	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	2.57	0.200	--	9.06	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.325	0.200	--	1.04	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.450	0.200	--	1.55	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	0.401	0.200	--	2.16	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.929	0.200	--	3.81	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.950	0.200	--	3.58	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	19.2	0.200	--	130	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2121685
Report Date: 05/03/21

SAMPLE RESULTS

Lab ID: L2121685-01
Client ID: SVE
Sample Location: QUEENS, NY

Date Collected: 04/28/21 09:16
Date Received: 04/28/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	0.531	0.400	--	2.31	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	89		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	96		60-140

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2121685
Report Date: 05/03/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/30/21 14:31

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1492970-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2121685
Report Date: 05/03/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/30/21 14:31

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1492970-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2121685
Report Date: 05/03/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/30/21 14:31

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01 Batch: WG1492970-4								
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2121685
Report Date: 05/03/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1492970-3								
Dichlorodifluoromethane	91		-		70-130	-		
Chloromethane	119		-		70-130	-		
Freon-114	100		-		70-130	-		
Vinyl chloride	109		-		70-130	-		
1,3-Butadiene	110		-		70-130	-		
Bromomethane	109		-		70-130	-		
Chloroethane	115		-		70-130	-		
Ethanol	99		-		40-160	-		
Vinyl bromide	107		-		70-130	-		
Acetone	91		-		40-160	-		
Trichlorofluoromethane	103		-		70-130	-		
Isopropanol	98		-		40-160	-		
1,1-Dichloroethene	108		-		70-130	-		
Tertiary butyl Alcohol	92		-		70-130	-		
Methylene chloride	127		-		70-130	-		
3-Chloropropene	**141**	Q	-		70-130	-		
Carbon disulfide	106		-		70-130	-		
Freon-113	108		-		70-130	-		
trans-1,2-Dichloroethene	97		-		70-130	-		
1,1-Dichloroethane	99		-		70-130	-		
Methyl tert butyl ether	90		-		70-130	-		
2-Butanone	110		-		70-130	-		
cis-1,2-Dichloroethene	101		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2121685

Report Date: 05/03/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1492970-3								
Ethyl Acetate	113		-		70-130	-		
Chloroform	97		-		70-130	-		
Tetrahydrofuran	110		-		70-130	-		
1,2-Dichloroethane	98		-		70-130	-		
n-Hexane	106		-		70-130	-		
1,1,1-Trichloroethane	106		-		70-130	-		
Benzene	95		-		70-130	-		
Carbon tetrachloride	98		-		70-130	-		
Cyclohexane	104		-		70-130	-		
1,2-Dichloropropane	110		-		70-130	-		
Bromodichloromethane	99		-		70-130	-		
1,4-Dioxane	101		-		70-130	-		
Trichloroethene	100		-		70-130	-		
2,2,4-Trimethylpentane	110		-		70-130	-		
Heptane	120		-		70-130	-		
cis-1,3-Dichloropropene	102		-		70-130	-		
4-Methyl-2-pentanone	124		-		70-130	-		
trans-1,3-Dichloropropene	87		-		70-130	-		
1,1,2-Trichloroethane	106		-		70-130	-		
Toluene	101		-		70-130	-		
2-Hexanone	119		-		70-130	-		
Dibromochloromethane	107		-		70-130	-		
1,2-Dibromoethane	99		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS

Project Number: BRIDGE CLEANERS

Lab Number: L2121685

Report Date: 05/03/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01 Batch: WG1492970-3								
Tetrachloroethene	96		-		70-130	-		
Chlorobenzene	95		-		70-130	-		
Ethylbenzene	100		-		70-130	-		
p/m-Xylene	106		-		70-130	-		
Bromoform	111		-		70-130	-		
Styrene	99		-		70-130	-		
1,1,2,2-Tetrachloroethane	114		-		70-130	-		
o-Xylene	110		-		70-130	-		
4-Ethyltoluene	101		-		70-130	-		
1,3,5-Trimethylbenzene	117		-		70-130	-		
1,2,4-Trimethylbenzene	111		-		70-130	-		
Benzyl chloride	127		-		70-130	-		
1,3-Dichlorobenzene	116		-		70-130	-		
1,4-Dichlorobenzene	110		-		70-130	-		
1,2-Dichlorobenzene	110		-		70-130	-		
1,2,4-Trichlorobenzene	117		-		70-130	-		
Hexachlorobutadiene	110		-		70-130	-		

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2121685
Report Date: 05/03/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2121685-01A	Tedlar Bag 5 liter-Polypropylene Fitting	NA	NA			Y	Absent		TO15-LL(30)
L2121685-01X	Canister - 2.7 Liter (Split out in lab)	NA	NA			Y	Absent		TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2121685
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/03/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2121685
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/03/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2121685
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/03/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2121685
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/03/21

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4-29-21

ALPHA Job #: L2121685

Client Information

Client: Sustainable Development
Address: 1 Emery Ave, Unit 2
Randolph NJ
Phone:
Fax:
Email: dneshemat@ecchorizon.com

☒ These samples have been previously analyzed by Alpha

Project Information

Project Name: Bridge Cleaners
Project Location: Queens, NY
Project #:
Project Manager: M Neshemat
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats: Cat. B
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager) cc results to:
dnorberg@ecchorizon.com
nkrasnecky@ecchorizon.com

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH (Subset Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
21685-01	SVE	4/28/21	0914	0916			SV	AN	5L			X					PID = 0.2

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: Tedlar bag

Relinquished By:	Date/Time	Received By:	Date/Time:
	4/28/21 1710		4/28/21 1710
	4/28/21 1736		4/29/21 0300

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

ANALYTICAL REPORT

Lab Number:	L2122042
Client:	Environmental Compliance & Control, Inc. 1 Emery Avenue Unit 2 Randolph, NJ 07869
ATTN:	Al Nesheiwat
Phone:	(973) 927-1111
Project Name:	BRIDGE CLEANERS
Project Number:	BRIDGE CLEANERS
Report Date:	05/11/21

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2122042
Report Date: 05/11/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2122042-01	GW-1	WATER	QUEENS, NY	04/28/21 16:10	04/29/21
L2122042-02	GW-2	WATER	QUEENS, NY	04/28/21 12:37	04/29/21
L2122042-03	GW-3	WATER	QUEENS, NY	04/28/21 11:35	04/29/21
L2122042-04	GW-4	WATER	QUEENS, NY	04/28/21 15:35	04/29/21
L2122042-05	GW-5	WATER	QUEENS, NY	04/28/21 11:27	04/29/21
L2122042-06	MW-5	WATER	QUEENS, NY	04/28/21 14:00	04/29/21
L2122042-07	DUP	WATER	QUEENS, NY	04/28/21 00:00	04/29/21
L2122042-08	TB	TRIP BLANK (AQUEOUS)	QUEENS, NY	04/27/21 00:00	04/29/21
L2122042-09	FB	FIELD BLANK	QUEENS, NY	04/28/21 16:15	04/29/21

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2122042
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/11/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2122042
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/11/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Title: Technical Director/Representative Date: 05/11/21

ORGANICS

VOLATILES

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2122042
Report Date: 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-01
Client ID: GW-1
Sample Location: QUEENS, NY

Date Collected: 04/28/21 16:10
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/07/21 10:54
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	0.80	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	9.1		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-01 Date Collected: 04/28/21 16:10

Client ID: GW-1 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.59		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-01 Date Collected: 04/28/21 16:10

Client ID: GW-1 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	108		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2122042
Report Date: 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-02
Client ID: GW-2
Sample Location: QUEENS, NY

Date Collected: 04/28/21 12:37
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/07/21 11:18
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.40	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-02 Date Collected: 04/28/21 12:37

Client ID: GW-2 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-02 Date Collected: 04/28/21 12:37

Client ID: GW-2 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	108		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2122042
Report Date: 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-03
Client ID: GW-3
Sample Location: QUEENS, NY

Date Collected: 04/28/21 11:35
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/07/21 11:43
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	1.8	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	23		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-03 Date Collected: 04/28/21 11:35

Client ID: GW-3 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.77		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-03 Date Collected: 04/28/21 11:35

Client ID: GW-3 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	115		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-04
Client ID: GW-4
Sample Location: QUEENS, NY

Date Collected: 04/28/21 15:35
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/07/21 12:08
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-04 Date Collected: 04/28/21 15:35

Client ID: GW-4 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-04 Date Collected: 04/28/21 15:35

Client ID: GW-4 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	116		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-05
Client ID: GW-5
Sample Location: QUEENS, NY

Date Collected: 04/28/21 11:27
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/07/21 12:32
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	72		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-05 Date Collected: 04/28/21 11:27

Client ID: GW-5 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	2.5		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-05 Date Collected: 04/28/21 11:27

Client ID: GW-5 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	104		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2122042
Report Date: 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-06
Client ID: MW-5
Sample Location: QUEENS, NY

Date Collected: 04/28/21 14:00
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/07/21 12:57
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	0.86	J	ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	7.4		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-06 Date Collected: 04/28/21 14:00

Client ID: MW-5 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.19	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-06 Date Collected: 04/28/21 14:00

Client ID: MW-5 Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	107		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2122042
Report Date: 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-07
Client ID: DUP
Sample Location: QUEENS, NY
Date Collected: 04/28/21 00:00
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 05/07/21 13:21
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.37	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-07 Date Collected: 04/28/21 00:00

Client ID: DUP Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-07 Date Collected: 04/28/21 00:00

Client ID: DUP Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	109		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-08
Client ID: TB
Sample Location: QUEENS, NY

Date Collected: 04/27/21 00:00
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Trip Blank (Aqueous)
Analytical Method: 1,8260C
Analytical Date: 05/07/21 13:46
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-08 Date Collected: 04/27/21 00:00

Client ID: TB Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-08 Date Collected: 04/27/21 00:00

Client ID: TB Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	117		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS
Lab Number: L2122042
Report Date: 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-09
Client ID: FB
Sample Location: QUEENS, NY

Date Collected: 04/28/21 16:15
Date Received: 04/29/21
Field Prep: Not Specified

Sample Depth:
Matrix: Field Blank
Analytical Method: 1,8260C
Analytical Date: 05/07/21 14:10
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-09 Date Collected: 04/28/21 16:15

Client ID: FB Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

SAMPLE RESULTS

Lab ID: L2122042-09 Date Collected: 04/28/21 16:15

Client ID: FB Date Received: 04/29/21

Sample Location: QUEENS, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	122		70-130

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/07/21 08:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-09 Batch: WG1496280-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/07/21 08:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-09 Batch: WG1496280-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: BRIDGE CLEANERS **Lab Number:** L2122042

Project Number: BRIDGE CLEANERS **Report Date:** 05/11/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/07/21 08:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-09 Batch: WG1496280-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	109		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2122042
Report Date: 05/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09 Batch: WG1496280-3 WG1496280-4								
Methylene chloride	100		94		70-130	6		20
1,1-Dichloroethane	93		88		70-130	6		20
Chloroform	97		93		70-130	4		20
Carbon tetrachloride	100		98		63-132	2		20
1,2-Dichloropropane	84		85		70-130	1		20
Dibromochloromethane	94		93		63-130	1		20
1,1,2-Trichloroethane	86		85		70-130	1		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		94		75-130	6		20
Trichlorofluoromethane	110		99		62-150	11		20
1,2-Dichloroethane	87		83		70-130	5		20
1,1,1-Trichloroethane	100		98		67-130	2		20
Bromodichloromethane	91		90		67-130	1		20
trans-1,3-Dichloropropene	77		76		70-130	1		20
cis-1,3-Dichloropropene	84		89		70-130	6		20
1,1-Dichloropropene	92		89		70-130	3		20
Bromoform	98		89		54-136	10		20
1,1,2,2-Tetrachloroethane	91		88		67-130	3		20
Benzene	93		93		70-130	0		20
Toluene	99		92		70-130	7		20
Ethylbenzene	98		93		70-130	5		20
Chloromethane	89		80		64-130	11		20
Bromomethane	98		96		39-139	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2122042
Report Date: 05/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09 Batch: WG1496280-3 WG1496280-4								
Vinyl chloride	86		76		55-140	12		20
Chloroethane	85		76		55-138	11		20
1,1-Dichloroethene	100		98		61-145	2		20
trans-1,2-Dichloroethene	100		99		70-130	1		20
Trichloroethene	94		96		70-130	2		20
1,2-Dichlorobenzene	100		97		70-130	3		20
1,3-Dichlorobenzene	100		98		70-130	2		20
1,4-Dichlorobenzene	100		97		70-130	3		20
Methyl tert butyl ether	65		80		63-130	**21**	Q	20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	100		99		70-130	1		20
Dibromomethane	89		88		70-130	1		20
1,2,3-Trichloropropane	82		82		64-130	0		20
Acrylonitrile	87		85		70-130	2		20
Styrene	100		95		70-130	5		20
Dichlorodifluoromethane	82		74		36-147	10		20
Acetone	91		70		58-148	**26**	Q	20
Carbon disulfide	100		94		51-130	6		20
2-Butanone	90		75		63-138	18		20
Vinyl acetate	100		100		70-130	0		20
4-Methyl-2-pentanone	75		71		59-130	5		20
2-Hexanone	76		75		57-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2122042
Report Date: 05/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09 Batch: WG1496280-3 WG1496280-4								
Bromochloromethane	110		110		70-130	0		20
2,2-Dichloropropane	100		100		63-133	0		20
1,2-Dibromoethane	93		90		70-130	3		20
1,3-Dichloropropane	82		81		70-130	1		20
1,1,1,2-Tetrachloroethane	98		89		64-130	10		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	100		95		53-136	5		20
sec-Butylbenzene	100		97		70-130	3		20
tert-Butylbenzene	97		91		70-130	6		20
o-Chlorotoluene	98		92		70-130	6		20
p-Chlorotoluene	98		92		70-130	6		20
1,2-Dibromo-3-chloropropane	88		87		41-144	1		20
Hexachlorobutadiene	120		110		63-130	9		20
Isopropylbenzene	100		97		70-130	3		20
p-Isopropyltoluene	100		96		70-130	4		20
Naphthalene	97		95		70-130	2		20
n-Propylbenzene	100		93		69-130	7		20
1,2,3-Trichlorobenzene	100		97		70-130	3		20
1,2,4-Trichlorobenzene	100		98		70-130	2		20
1,3,5-Trimethylbenzene	100		95		64-130	5		20
1,2,4-Trimethylbenzene	100		96		70-130	4		20
1,4-Dioxane	104		100		56-162	4		20
p-Diethylbenzene	100		94		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2122042
Report Date: 05/11/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-09 Batch: WG1496280-3 WG1496280-4								
p-Ethyltoluene	100		94		70-130	6		20
1,2,4,5-Tetramethylbenzene	97		91		70-130	6		20
Ethyl ether	85		82		59-134	4		20
trans-1,4-Dichloro-2-butene	83		81		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		91		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	101		104		70-130

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2122042
Report Date: 05/11/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2122042-01A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-01B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-01C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-02A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-02B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-02C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-03A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-03B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-03C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-04A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-04B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-04C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-05A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-05B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-05C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-06A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-06B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-06C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-07A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-07B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-07C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-08A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-08B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: BRIDGE CLEANERS
Project Number: BRIDGE CLEANERS

Lab Number: L2122042
Report Date: 05/11/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2122042-09A	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-09B	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)
L2122042-09C	Vial HCl preserved	A	NA		3.8	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2122042
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/11/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2122042
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/11/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2122042
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/11/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name:	BRIDGE CLEANERS	**Lab Number:**	L2122042
Project Number:	BRIDGE CLEANERS	**Report Date:**	05/11/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 4/30/21

ALPHA Job #: L2122042

Client Information

Client: Sustainable Dev. / ECC
Address: 1 Emery Ave
Unit 2 Randolph NJ
Phone: 973 989 8010
Fax:
Email: anesheiwat@eccheriton.com

Project Information

Project Name: Bridge Cleaners
Project Location: Queens, NY
Project #
(Use Project name as Project #) [X]
Project Manager: M Nesheiwat
ALPHAQuote #:

Turn-Around Time

Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

Deliverables

[ ] ASP-A [X] ASP-B
[ ] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Regulatory Requirement

[ ] NY TOGS [ ] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[X] NY Unrestricted Use
[ ] NYC Sewer Discharge

Billing Information

[ ] Same as Client Info
PO # AP-042721-1

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [ ] NY
[ ] Other:

These samples have been previously analyzed by Alpha [X]

Other project specific requirements/comments:
CC results to nkrasnecky@eccheriton.com and anorberg@eccheriton
Samples preserved on ice @ 4°C

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total Bottle	Sample Specific Comments
2204 2-1	GW-1	4/28/21	1610	GW	RR	8	HOLD
-2	GW-2		1237		RR		
-3	AW-3		1135		AN		
-4	GW-4		1535		AN		
-5	GW-5		1127		RR		
-6	MW-5		1400		RR		
-7	DUP		—		RR		
-8	TB	4/27/21	—	TB	TG		
-9	FB	4/28/21	1615	FB	LR		

Container Type: V
Preservative: B

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	4/28/21 20:00		4/29/21 10:30
	4/29/21 15:00		4/29/21 2000
FedEx	4/30/21 0010		4/30/21 00:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Appendix H
Low Flow Groundwater Sampling Logs

Low Flow Purge Sheet

Date 6/15/2020 Well ID GW-1

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.0 Well Diam (in): 2 DOW (ft): 29.72 DTW (ft): 19.63

		Temperature		pH		ORP		Specific Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg. C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1420	19.32	--	7.12	--	209	--	2.27	--	689	--	4.21	--	Brown	Silty	19.64	425
1	1425	19.89	2.95	7.15	0.03	146	63	2.19	3.52	782	13.50	3.75	10.93	Brown	Silty	19.62	400
2	1430	19.51	1.91	7.26	0.11	138	7	2.18	0.46	699	10.61	3.21	14.40	Brown	Silty	19.61	350
3	1435	18.75	3.90	7.18	0.08	131	7	2.17	0.46	572	18.17	2.89	9.97	Brown	Silty	19.61	350
4	1440	18.82	0.37	7.13	0.05	123	8	2.17	0.00	688	20.28	2.71	6.23	Brown	Silty	19.61	350
5	1445	18.56	1.38	7.12	0.01	112	11	2.17	0.00	612	11.05	2.05	24.35	Brown	Silty	19.61	350
6	1450	18.24	1.72	7.12	0.00	117	5	2.17	0.00	619	1.14	2.08	1.46	Brown	Silty	19.61	350
7	1455	18.26	0.11	7.11	0.01	109	8	2.17	0.00	637	2.91	1.98	4.81	Brown	Silty	19.61	350
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1415
End Time	1455
Volume	3.25 gallons
Pump Intake	25 ft
Sample Start	1455
Sample End	1457

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 6/15/2020 Well ID GW-2

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.0 Well Diam (in): 2IN DOW (ft): 28.41 DTW (ft): 19.85

		Temperature		pH		ORP		Specific Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1150	18.38	--	6.83	--	236	--	2.87	--	742	--	1.78	--	Light Yellow	Cloudy	19.99	450
1	1155	17.99	2.12	7.02	0.19	41	195	2.79	2.79	208	71.97	2.8	57.30	Clear	Cloudy	19.99	460
2	1200	17.99	0.00	7.02	0.00	33	8	2.79	0.00	126	39.42	1.31	53.21	Clear	Cloudy	19.99	500
3	1205	18.12	0.72	7.01	0.01	32	1	2.79	0.00	55.2	56.19	1.1	16.03	Clear	Cloudy	19.99	500
4	1210	17.96	0.88	7.02	0.01	29	3	2.79	0.00	32.3	41.49	0.99	10.00	Clear	Cloudy	20	500
5	1215	17.87	0.50	7.01	0.01	30	1	2.79	0.00	30.3	6.19	0.85	14.14	Clear	Cloudy	20	500
6	1220	17.81	0.34	7.01	0.00	31	1	2.79	0.00	32.7	7.92	0.81	4.71	Clear	Cloudy	20	500
7	1225	17.8	0.06	7	0.01	32	1	2.79	0.00	33.9	3.67	0.86	6.17	Clear	Cloudy	20	500
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1140
End Time	1225
Volume	4.5 gallons
Pump Intake	24 ft
Sample Start	1127
Sample End	1129

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 6/15/2020 Well ID GW-3

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.0 Well Diam (in): 2IN DOW (ft): 27.94 DTW (ft): 19.60

		Temperature		pH		ORP		Specific Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1010	19.28	--	7.54	--	188	--	2.3	--	510	--	5.05	--	Light Brown	Cloudy	19.6	450
1	1015	19.9	3.22	7.34	0.20	173	15	2.28	0.87	541	6.08	3.57	29.31	Light Brown	Cloudy	19.63	500
2	1020	19.63	1.36	7.31	0.03	150	23	2.3	0.88	761	40.67	3.27	8.40	Light Brown	Cloudy	19.63	500
3	1025	18.65	4.99	7.29	0.02	123	27	2.31	0.43	301	60.45	2.3	29.66	Light Brown	Cloudy	19.64	400
4	1030	19.16	2.73	7.29	0.00	115	8	2.3	0.43	382	26.91	2.11	8.26	Light Brown	Cloudy	19.64	400
5	1035	18.63	2.77	7.28	0.01	100	15	2.34	1.74	199	47.91	1.82	13.74	Light Brown	Cloudy	19.64	400
6	1040	18.71	0.43	7.23	0.05	95	5	2.34	0.00	327	64.32	2.17	19.23	Light Brown	Cloudy	19.64	400
7	1045	18.67	0.21	7.24	0.01	97	2	2.34	0.00	316	3.36	2.18	0.46	Light Brown	Cloudy	19.64	400
8	1050	18.69	0.11	7.24	0.00	92	5	2.34	0.00	325	2.85	2.16	0.92	Light Brown	Cloudy	19.63	400
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1005
End Time	1050
Volume	4.5 gallons
Pump Intake	24 ft
Sample Start	1055
Sample End	1057

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 6/15/2020 Well ID GW-4

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.0 Well Diam (in): 2IN DOW (ft): 25.70 DTW (ft): 19.68

		Temperature		pH		ORP				Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1415	19.32	--	7.58	--	128	--	2.4	--	784	--	6.35	--	Brown	Silty	19.72	350
1	1420	19.25	0.36	7.53	0.05	117	11	2.41	0.42	654	16.58	5.42	14.65	Brown	Silty	19.73	375
2	1425	19	1.30	7.52	0.01	128	11	2.4	0.41	801	22.48	5.15	4.98	Brown	Silty	19.73	375
3	1430	19.03	0.16	7.52	0.00	115	13	2.4	0.00	717	10.49	3.27	36.50	Brown	Silty	19.73	375
4	1435	18.97	0.32	7.51	0.01	114	1	2.41	0.42	705	1.67	2.28	30.28	Brown	Silty	19.71	375
5	1440	18.95	0.11	7.52	0.01	113	1	2.4	0.41	739	4.82	2.22	2.63	Brown	Silty	19.72	375
6	1445	18.95	0.00	7.52	0.00	112	1	2.4	0.00	704	4.74	2.25	1.35	Brown	Silty	19.72	375
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1410
End Time	1445
Volume	3 gallons
Pump Intake	23 ft
Sample Start	1445
Sample End	1448

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 6/15/2020 Well ID GW-5

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.0 Well Diam (in): 2IN DOW (ft): 28.62 DTW (ft): 19.65

	Time	Temperature		pH		ORP		Specific Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
		Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1255	18.56	--	7.35	--	202	--	1.9	--	550	--	6.78	--	Clear	Cloudy	19.81	250
1	1300	18.73	0.92	7.22	0.13	223	21	1.89	0.53	480	12.73	3.95	41.74	Clear	Cloudy	19.83	300
2	1305	18.43	1.60	7.26	0.04	232	9	1.82	3.70	698	45.42	4.04	2.28	Clear	Cloudy	19.83	300
3	1310	18.04	2.12	7.26	0.00	239	7	1.8	1.10	358	48.71	3.44	14.85	Clear	Cloudy	19.83	350
4	1315	17.8	1.33	7.28	0.02	225	14	1.75	2.78	84.9	76.28	3.2	6.98	Clear	Cloudy	19.83	350
5	1320	17.99	1.07	7.28	0.00	223	2	1.75	0.00	49.3	41.93	3.14	1.88	Clear	Clear	19.83	350
6	1325	18.11	0.67	7.28	0.00	224	1	1.74	0.57	46.7	5.27	2.99	4.78	Clear	Clear	19.83	350
7	1330	18.08	0.17	7.28	0.00	219	5.00	1.73	0.57	43.8	6.21	2.97	0.67	Clear	Clear	19.83	350
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1250
End Time	1330
Volume	3.25 gallons
Pump Intake	24.5 ft
Sample Start	1332
Sample End	1335

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 1/20/2021 Well ID GW-1

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): Well Diam (in): 2 DOW (ft): 27.82 DTW (ft): 19.42

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1500	17.64	--	7.58	--	333	--	2.37	--	0	--	6.66	--	Brown	Turbid	20.22	200
1	1505	17.95	1.76	7.28	0.30	335	2	2.43	2.53	590	--	6.34	4.80	Clear	Clear	20.73	200
2	1510	17.88	0.39	7.26	0.02	335	0	2.45	0.82	704	19.32	6.55	3.31	Clear	Clear	20.76	200
3	1515	17.89	0.06	7.23	0.03	334	1	2.48	1.22	853	21.16	6.21	5.19	Clear	Clear	20.85	200
4	1520	17.85	0.22	7.24	0.01	330	4	2.47	0.40	1000	17.23	6.94	11.76	Clear	Clear	20.97	200
5	1530	17.83	0.11	7.33	0.09	329	1	2.52	2.02	331	66.90	6.77	2.45	Clear	Clear	20.95	200
6	1535	17.86	0.17	7.23	0.10	330	1	2.53	0.40	298	9.97	6.57	2.95	Clear	Clear	20.92	200
7	1540	17.89	0.17	7.21	0.02	330	0	2.53	0.00	326	9.40	6.15	6.39	Clear	Clear	20.78	200
8	1545	17.9	0.06	7.2	0.01	331	1	2.54	0.40	224	31.29	6.08	1.14	Clear	Clear	20.73	200
9	1550	17.87	0.17	7.21	0.01	331	0	2.55	0.39	127	43.30	6.17	1.48	Clear	Clear	20.99	200
10	1555	17.87	0.00	7.21	0.00	331	0	2.53	0.78	220	73.23	5.96	3.40	Clear	Clear	20.82	200
11	1600	17.92	0.28	7.19	0.02	333	2	2.54	0.40	121	45.00	6.14	3.02	Clear	Clear	20.76	200
12	1605	17.88	0.22	7.2	0.01	333	0	2.56	0.79	76.1	37.11	5.88	4.23	Clear	Cleat	21.1	200
13																	
14																	
15																	
16																	

Start Time	1450
End Time	1610
Volume	23 gallons
Pump Intake	25 ft
Sample Start	1610
Sample End	1615

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes At 1520, cleaned out Horiba flow thru cell to decrease turbidity

_____ Turbidity is not stabilizing, sample at 1610

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 1/20/2021 Well ID GW-2

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0 Well Diam (in): 2IN DOW (ft): 26.5 DTW (ft): 18.22

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1435	16.27	--	8.37	--	313	--	2.11	--	19.8	--	9.99	--	Clear	Clear	18.22	200
1	1440	16.77	3.07	8.34	0.03	314	1	2.13	0.95	27.4	38.38	9.63	3.60	Clear	Clear	20.14	200
2	1445	16.73	0.24	8.34	0.00	315	1	2.14	0.47	18.7	31.75	9.56	0.73	Clear	Clear	19.95	200
3	1450	16.29	2.63	8.32	0.02	316	1	2.18	1.87	12.1	35.29	9.6	0.42	Clear	Clear	20.03	200
4	1455	16.18	0.68	8.33	0.01	316	0	2.19	0.46	9.38	22.48	9.77	1.77	Clear	Clear	19.97	200
5	1500	15.9	1.73	8.33	0.00	316	0	2.21	0.91	4.79	48.93	9.97	2.05	Clear	Clear	19.87	200
6	1505	16.2	1.89	8.32	0.01	316	0	2.17	1.81	3.39	29.23	9.81	1.60	Clear	Clear	19.98	200
7	1510	17.1	5.56	8.32	0.00	315	1	2.17	0.00	4.22	24.48	9.67	1.43	Clear	Clear	20.03	200
8	1515	16.3	4.68	8.33	0.01	315	0	2.19	0.92	1.99	52.84	10.16	5.07	Clear	Clear	18.80	200
9	1520	16.04	1.60	8.33	0.00	315	0	2.2	0.46	1.63	18.09	10.23	0.69	Clear	Clear	19.72	200
10	1525	16.06	0.12	8.33	0.00	316	1	2.19	0.45	1.66	1.84	10.19	0.39	Clear	Clear	19.88	200
11	1530	15.78	1.74	8.33	0.00	315	1	2.22	1.37	1.53	7.83	10.19	0.00	Clear	Clear	19.87	200
12	1535	15.96	1.14	8.33	0.00	315	0	2.21	0.45	1.45	5.23	10.09	0.98	Clear	Clear	19.88	200
13																	
14																	
15																	
16																	

Start Time	1435
End Time	1535
Volume	7 gallons
Pump Intake	22 ft
Sample Start	1540
Sample End	1545

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Notes _____
_____
_____
_____
_____

Low Flow Purge Sheet

Date 1/20/2021 Well ID GW-3

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): Well Diam (in): 2 DOW (ft): 27.11 DTW (ft): 21.45

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1145	17.44	--	6.47	--	332	--	3.20	--	524	--	0.22	--	Brown	Turbid	19.07	200
1	1150	17.83	2.24	6.87	0.40	312	20	3.25	1.56	307	41.41	0.35	59.09	Clear	Clear	19.46	200
2	1155	17.94	0.62	6.97	0.10	303	9	3.23	0.62	151	50.81	0.32	8.57	Clear	Clear	19.55	200
3	1200	17.98	0.22	7	0.03	298	5	3.21	0.62	65.9	56.36	0.65	103.13	Clear	Clear	19.67	200
4	1205	18.02	0.22	7.03	0.03	296	2	3.21	0.00	10.7	83.76	0.39	40.00	Clear	Clear	19.58	200
5	1210	18.03	0.06	7.04	0.01	295	1	3.21	0.00	6.1	42.99	0.37	5.13	Clear	Clear	19.57	200
6	1215	18.03	0.00	7.04	0.00	295	0	3.21	0.00	2.8	54.10	0.31	16.22	Clear	Clear	19.57	200
7	1220	18.07	0.22	7.05	0.01	295	0	3.20	0.31	6.7	139.29	0.25	19.35	Clear	Clear	19.55	200
8	1225	18.06	0.06	7.05	0.00	294	1	3.20	0.00	3.9	41.79	0.18	28.00	Clear	Clear	19.55	200
9	1230	18.05	0.06	7.05	0.00	294	0	3.2	0.00	2.7	30.77	0.16	11.11	Clear	Clear	19.51	200
10	1235	18.09	0.22	7.05	0.00	293	1	3.2	0.00	5.7	111.11	0.14	12.50	Clear	Clear	19.51	200
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1145
End Time	1240
Volume	13 gallons
Pump Intake	25 ft
Sample Start	1240
Sample End	1241

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 1/20/2021 Well ID GW-4

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): Well Diam (in): 2 DOW (ft): 24.53 DTW (ft): 19.89

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0																	
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1250
End Time	1430
Volume	2.5 gallons
Pump Intake	17 ft
Sample Start	1430
Sample End	1435

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Notes _____Pump malfunction in well. Purge with Monsoon, peri pump, and bailer; sample at 1430 with Teflon bailer

Low Flow Purge Sheet

Date 1/20/2021 Well ID GW-5

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID: 0 Well Diam: 2IN DOW: 28.22 DTW: 19.1

	Time	Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
		Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1240	14.11	--	7.45	--	345	--	2.68	--	215	--	8.37	--	Brown	Turbid	19.1	200
1	1245	15.08	6.87	7.39	0.06	349	4	2.59	3.36	215	0.00	7.87	5.97	Brown	Turbid	19.1	200
2	1250	15.53	2.98	7.41	0.02	347	2	2.61	0.77	249	15.81	7.38	6.23	Brown	Turbid	19.1	200
3	1255	16.79	8.11	7.42	0.01	346	1	2.54	2.68	225	9.64	6.74	8.67	Brown	Turbid	19.1	200
4	1300	17.04	1.49	7.47	0.05	343	3	2.34	7.87	200	11.11	6.66	1.19	Brown	Turbid	19.1	200
5	1305	17.02	0.12	7.51	0.04	341	2	2.21	5.56	25.8	87.10	6.39	4.05	Clear	Clear	19.1	200
6	1310	16.85	1.00	7.56	0.05	337	4	2.06	6.79	9.85	61.82	5.43	15.02	Clear	Clear	19.1	200
7	1315	16.82	0.18	7.59	0.03	335	2	2.01	2.43	6.96	29.34	5.79	6.63	Clear	Clear	19.1	200
8	1320	17.15	1.96	7.59	0.00	331	4	1.96	2.49	3.97	42.96	5.49	5.18	Clear	Clear	19.1	200
9	1325	17.22	0.41	7.6	0.01	330	1	1.91	2.55	4.22	6.30	5.49	0.00	Clear	Clear	19.1	200
10	1330	17.1	0.70	7.6	0.00	328	2	1.88	1.57	3.95	6.40	5.51	0.36	Clear	Clear	19.1	200
11	1335	17.18	0.47	7.61	0.01	327	1	1.86	1.06	3.58	9.37	5.49	0.36	Clear	Clear	19.1	200
12																	
13																	
14																	
15																	
16																	

Start Time	1250
End Time	1330
Volume	7 gallons
Pump Intake	24.5 ft
Sample Start	1332
Sample End	1335

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 1/20/2021 Well ID MW-5

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0 Well Diam (in): 1 DOW (ft): 26.21 DTW (ft): 17.51

	Time	Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
		Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1057	10.31	--	6.46	--	394	--	1.230	--	16.7	--	5.39	--	Clear	CLEAR	17.51	200
1	1102	9.71	5.82	7.07	0.61	370	24	1.140	7.32	16.7	0.00	14.41	167.35	Clear	CLEAR	17.83	200
2	1107	10.51	8.24	7.29	0.22	358	12	0.830	27.19	16.7	0.00	5.98	58.50	Clear	CLEAR	17.54	200
3	1112	8.57	18.46	7	0.29	359	1	0.454	45.30	16.6	0.60	15.44	158.19	Clear	CLEAR	17.52	200
4	1117	6.97	18.67	7.34	0.34	349	10	0.692	52.42	16.7	0.60	6.62	57.12	Clear	CLEAR	17.57	200
5	1122	7.15	2.58	7.46	0.12	351	2	0.805	16.33	16.7	0.00	6.68	0.91	Clear	CLEAR	17.82	200
6	1127	7.99	11.75	7.42	0.04	350	1	0.835	3.73	16.7	0.00	7.89	18.11	Clear	CLEAR	17.85	200
7	1132	8.15	2.00	7.52	0.10	347	3	0.816	2.28	16.7	0.00	7.79	1.27	Clear	CLEAR	17.99	200
8	1137	7.92	2.82	7.51	0.01	348	1	0.837	2.57	16.5	1.20	8.15	4.62	Clear	CLEAR	18.04	200
9	1142	8.13	2.65	7.53	0.02	351	3	0.845	0.96	16.6	0.61	8.25	1.23	Clear	CLEAR	18.08	200
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1057
End Time	1142
Volume	3 gallons
Pump Intake	25 ft
Sample Start	1145
Sample End	1152

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes Sampled with a bailer and purged with peri pump

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 4/28/2021 Well ID GW-1

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.1 Well Diam (in): 2 DOW (ft): 28.17 DTW (ft): 20.54

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0																	
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1520
End Time	1610
Volume	3 gallons
Pump Intake	25 ft
Sample Start	1608
Sample End	1610

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Notes ___Could not get pumps to work in well. Bailed the well to purge 3 volumes, then sampled with a bailer_____
___AS/SVE OFF while sampling_____
_____
_____
_____

Low Flow Purge Sheet

Date 4/28/2021 Well ID GW-2

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0 Well Diam (in): 2 DOW (ft): 26.1 DTW (ft): 20.6

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1200	16.3	--	6.38	--	169	--	3.25	--	226	--	21.15	--	Clear	Cloudy	20.6	200
1	1205	16.4	0.61	6.49	0.11	173	4	3.24	0.31	210	7.08	25.22	19.24	Clear	Cloudy	21.7	200
2	1210	16.55	0.91	6.49	0.00	173	0	3.25	0.31	161	23.33	26.35	4.48	Clear	Cloudy	21.7	200
3	1215	16.88	1.99	6.49	0.00	210	37	3.84	18.15	114	29.19	25.18	4.44	Clear	Cloudy	21.7	200
4	1220	16.87	0.06	6.48	0.01	155	55	3.38	11.98	30	73.68	25.22	0.16	Clear	Cloudy	21.7	200
5	1225	16.91	0.24	6.47	0.01	162	7	3.31	2.07	27	10.00	26.15	3.69	Clear	Cloudy	21.7	200
6	1230	16.88	0.18	6.48	0.01	161	1	3.29	0.60	25	7.41	25.87	1.07	Clear	Cloudy	21.7	200
7	1235	16.88	0.00	6.49	0.01	158	3	3.27	0.61	25	0.00	24.29	6.11	Clear	Clear	21.7	200
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1200
End Time	1235
Volume	6 gallons
Pump Intake	24.5 ft
Sample Start	1237
Sample End	1240

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 4/28/2021 Well ID GW-3

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0 Well Diam (in): 2 DOW (ft): 27.3 DTW (ft): 19.37

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1108	16.82	--	8.31	--	3	--	3.17	--	8	--	9.86	--	Clear	Clear	19.80	200
1	1113	17.14	1.90	7.46	0.85	50	47	3.19	0.63	1.5	81.25	8.92	9.53	Clear	Clear	19.98	200
2	1118	17.1	0.23	7.25	0.21	64	14	3.22	0.94	0	100.00	8.12	8.97	Clear	Clear	19.97	200
3	1123	17.11	0.06	7.18	0.07	68	4	3.24	0.62	0	0.00	7.62	6.16	Clear	Clear	19.96	200
4	1128	17.11	0.00	7.14	0.04	73	5	3.25	0.31	0	0.00	7.19	5.64	Clear	Clear	19.96	200
5	1133	17.11	0.00	7.12	0.02	76	3	3.25	0.00	0	0.00	6.68	7.09	Clear	Clear	19.96	200
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1055
End Time	1140
Volume	11 gallons
Pump Intake	25 ft
Sample Start	1135
Sample End	1137

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Notes ____Purged 4 gallons from well to decrease turbidity before collecting water quality readings_____
___AS OFF while sampling; SVE ON while sampling_____
_____
_____
_____

Low Flow Purge Sheet

Date 4/28/2021 Well ID GW-4

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.1 Well Diam (in): 2 DOW (ft): 24.94 DTW (ft): 20.6

		Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
	Time	Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1505	17.23	--	8.02	--	85	--	1.34	--	611	--	10.84	--	Brown	Slightly turbid	20.55	150
1	1510	14.95	13.23	8.02	0.00	98	13	1.33	0.75	464	24.06	9.94	8.30	Brown	Slightly turbid	20.55	150
2	1515	16.92	13.18	7.99	0.03	103	5	1.35	1.50	352	24.14	9.56	3.82	Brown	Slightly turbid	20.55	150
3	1520	16.84	0.47	7.93	0.06	113	10	1.35	0.00	229	34.94	9.1	4.81	Brown	Slightly turbid	20.55	150
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1345
End Time	1540
Volume	14 gallons
Pump Intake	25 ft
Sample Start	1535
Sample End	1537

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Notes __Native sand at bottom of well. Developed well with weighted bailer and peristaltic pump (7 gallons).
__DTB after developing: 27.7 ft; DTW after developing: 20.20 ft; Developed 2.76 ft of sand from well_____
__"Low Flow" sample with peri pump and Horiba U52. Collect sample with weighted Teflon bailer at 25 ft._____
__AS/SVE OFF while sampling_____
_____

Low Flow Purge Sheet

Date 4/28/2021 Well ID GW-5

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0 Well Diam (in): 2 DOW (ft): 28.1 DTW (ft): 19.2

	Time	Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
		Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1020	16.05	--	5.69	--	212	--	3.77	--	420	--	19.35	--	Clear	Cloudy	19.2	200
1	1025	16.45	2.49	5.69	0.00	200	12	3.79	0.53	457	8.81	18.59	3.93	Clear	Cloudy	19.2	200
2	1030	16.65	1.22	5.69	0.00	195	5	3.74	1.32	485	6.13	18.16	2.31	Clear	Cloudy	19.33	200
3	1035	16.98	1.98	5.72	0.03	180	15	3.72	0.53	344	29.07	17.62	2.97	Clear	Cloudy	19.33	200
4	1040	16.96	0.12	5.73	0.01	169	11	3.74	0.54	240	30.23	16.87	4.26	Clear	Cloudy	19.33	200
5	1045	17.03	0.41	5.74	0.01	152	17	3.73	0.27	136	43.33	15.74	6.70	Clear	Clear	19.33	200
6	1050	16.87	0.94	5.72	0.02	159	7	3.74	0.27	128	5.88	15.45	1.84	Clear	Clear	19.33	200
7	1055	16.99	0.71	5.74	0.02	163	4	3.69	1.34	102	20.31	17.33	12.17	Clear	Clear	19.33	200
8	1100	16.96	0.18	5.75	0.01	163	0	3.68	0.27	88.5	13.24	15.46	10.79	Clear	Clear	19.33	200
9	1105	16.99	0.18	5.74	0.01	161	2	3.67	0.27	81.9	7.46	15.03	2.78	Clear	Clear	19.33	200
10	1110	17.14	0.88	5.77	0.03	150	11	3.66	0.27	60.3	26.37	14.63	2.66	Clear	Clear	19.33	200
11	1115	17.05	0.53	5.77	0.00	152	2	3.66	0.00	58.6	2.82	14.49	0.96	Clear	Clear	19.33	200
12	1120	17.07	0.12	5.77	0.00	152	0	3.65	0.27	55.5	5.29	14.14	2.42	Clear	Clear	19.33	200
13	1125	17.12	0.29	5.76	0.01	150	2	3.63	0.55	50.9	8.29	13.85	2.05	Clear	Clear	19.33	200
14																	
15																	
16																	

Start Time	1020
End Time	1125
Volume	5 gallons
Pump Intake	24.5 ft
Sample Start	1127
Sample End	1130

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Low Flow Purge Sheet

Date 4/28/2021 Well ID MW-5

Client: Simon Dev Project: Bridge Cleaners Analyzer Horiba U52

PID (PPM): 0.1 Well Diam (in): 1 DOW (ft): 26 DTW (ft): 17.56

	Time	Temperature		pH		ORP		Specifc Cond.		Turbidity		Dissolved Oxygen		Visual		DTW	Purge Rate
		Deg C	Change %	S.U.	Change	mV	Change	ms/cm	Change %	NTU	Change	mg/L	Change %	Color	Clarity	ft BTOC	mL/min
0	1305	17.39	--	5.97	--	201	--	2.93	--	377	--	10.1	--	Gray	Cloudy	17.56	200
1	1310	17.59	1.15	5.93	0.04	215	14	2.83	3.41	141	62.60	9.36	7.33	Clear	Clear	17.7	200
2	1315	17.74	0.85	5.94	0.01	221	6	2.94	3.89	77.5	45.04	9.17	2.03	Clear	Clear	17.7	200
3	1320	17.95	1.18	5.94	0.00	225	4	3.11	5.78	47	39.35	8.48	7.52	Clear	Clear	17.7	200
4	1325	18.18	1.28	5.81	0.13	235	10	2.85	8.36	93	97.87	7.47	11.91	Clear	Clear	17.7	200
5	1330	18.47	1.60	5.83	0.02	231	4	3.40	19.30	27.9	70.00	8.81	17.94	Clear	Clear	17.7	200
6	1335	18.7	1.25	5.88	0.05	232	1	3.52	3.53	6	78.49	9.05	2.72	Clear	Clear	17.7	200
7	1340	18.95	1.34	5.87	0.01	230	2	3.62	2.84	0	100.00	9.02	0.33	Clear	Clear	17.8	200
8	1345	19.13	0.95	5.88	0.01	227	3	3.63	0.28	0	0.00	8.95	0.78	Clear	Clear	17.8	200
9	1350	19.24	0.58	5.89	0.01	219	8	3.68	1.38	0	0.00	8.56	4.36	Clear	Clear	17.8	200
10	1355	19.28	0.21	5.89	0.00	216	3	3.72	1.09	0	0.00	8.49	0.82	Clear	Clear	17.9	200
11																	
12																	
13																	
14																	
15																	
16																	

Start Time	1305
End Time	1355
Volume	2.5 gallons
Pump Intake	24.5 ft
Sample Start	1400
Sample End	1405

Parameter	Change Allowance	OR
Temp	3%	
pH	0.1	
ORP	10	
Spec Cond	3%	
Turbidity	10%	<5 NTU
DO	10%	<0.5 mg/L

Notes _____

_____

_____

_____

_____

PID = Photoionization detector
PPM - parts per million
in = inches
ft = feet
DOW = depth of well
DTW = Depth to water
Deg C = Degrees Celcius
S.U. = Standard Units
ORP = Oxidation-Reduction Potential
mV = Millivolts
Specific Cond = Specific Conductivity
mS/cm = Milli Siemens per centimeter
NTU = Nephelometric Turbidity Units
mg/L = milligrams per Liter
BTOC = Below top of casing
mL/min = Milliliters per minute

Appendix I
Data Usability Summary Reports

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ECC Horizon
NJ/NY Metro Office
One Emery Avenue
Randolph, NJ - 07869
ATTN: Mr. Nicholas Krasnecky, P.E.
nkrasnecky@ecchorizon.com

June 8, 2021

SUBJECT: Bridge Cleaners, Long Island City, NY - Data Validation

Dear Mr. Krasnecky,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on May 13, 2021. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #51114:

SDG #	Fraction
L2025069 L2103234 L2122042	Volatiles

The data validation was performed under Category B guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA Region 2 SOP for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectroscopy, SOP HW-24, Revision 4; October 2014
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review; EPA 540-R-20017-002; January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Christina Rink

Christina Rink
crink@lab-data.com
Project Manager/Senior Chemist

231 pages-EM

Attachment 1

Category B EDD NYDUSR **LDC #51114 (ECC Horizon-Randolph, NJ / Bridge Cleaners, Long Island City, NY)**

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260C)																																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	L2025069	05/13/21	06/04/21	7	0																																
B	L2103234	05/13/21	06/04/21	8	0																																
C	L2122042	05/13/21	06/04/21	9	0																																
Total	T/CR			24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24

Shaded cells indicate Category B validation (all other cells are Category A validation). These sample counts do not include MS, MSD, or DUP's.

L:\ECC Horizon\Bridge Cleaners\51114ST.wpd

Site: Bridge Cleaners
Laboratory: Alpha Analytical, Inc.
Report No.: L2025069
Reviewer: Felomina Tanguilig and Christina Rink/Laboratory Data Consultants for ECC Horizon – Randolph, NJ
Date: June 2, 2021

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
GW-1	L2025069-01	VOC
GW-2	L2025069-02	VOC
GW-3	L2025069-03	VOC
GW-4	L2025069-04	VOC
GW-5	L2025069-05	VOC
FB	L2025069-06	VOC
TB	L2025069-07	VOC

Associated QC Samples(s):
Field/Trip Blanks: TB, FB
Field Duplicate pair: None Associated

The above-listed water samples were collected on June 12, 2020 through June 15, 2020 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260C. The data validation was performed in accordance with the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry,* SOP HW-24, Revision 4 (October 2014) and the USEPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review,* EPA 540-R-2017-002 (January 2017), modified as necessary to accommodate the non-CLP methodologies used.

The organic data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported or usable with minor qualification due to laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

Initial calibration:

Compounds that did not meet criteria are summarized in the following table.

Date	Instrument ID	Compound	ICAL RRF (Limits)	Associated Samples		Validation Action
05/14/20	ICAL-VOA108	1,4-Dioxane	0.002 (≥0.005)	GW-1 GW-2 GW-3 GW-4 GW-5 FB TB	+	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,4-dioxane result was estimated due to response factor exceedance. The bias cannot be determined. The result can be used for project objectives as nondetect with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Continuing calibration:

Compounds that did not meet criteria are summarized in the following tables.

Date	Instrument ID	Compound	CCAL RRF (Limits)	Associated Samples		Validation Action
06/17/20	CCV-VOA108	1,4-Dioxane	0.00152 (≥0.005)	GW-1 GW-2 GW-3 GW-4 GW-5 FB TB	+	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,4-dioxane result was estimated due to response factor exceedance. The bias cannot be determined. The result can be used for project objectives as nondetect with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Date	Instrument ID	Compound	CC %D	Associated Samples		Validation Action
06/17/20	CCV-VOA108	Dichlorodifluoromethane	40.5	GW-1	XX	UJ nondetects
		Chloroethane	20.3	GW-2	XX	UJ nondetects
		4-Methyl-2-pentanone	20.9	GW-3	XX	UJ nondetects
		2-Hexanone	23.6	GW-4	XX	UJ nondetects
		tert-Butylbenzene	20.5	GW-5	XX	UJ nondetects
		1,2,4,5-Tetramethylbenzene	25.2	FB	XX	UJ nondetects
		Naphthalene	24.2	TB	XX	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The dichlorodifluoromethane, chloroethane, 4-methyl-2-pentanone, 2-hexanone, tert-butylbenzene, 1,2,4,5-tetramethylbenzene, and naphthalene results were estimated due to continuing calibration exceedances. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Blanks

Contamination was not detected in the method blanks.

Contamination was detected in the field blank sample FB for VOC analysis. The presence of blank contamination indicates that false positives may exist for these compounds in the associated samples. Action Levels (ALs) were established at <2x reporting limits (RL) (for common contaminants) and <RL (for other contaminants) of the concentrations detected. The following table summarizes the contamination detected.

Field Blank ID	Compound	Level Detected	Action Level	Associated Samples
FB	Acetone	1.6 ug/L	2xRL	GW-1 GW-2 GW-3 GW-4 GW-5

Sample results were qualified as follows:

- If sample concentration was < the reporting limit (RL) and ≤ the Action Level, qualify the result as a nondetect (U) at the RL.
- If sample concentration was > the RL and ≤ the Action Level, qualify the result as not detected (U) at the reported concentration.

Qualified sample results are listed in the table below.

Sample ID	Compound	Level Detected	Validation Action
GW-3	Acetone	1.7 ug/L	5.0U ug/L

These results can be used for project objectives as nondetects (U) which may have a minor impact on the data usability.

No positive results were found in the trip blank TB for VOC analysis.

Surrogate Recoveries

All criteria were met.

MS/MSD Results

MS/MSD analyses were not associated with this sample set. Validation action was not required on this basis.

LCS Results

All criteria were met.

Internal Standards

All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set. Validation action was not required on this basis.

Quantitation Limits and Data Assessment

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL) in the VOC analysis. These results were qualified as estimated (J) by the laboratory.

Due to high target compound levels or difficult sample matrix, select samples were analyzed at dilutions. The following table lists the sample dilutions which were performed and the results reported. RLs were elevated accordingly.

Sample	VOC Analysis Reported
GW-2	2.5-fold dilution due to nature of sample matrix

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.

J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.

UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.

JN - The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.

R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

LDC #: 51114A1a

SDG #: L2025069

Laboratory: Alpha Analytical, Inc.

VALIDATION COMPLETENESS WORKSHEET

Category B

Date: 5/27/21

Page: 1 of 1

Reviewer: FT

2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A /A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW/A	%D RSD ≤ 20, r² ICV ≤ 30
IV.	Continuing calibration	SW	CCV ≤ 20
V.	Laboratory Blanks	A	1 *
VI.	Field blanks	SW	FB=6 FB=7
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS/D
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Target analyte quantitation	A	Results < RL > MDL = Jdet
XIII.	Target analyte identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	GW-1	L2025069-01	Water	06/15/20
2	GW-2 2.5 x	L2025069-02	Water	06/15/20
3	GW-3	L2025069-03	Water	06/15/20
4	GW-4	L2025069-04	Water	06/15/20
5	GW-5	L2025069-05	Water	06/15/20
6	FB	L2025069-06	Water	06/15/20
7	TB	L2025069-07	Water	06/12/20
8				
9				

Notes:

	WG1732727-5 Blank						

LDC #: 51114A1a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT

Method: Volatiles (EPA SW 846 Method 8260C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?		✓		
Were all percent relative standard deviations (%RSD) ≤ 30%/15%, 20% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%, 30%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?		✓		
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Target analyte quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target analuyte identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 51114A1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15% 20% RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ____%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	5/14/20 ~~2/24~~	ICAL-VOA108	HHHH		0.002 (≥0.005)	All	J/UJ/A ND

LDC #: 51114A1a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <20.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	6/17/20	CCV - VOA108	JJ	40.5		All	J/UJ/A ND
	0632		D	20.3			
			Y	20.9			
			Z	23.6			
			CCC	20.5			
			*	25.2			
			MMM	24.2			
			HHH		0.00152		
		* 1,2,4,5 - Tetramethylbenzene					

LDC #: 51114A1a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

Y N N/A Were field blanks identified in this SDG?

Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L

Sampling date: 6/15/20

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: FB Associated Samples: 1-5

Compound	Blank ID	Sample Identification								
	6		3							
F	1.6		1.7 /5.04							

Blank units: _____ **Associated sample units:** _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GCMS 8260C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 10ug/L std)	Recalculated (RRF 10ug/L std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	5/14/2020	C	0.3870	0.3870	0.359	0.359	12.710	12.710
	VOA108		EE	1.5560	1.5560	1.472	1.472	14.570	14.570
			BB	0.7430	0.7430	0.719	0.719	3.210	3.210

LDC #: 51114A1a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccv VOA108	6/17/20 0632	C (1st internal standard)	0.359	0.31	0.31	13.6	13.6
			EE (2nd internal standard)	1.472	1.441	1.441	2.1	2.1
			BB (3rd internal standard)	0.719	0.698	0.698	2.9	2.9
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 51114 A1a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	10.0	11.349	113	113	0
1,2-Dichloroethane-d4	↓	11.522	115	115	↓
Toluene-d8		9.533	95	95	
Bromofluorobenzene	↓	9.118	91	91	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 51114A1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA Method 8260 C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: WG1382727-3/4

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10.0	10.0	9.5	9.2	95	95	92	92	3	3
Trichloroethene	↓	↓	10	10	100	100	100	100	0	0
Benzene			10	10	100	100	100	100	0	0
Toluene			10	9.8	100	100	98	98	2	2
Chlorobenzene			10	10	100	100	100	100	0	0

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 51114A1a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #2, AA:

Conc. = $\frac{(73|925)(10)(2.5)}{(165700)(0.362)}$

305.0 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Qualification
	#2	AA	300	305	

Site: Bridge Cleaners
Laboratory: Alpha Analytical, Inc.
Report No.: L2103234
Reviewer: Felomina Tanguilig and Christina Rink/Laboratory Data Consultants for ECC Horizon – Randolph, NJ
Date: June 2, 2021

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
GW-1	L2103234-01	VOC
GW-2	L2103234-02	VOC
GW-3	L2103234-03	VOC
GW-4	L2103234-04	VOC
GW-5	L2103234-05	VOC
MW-5	L2103234-06	VOC
FB	L2103234-07	VOC
TB	L2103234-08	VOC

Associated QC Samples(s):
Field/Trip Blanks: TB, FB
Field Duplicate pair: None Associated

The above-listed water samples were collected on January 19, 2021 through January 20, 2021 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260C. The data validation was performed in accordance with the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry,* SOP HW-24, Revision 4 (October 2014) and the USEPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review,* EPA 540-R-2017-002 (January 2017), modified as necessary to accommodate the non-CLP methodologies used.

The organic data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported or usable with minor qualification due to laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

Initial calibration:

Compounds that did not meet criteria are summarized in the following tables.

Date	Instrument ID	Compound	ICAL RRF (Limits)	Associated Samples		Validation Action
09/29/20	ICAL-Elaine	1,4-Dioxane	0.00096 (≥0.005)	GW-4 GW-5 MW-5 FB TB	+	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,4-dioxane result was estimated due to response factor exceedance. The bias cannot be determined. The result can be used for project objectives as nondetect with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Date	Instrument ID	Compound	IC %D	Associated Samples		Validation Action
09/30/20	ICV-Elaine	Carbon disulfide	32.1	GW-4 GW-5 MW-5 FB TB	SS	UJ nondetects
01/07/21	ICV-VOA101	Vinyl acetate 1,4-Dioxane	34.8 33.3	GW-1 GW-2 GW-3	SS SS	UJ nondetects UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The carbon disulfide, vinyl acetate, and 1,4-dioxane results were estimated due to second source calibration exceedances. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Continuing calibration:

Compounds that did not meet criteria are summarized in the following tables.

Date	Instrument ID	Compound	CCAL RRF (Limits)	Associated Samples		Validation Action
01/24/21	CCV-Elaine	1,4-Dioxane	0.00065 (≥0.005)	GW-4 GW-5 MW-5 FB TB	+	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,4-dioxane result was estimated due to response factor exceedance. The bias cannot be determined. The result can be used for project objectives as nondetect with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Date	Instrument ID	Compound	CC %D	Associated Samples		Validation Action
01/24/21	CCV-Elaine	1,4-Dioxane	32.3	GW-4	XX	UJ nondetects
		4-Methyl-2-pentanone	21.7	GW-5	XX	UJ nondetects
		1,3-Dichloropropane	21.5	MW-5	XX	UJ nondetects
		2-Hexanone	20.5	FB	XX	UJ nondetects
		1,1,2,2-Tetrachloroethane	21.9	TB	XX	UJ nondetects
		1,2,3-Trichloropropane	20.6		XX	UJ nondetects
		1,2-Dibromo-3-chloropropane	37.7		XX	UJ nondetects
		Hexachlorobutadiene	26.2		XX	UJ nondetects
		1,2,4-Trichlorobenzene	31.9		XX	UJ nondetects
		Naphthalene	41.3		XX	UJ nondetects
		1,2,3-Trichlorobenzene	39.4		XX	UJ nondetects
01/25/21	CCV-VOA101	Dichlorodifluoromethane	25	GW-1	XX	UJ nondetects
		Chloromethane	26.8	GW-2	XX	UJ nondetects
		Bromomethane	28.3	GW-3	XX	UJ nondetects
		Acetone	34.2		XX	UJ nondetects
		1,4-Dioxane	21.1		XX	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The results for the compounds listed above were estimated due to continuing calibration exceedances. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Blanks

Contamination was not detected in the method blanks.

No positive results were found in the trip blank TB and field blank sample FB for VOC analysis.

Surrogate Recoveries

All criteria were met.

MS/MSD Results

MS/MSD analyses were not associated with this sample set. Validation action was not required on this basis.

LCS Results

The following table lists the LCS/LCSD percent recoveries (%R) outside of control limits in the VOC analysis and the resulting validation actions.

LCS ID	Compound	LCS %R (Limits)	LCS/D %R (Limits)	Affected Sample	Validation Action
WG1458264-3/4	Naphthalene	59 (70-130)	60 (70-130)	GW-4	UJ nondetects
	1,2,3-Trichlorobenzene	60 (70-130)	62 (70-130)	GW-5	UJ nondetects
	1,2,4-Trichlorobenzene	68 (70-130)	69 (70-130)	MW-5	UJ nondetects
				FB	
				TB	

- Within control limits

The naphthalene, 1,2,3-trichlorobenzene, and 1,2,4-trichlorobenzene results may be biased low due to low LCS/LCSD percent recoveries. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Internal Standards

All criteria were met.

Field Duplicate Results

A field duplicate pair was not associated with this sample set. Validation action was not required on this basis.

Quantitation Limits and Data Assessment

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL) in the VOC analysis. These results were qualified as estimated (J) by the laboratory.

Dilutions were not required for VOC analysis.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.

J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.

UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.

JN - The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.

R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

LDC #: 51114B1a
SDG #: L2103234
Laboratory: Alpha Analytical, Inc.

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 5/27/21
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW, SW	%RSD ≤ 20, r² ICV ≤ 30
IV.	Continuing calibration	SW	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 7 TB = 8
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	DS
IX.	Laboratory control samples	SW	LCS/D
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Target analyte quantitation	A	Results < RL > MDL = Jdet
XIII.	Target analyte identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1 N	GW-1	L2103234-01	Water	01/20/21
2 N	GW-2	L2103234-02	Water	01/20/21
3 N	GW-3	L2103234-03	Water	01/20/21
4	GW-4	L2103234-04	Water	01/20/21
5	GW-5	L2103234-05	Water	01/20/21
6	MW-5	L2103234-06	Water	01/20/21
7	FB	L2103234-07	Water	01/20/21
8	TB	L2103234-08	Water	01/19/21
9				

Notes:

1	WG1458264-5 Blank						
2	WG1458384-5 Blank						

LDC #: 51114B1a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT

Method: Volatiles (EPA SW 846 Method 8260 C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?		✓		
Were all percent relative standard deviations (%RSD) ≤ 30%/15% 20% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%, 30%?		✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?		✓		
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Target analyte quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target analuyte identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15% 20% RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: 20 %)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	9/29/20	ICAL-Elaine	HHHH		0.000096 (20.005)	4→8, WG1458264-5Blank	J/UJ/A ND

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 G

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤20 % 30%D?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤ 30%)	Associated Samples	Qualifications
1	9/30/20	ICV-Elaine	G	32.1	4→8	J/UJ/A ND
	0312				WG1458264-5 Blank	
2	1/7/21	ICV-VOA107	HH	34.8	1→3	J/UJ/A ND
	0259		HHHH	33.3	WG1458384-5 Blank	

LDC #: 51114B/a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	1/24/21	CCV-Elam	HHHH		0.00065 (I 0.005)	4→8	J/UJ/A ND
	1357		HHHH	32.3		WG1458264-5 Blank	
			Y	21.7			
			SS	21.5			
			Z	20.5			
			BB	21.9			
			XX	20.6			
			MM	37.7			
			LLL	26.2			
			KKK	31.9			
			MMM	41.3			
			NNN	39.4			
	1/25/21	CCV-10A101	JJ	25		1→3,	J/UJ/A ND
	0803		A	26.8		WG1458384-5 Blank	
			B	28.3			
			F	34.2			
			HHH	21.1			

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was a LCS required?

Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	WG1458264 -3|4	MMM	59 (70-130)	60 (70-130)	( )	4-8	J|UJ|P ND
		NNN	60 (↓)	62 (↓)	( )	WG1458264-5 Blank	↓
		KKK	68 (↓)	69 (↓)	( )	↓	
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: ____FT____

METHOD: GCMS 8260C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 10ug/L std)	Recalculated (RRF 10ug/L std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL Elaine	9/29/2020	C (IS 1)	0.178	0.178	0.203	0.203	9.02	9.02
			CC (IS 2)	0.524	0.524	0.582	0.582	5.20	5.20
			BB (IS 3)	0.308	0.308	0.351	0.351	5.99	5.99

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

METHOD: GCMS 8260C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound		Reported (RRF 10ug/L std)	Recalculated (RRF 10ug/L std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL VOA 101	1/6/2021	QQQ	(IS 1)	0.314	0.314	0.302	0.302	11.10	11.10
			CC	(IS 2)	0.938	0.938	0.877	0.877	11.09	11.09
			BB	(IS 3)	0.584	0.584	0.518	0.518	12.08	12.08

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV Elain 1	1/24/21 1357	C (1st internal standard)	0.203	0.19	0.19	6.4	6.4
			CC (2nd internal standard)	0.582	0.521	0.521	10.5	10.5
			BB (3rd internal standard)	0.351	0.274	0.274	21.9	21.9
			(4th internal standard)					
2	CCV VOA101	1/25/21 0803	QQQ (1st internal standard)	0.302	0.279	0.279	7.6	7.6
			CC (2nd internal standard)	0.877	0.857	0.857	2.3	2.3
			BB (3rd internal standard)	0.518	0.502	0.502	3.1	3.1
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	100	96	96	96	0
1,2-Dichloroethane-d4	↓	93	93	93	↓
Toluene-d8		100	100	100	
Bromofluorobenzene		98	98	98	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA Method 8260 C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: WG145838-3/4

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10	10	8.7	8.9	87	87	89	89	2	2
Trichloroethene	↓	↓	9.3	9.6	93	93	96	96	3	3
Benzene			9.3	9.6	93	93	96	96	3	3
Toluene			9.8	9.8	98	98	98	98	0	0
Chlorobenzene			9.6	9.5	96	96	95	95	1	1

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 51114B1a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #2, AA

Conc. = $\frac{(141857)(10.0)}{(204494)(0.379)}$

18.3 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Qualification
	#2	AA	18	18.3	

Site: Bridge Cleaners
Laboratory: Alpha Analytical, Inc.
Report No.: L2122042
Reviewer: Felomina Tanguilig and Christina Rink/Laboratory Data Consultants for ECC Horizon – Randolph, NJ
Date: June 2, 2021

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
GW-1	L2122042-01	VOC
GW-2	L2122042-02	VOC
GW-3	L2122042-03	VOC
GW-4	L2122042-04	VOC
GW-5	L2122042-05	VOC
MW-5	L2122042-06	VOC
DUP	L2122042-07	VOC
TB	L2122042-08	VOC
FB	L2122042-09	VOC

Associated QC Samples(s):
Field/Trip Blanks: TB, FB
Field Duplicate pair: GW-2 and DUP

The above-listed water samples were collected on April 27, 2021 through April 28, 2021 and were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260C. The data validation was performed in accordance with the USEPA Region 2 *Standard Operating Procedure for Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry,* SOP HW-24, Revision 4 (October 2014) and the USEPA *Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review,* EPA 540-R-2017-002 (January 2017), modified as necessary to accommodate the non-CLP methodologies used.

The organic data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- Quantitation Limits and Data Assessment
- Sample Quantitation and Compound Identification

Overall Evaluation of Data and Potential Usability Issues

All results are usable as reported or usable with minor qualification due to laboratory quality control outliers.

The validation findings were based on the following information.

Data Completeness

The data package was complete as defined under the requirements for the NYSDEC ASP category B laboratory deliverables.

Holding Times and Sample Preservation

All criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

Initial calibration:

Compounds that did not meet criteria are summarized in the following tables.

Date	Instrument ID	Compound	ICAL RRF (Limits)	Associated Samples		Validation Action
04/20/21	ICAL-VOA122	1,4-Dioxane	0.00123 (≥0.005)	GW-1 GW-2 GW-3 GW-4 GW-5 MW-5 DUP TB FB	+	UJ nondetects

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,4-dioxane result was estimated due to response factor exceedance. The bias cannot be determined. The result can be used for project objectives as nondetect with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Date	Instrument ID	Compound	IC %D	Associated Samples		Validation Action
04/20/21	ICV-VOA122	Dichlorodifluoromethane	35.6	GW-1	SS	UJ nondetects
		Vinyl acetate	33.4	GW-2	SS	UJ nondetects
				GW-3		
				GW-4		
				GW-5		
				MW-5		
				DUP		
				TB		
				FB		

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The dichlorodifluoromethane and vinyl acetate results were estimated due to second source calibration exceedances. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Continuing calibration:

Compounds that did not meet criteria are summarized in the following tables.

Date	Instrument ID	Compound	CCAL RRF (Limits)	Associated Samples		Validation Action
05/07/21	CCV-VOA122	1,4-Dioxane	0.00127 (≥0.005)	GW-1	+	UJ nondetects
				GW-2		
				GW-3		
				GW-4		
				GW-5		
				MW-5		
				DUP		
				TB		
				FB		

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The 1,4-dioxane result was estimated due to response factor exceedance. The bias cannot be determined. The result can be used for project objectives as nondetect with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Date	Instrument ID	Compound	CC %D	Associated Samples		Validation Action
05/07/21	CCV-VOA122	Methyl-tert-butyl ether	35.5	GW-1	XX	UJ nondetects
		4-Methyl-2-pentanone	25.8	GW-2	XX	UJ nondetects
		trans-1,3-Dichloropropene	23.2	GW-3	XX	UJ nondetects
		2-Hexanone	23.1	GW-4	XX	UJ nondetects
		Hexachlorobutadiene	21.7	GW-5	XX	UJ nondetects
				MW-5		
				DUP		
				TB		
				FB		

X = Initial calibration (IC) relative standard deviation (%RSD) > 20; estimate (J/UJ) positive and nondetect results.
XX = Continuing calibration (CC) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results.
SS = Second source verification percent difference (%D) > 30; estimate (J/UJ) positive and nondetect results.
+ = Response factor (RRF) < validation criteria; estimate (J/UJ) positive and nondetect results.

The methyl-tert-butyl ether, 4-methyl-2-pentanone, trans-1,3-dichloropropene, 2-hexanone, and hexachlorobutadiene results were estimated due to continuing calibration exceedances. The bias cannot be determined. The results can be used for project objectives as nondetects with estimated quantitation limits (UJ) which may have a minor impact on the data usability.

Blanks

Contamination was not detected in the method blanks.

No positive results were found in the trip blank TB and field blank sample FB for VOC analysis.

Surrogate Recoveries

All criteria were met.

MS/MSD Results

MS/MSD analyses were not associated with this sample set. Validation action was not required on this basis.

LCS Results

The following table lists the LCS/LCSD relative percent differences (RPD) outside of control limits in the VOC analysis and the resulting validation actions.

LCS ID	Compound	RPD (Limits)	Affected Sample	Validation Action
WG1496280-3/4	Methyl-tert-butyl ether Acetone	21 (≤20) 26 (≤20)	GW-1 GW-2 GW-3 GW-4 GW-5 MW-5 DUP TB FB	None

Validation action was not required for methyl-tert-butyl ether and acetone due to LCS/LCSD relative percent difference exceedances as positive results only are affected and these compounds were not detected in the associated samples.

Internal Standards

All criteria were met.

Field Duplicate Results

Samples GW-2 and DUP were submitted as the field duplicate pair with this sample group. The following table summarizes the concentrations.

Compound	Concentration (ug/L)		RPD
	GW-2	DUP	
Tetrachloroethene	0.40	0.37	8

Quantitation Limits and Data Assessment

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL) in the VOC analysis. These results were qualified as estimated (J) by the laboratory.

Dilutions were not required for VOC analysis.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted.

DATA VALIDATION QUALIFIERS

U - The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.

J - Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.

UJ - The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.

JN - The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.

R - Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

LDC #: 51114C1a
SDG #: L2122042
Laboratory: Alpha Analytical, Inc.

VALIDATION COMPLETENESS WORKSHEET
Category B

Date: 5/27/21
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A /A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW/SW	%D ≤20, r² ICV ≤30
IV.	Continuing calibration	SW	CCV ≤20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB=8 FB=9
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	SW	LCS/D
X.	Field duplicates	SW	D=2, 7
XI.	Internal standards	A	
XII.	Target analyte quantitation	A	Results < RL > MDL = Jdet
XIII.	Target analyte identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	GW-1		L2122042-01	Water	04/28/21
2	GW-2	D	L2122042-02	Water	04/28/21
3	GW-3		L2122042-03	Water	04/28/21
4	GW-4		L2122042-04	Water	04/28/21
5	GW-5		L2122042-05	Water	04/28/21
6	MW-5		L2122042-06	Water	04/28/21
7	DUP	D	L2122042-07	Water	04/28/21
8	TB		L2122042-08	Water	04/27/21
9	FB		L2122042-09	Water	04/28/21
10					

Notes:

	WG1496280-5 BLank						

LDC #: 51114c1a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT

Method: Volatiles (EPA SW 846 Method 8260 CY

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?		✓		
Were all percent relative standard deviations (%RSD) ≤ 30%/15%, 20% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%, 30%?		✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?		✓		
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

VIII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	.	✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Target analyte quantitation				
Did the laboratory LOQs/RLs meet the QAPP LOQs/RLs?	✓			
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target analuyte identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1. 2-Propanol
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 51114C1a

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30/15% 20% RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: 20 %)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	4/20/21	ICAL-VOA122	#####		0.00123 (≥0.005)	All	J/UJ/A MD

INICAL.wpd

LDC #: 51114 c/a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was an initial calibration verification standard analyzed after each ICAL for each instrument?

Y N N/A Were all %D within the validation criteria of ≤20 % 30%D?

#	Date	Standard ID	Compound	Finding %D (Limit: <30%)	Associated Samples	Qualifications
	4/20/21 1024	ICV-VOA122	JJ	35.6	All	J/UJ/A (ND)
			HH	33.4	↓	↓

LDC #: 51114C1a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 4)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	5/7/21 0737	CCV-VOA122	LL	35.5		All	J/UJ/A ND
			Y	25.8			
			W	23.2			
			Z	23.1			
			LLL	21.7			
			HHHH		0.00127 (≥0.005)		

LDC #: 51114c/a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 ~~8~~)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was a LCS required?

Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	WG496280	LL	( )	( )	21 (20)	All	Jdt/P ND
	-3/4	F	( )	( )	26 (20)	↓	↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 51114c/a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: FT

METHOD: GC/MS VOA (EPA Method 8260 Q)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤ %)	QUAL
	2	7		
AA	0.4U	0.37	8	

Compound	Concentration ( )		RPD (≤ %)	QUAL

LDC #: 51114c/a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (30 std)	Recalc RRF (30 std)	Reported Average RRF (initial)	Recalc Average RRF (initial)	Reported %RSD	Recalc %RSD
1	ICAL VOA 122	4/20/21	C (1st internal standard)	0.239	0.239	0.232	0.232	12.41	12.41
			AA (2nd internal standard)	0.258	0.258	0.250	0.250	11.36	11.36
			BB (3rd internal standard)	0.378	0.378	0.397	0.397	4.00	4.00
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

LDC #: 51114ca

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccv 0737	5/7/21 VOA122	C (1st internal standard)	0.232	0.2	0.2	13.8	13.8
			AA (2nd internal standard)	0.250	0.28	0.28	12	12
			BB (3rd internal standard)	0.397	0.362	0.362	8.8	8.8
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 51114c/a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	10.0	10.849	108	108	0
1,2-Dichloroethane-d4	↓	9.574	96	96	↓
Toluene-d8		9.684	97	97	
Bromofluorobenzene		9.297	93	93	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 51114c/a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT

METHOD: GC/MS VOA (EPA Method 8260 C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration; SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: WG1496280-3/4

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10.0	10.0	10	9.8	100	100	98	98	2	2
Trichloroethene	↓	↓	9.4	9.6	94	94	96	96	2	2
Benzene			9.3	9.3	93	93	93	93	0	0
Toluene			9.9	9.2	99	99	92	92	7	7
Chlorobenzene			10	9.4	100	100	94	94	6	6

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 51114C/a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC/MS VOA (EPA SW 846 Method 8260 C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #2, AA

Conc. = $\frac{(1948)(10.0)}{(196748)(0.250)}$

0.396 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Qualification
	#2	AA	0.40	0.396	

Bridge Cleaners, Long Island City, NY - LDC# 51114A

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2025069-01	DIBROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.15	ug/l
GW-1	L2025069-01	BROMODICHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.19	ug/l
GW-1	L2025069-01	TETRACHLOROETHENE	6/17/2020	15	Y	Y				0.50	0.18	ug/l
GW-1	L2025069-01	STYRENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	METHYLENE CHLORIDE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	ISOPROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	HEXACHLOROBUTADIENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	ETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	ETHYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	TRICHLOROETHENE	6/17/2020	0.65	Y	Y				0.50	0.18	ug/l
GW-1	L2025069-01	DIBROMOMETHANE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-1	L2025069-01	TRICHLOROFLUOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	CHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	CHLOROFORM	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	CHLOROETHANE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-1	L2025069-01	CHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	CARBON TETRACHLORIDE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-1	L2025069-01	CARBON DISULFIDE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-1	L2025069-01	BROMOMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	BROMOFORM	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
GW-1	L2025069-01	DICHLORODIFLUOROMETHANE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2025069-01	O-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	TRANS-1,4-DICHLORO-2-BUTENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2025069-01	TRANS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-1	L2025069-01	TRANS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	TERT-BUTYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-1	L2025069-01	SEC-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	P/M-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	P-ISOPROPYLTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	4-ETHYLTOLUENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-1	L2025069-01	TOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	P-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	METHYL TERT BUTYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	O-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	N-PROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	N-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	CIS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-1	L2025069-01	CIS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	XYLENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	VINYL CHLORIDE	6/17/2020		Y	N	U		U	1.0	0.07	ug/l
GW-1	L2025069-01	VINYL ACETATE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-1	L2025069-01	1,4-DIETHYLBENZENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-1	L2025069-01	1,1,1,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,2-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,2-DIBROMOETHANE	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
GW-1	L2025069-01	1,2-DIBROMO-3-CHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,2,4-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,2,4-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2025069-01	1,2,4,5-TETRAMETHYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.0	0.54	ug/l
GW-1	L2025069-01	1,2-DICHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-1	L2025069-01	1,2,3-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,1-DICHLOROPROPENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	BROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,1-DICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-1	L2025069-01	NAPHTHALENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-1	L2025069-01	1,1,2-TRICHLOROETHANE	6/17/2020		Y	N	U		U	1.5	0.50	ug/l
GW-1	L2025069-01	1,1,2,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-1	L2025069-01	1,1,1-TRICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,2,3-TRICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	2-BUTANONE	6/17/2020		Y	N	U		U	5.0	1.9	ug/l
GW-1	L2025069-01	1,1-DICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,2-DICHLOROETHENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	BROMOBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	BENZENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-1	L2025069-01	ACRYLONITRILE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
GW-1	L2025069-01	ACETONE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
GW-1	L2025069-01	4-METHYL-2-PENTANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2025069-01	2-HEXANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2025069-01	2,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,3-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,3,5-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,4-DIOXANE	6/17/2020		Y	N	U	UJ	UJ	250	61	ug/l
GW-1	L2025069-01	1,3-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2025069-01	1,3-DICHLOROPROPENE, TOTAL	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-1	L2025069-01	1,4-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2025069-01	1,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	1.0	0.14	ug/l
GW-2	L2025069-02	DICHLORODIFLUOROMETHANE	6/17/2020		Y	N	U	UJ	UJ	12	2.5	ug/l
GW-2	L2025069-02	TOLUENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	TETRACHLOROETHENE	6/17/2020	300	Y	Y				1.2	0.45	ug/l
GW-2	L2025069-02	STYRENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	NAPHTHALENE	6/17/2020		Y	N	U	UJ	UJ	6.2	1.8	ug/l
GW-2	L2025069-02	METHYLENE CHLORIDE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	ISOPROPYLBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	BROMOFORM	6/17/2020		Y	N	U		U	5.0	1.6	ug/l
GW-2	L2025069-02	ETHYLBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	ETHYL ETHER	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	CHLOROMETHANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	DIBROMOMETHANE	6/17/2020		Y	N	U		U	12	2.5	ug/l
GW-2	L2025069-02	CARBON DISULFIDE	6/17/2020		Y	N	U		U	12	2.5	ug/l
GW-2	L2025069-02	CARBON TETRACHLORIDE	6/17/2020		Y	N	U		U	1.2	0.34	ug/l
GW-2	L2025069-02	CHLOROBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	CHLOROETHANE	6/17/2020		Y	N	U	UJ	UJ	6.2	1.8	ug/l
GW-2	L2025069-02	TRICHLOROETHENE	6/17/2020	11	Y	Y				1.2	0.44	ug/l
GW-2	L2025069-02	CHLOROFORM	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	O-XYLENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	DIBROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	1.2	0.37	ug/l
GW-2	L2025069-02	BROMOMETHANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,4-DIETHYLBENZENE	6/17/2020		Y	N	U		U	5.0	1.8	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2025069-02	BROMODICHLOROMETHANE	6/17/2020		Y	N	U		U	1.2	0.48	ug/l
GW-2	L2025069-02	HEXACHLOROBUTADIENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	4-ETHYLTOLUENE	6/17/2020	2.0	Y	Y	J		J	5.0	1.8	ug/l
GW-2	L2025069-02	P-ISOPROPYLTOLUENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	P/M-XYLENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	SEC-BUTYLBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	TERT-BUTYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	6.2	1.8	ug/l
GW-2	L2025069-02	TRANS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	N-PROPYLBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	TRANS-1,4-DICHLORO-2-BUTENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	TRICHLOROFLUOROMETHANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	P-CHLOROTOLUENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	O-CHLOROTOLUENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	N-BUTYLBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	CIS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	1.2	0.36	ug/l
GW-2	L2025069-02	CIS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	XYLENE (TOTAL)	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	VINYL CHLORIDE	6/17/2020		Y	N	U		U	2.5	0.18	ug/l
GW-2	L2025069-02	VINYL ACETATE	6/17/2020		Y	N	U		U	12	2.5	ug/l
GW-2	L2025069-02	TRANS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	1.2	0.41	ug/l
GW-2	L2025069-02	1,1-DICHLOROETHENE	6/17/2020		Y	N	U		U	1.2	0.42	ug/l
GW-2	L2025069-02	1,2-DICHLOROETHANE	6/17/2020		Y	N	U		U	1.2	0.33	ug/l
GW-2	L2025069-02	1,2-DICHLOROBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,2-DIBROMOETHANE	6/17/2020		Y	N	U		U	5.0	1.6	ug/l
GW-2	L2025069-02	1,2-DIBROMO-3-CHLOROPROPANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2025069-02	1,2,4-TRIMETHYLBENZENE	6/17/2020	4.4	Y	Y	J		J	6.2	1.8	ug/l
GW-2	L2025069-02	1,2,4-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,2-DICHLOROETHENE (TOTAL)	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,2,3-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,2,3-TRICHLOROPROPANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,1-DICHLOROETHANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,1,2-TRICHLOROETHANE	6/17/2020		Y	N	U		U	3.8	1.2	ug/l
GW-2	L2025069-02	1,1,2,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	1.2	0.42	ug/l
GW-2	L2025069-02	1,1,1-TRICHLOROETHANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,1,1,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	BROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,2,4,5-TETRAMETHYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.4	ug/l
GW-2	L2025069-02	BENZENE	6/17/2020		Y	N	U		U	1.2	0.40	ug/l
GW-2	L2025069-02	1,1-DICHLOROPROPENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	BROMOBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.34	ug/l
GW-2	L2025069-02	ACRYLONITRILE	6/17/2020		Y	N	U		U	12	3.8	ug/l
GW-2	L2025069-02	ACETONE	6/17/2020		Y	N	U		U	12	3.6	ug/l
GW-2	L2025069-02	4-METHYL-2-PENTANONE	6/17/2020		Y	N	U	UJ	UJ	12	2.5	ug/l
GW-2	L2025069-02	2-HEXANONE	6/17/2020		Y	N	U	UJ	UJ	12	2.5	ug/l
GW-2	L2025069-02	2-BUTANONE	6/17/2020		Y	N	U		U	12	4.8	ug/l
GW-2	L2025069-02	2,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	METHYL TERT BUTYL ETHER	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,3,5-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,3-DICHLOROBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2025069-02	1,3-DICHLOROPROPANE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,3-DICHLOROPROPENE, TOTAL	6/17/2020		Y	N	U		U	1.2	0.36	ug/l
GW-2	L2025069-02	1,4-DICHLOROBENZENE	6/17/2020		Y	N	U		U	6.2	1.8	ug/l
GW-2	L2025069-02	1,4-DIOXANE	6/17/2020		Y	N	U	UJ	UJ	620	150	ug/l
GW-3	L2025069-03	CHLOROETHANE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-3	L2025069-03	STYRENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	DICHLORODIFLUOROMETHANE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2025069-03	METHYLENE CHLORIDE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	METHYL TERT BUTYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	ISOPROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	HEXACHLOROBUTADIENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	ETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	ETHYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	NAPHTHALENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-3	L2025069-03	DIBROMOMETHANE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2025069-03	DIBROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.15	ug/l
GW-3	L2025069-03	CARBON DISULFIDE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2025069-03	CHLOROFORM	6/17/2020	1.9	Y	Y	J		J	2.5	0.70	ug/l
GW-3	L2025069-03	SEC-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	CHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	CARBON TETRACHLORIDE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-3	L2025069-03	BROMOMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	TETRACHLOROETHENE	6/17/2020	25	Y	Y				0.50	0.18	ug/l
GW-3	L2025069-03	CHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	O-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2025069-03	TRANS-1,4-DICHLORO-2-BUTENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	TRANS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-3	L2025069-03	TRANS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	TERT-BUTYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-3	L2025069-03	BENZENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-3	L2025069-03	P/M-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	BROMOFORM	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
GW-3	L2025069-03	4-ETHYLTOLUENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-3	L2025069-03	1,4-DIETHYLBENZENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-3	L2025069-03	P-ISOPROPYLTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	O-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	TOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	N-PROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	N-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	CIS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-3	L2025069-03	CIS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	XYLENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	VINYL CHLORIDE	6/17/2020		Y	N	U		U	1.0	0.07	ug/l
GW-3	L2025069-03	VINYL ACETATE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2025069-03	TRICHLOROFLUOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	TRICHLOROETHENE	6/17/2020	1.1	Y	Y				0.50	0.18	ug/l
GW-3	L2025069-03	P-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,1-DICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-3	L2025069-03	1,2-DIBROMOETHANE	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
GW-3	L2025069-03	1,2-DIBROMO-3-CHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2025069-03	1,2,4-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,2,4-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,2,4,5-TETRAMETHYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.0	0.54	ug/l
GW-3	L2025069-03	1,2-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,2,3-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,1-DICHLOROPROPENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,1,2-TRICHLOROETHANE	6/17/2020		Y	N	U		U	1.5	0.50	ug/l
GW-3	L2025069-03	1,1,2,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-3	L2025069-03	1,1,1-TRICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,1,1,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	BROMODICHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.19	ug/l
GW-3	L2025069-03	BROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,2,3-TRICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	2-BUTANONE	6/17/2020		Y	N	U		U	5.0	1.9	ug/l
GW-3	L2025069-03	BROMOBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,1-DICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,2-DICHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-3	L2025069-03	ACETONE	6/17/2020		Y	N	J	U	U	5.0	1.5	ug/l
GW-3	L2025069-03	2-HEXANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2025069-03	ACRYLONITRILE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
GW-3	L2025069-03	2,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,3,5-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,4-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,3-DICHLOROPROPENE, TOTAL	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-3	L2025069-03	1,3-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2025069-03	1,3-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2025069-03	1,4-DIOXANE	6/17/2020		Y	N	U	UJ	UJ	250	61	ug/l
GW-3	L2025069-03	4-METHYL-2-PENTANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2025069-03	1,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	1.0	0.14	ug/l
GW-3	L2025069-03	1,2-DICHLOROETHENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,3,5-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	1.0	0.14	ug/l
GW-4	L2025069-04	1,2-DICHLOROETHENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2-DICHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-4	L2025069-04	1,2-DIBROMOETHANE	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
GW-4	L2025069-04	1,3-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2-DIBROMO-3-CHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2,4-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,3-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,3-DICHLOROPROPENE, TOTAL	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-4	L2025069-04	1,4-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,4-DIOXANE	6/17/2020		Y	N	U	UJ	UJ	250	61	ug/l
GW-4	L2025069-04	2,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	BROMOMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	2-HEXANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2025069-04	1,2,4-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	ACRYLONITRILE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
GW-4	L2025069-04	2-BUTANONE	6/17/2020		Y	N	U		U	5.0	1.9	ug/l
GW-4	L2025069-04	1,1,1-TRICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2025069-04	4-METHYL-2-PENTANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2025069-04	ACETONE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
GW-4	L2025069-04	BENZENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-4	L2025069-04	BROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	BROMODICHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.19	ug/l
GW-4	L2025069-04	BROMOFORM	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
GW-4	L2025069-04	CARBON TETRACHLORIDE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-4	L2025069-04	BROMOBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,1,1,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2,4,5-TETRAMETHYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.0	0.54	ug/l
GW-4	L2025069-04	1,1,2,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-4	L2025069-04	1,1,2-TRICHLOROETHANE	6/17/2020		Y	N	U		U	1.5	0.50	ug/l
GW-4	L2025069-04	1,1-DICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,1-DICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-4	L2025069-04	1,1-DICHLOROPROPENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2,3-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	1,2,3-TRICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	CHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	4-ETHYLTOLUENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-4	L2025069-04	XYLENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	CIS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	CIS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-4	L2025069-04	N-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	N-PROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	O-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2025069-04	O-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	VINYL CHLORIDE	6/17/2020		Y	N	U		U	1.0	0.07	ug/l
GW-4	L2025069-04	1,4-DIETHYLBENZENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-4	L2025069-04	TRANS-1,4-DICHLORO-2-BUTENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	P-ISOPROPYLTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	P/M-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	SEC-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	TERT-BUTYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2025069-04	TRANS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	TRANS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-4	L2025069-04	CARBON DISULFIDE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-4	L2025069-04	P-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	DICHLORODIFLUOROMETHANE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2025069-04	CHLOROFORM	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	CHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	VINYL ACETATE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-4	L2025069-04	DIBROMOMETHANE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-4	L2025069-04	CHLOROETHANE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2025069-04	ETHYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	ETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	HEXACHLOROBUTADIENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	TRICHLOROFLUOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	METHYL TERT BUTYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	METHYLENE CHLORIDE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	NAPHTHALENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2025069-04	STYRENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	TETRACHLOROETHENE	6/17/2020	3.2	Y	Y				0.50	0.18	ug/l
GW-4	L2025069-04	TOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	TRICHLOROETHENE	6/17/2020	0.26	Y	Y	J		J	0.50	0.18	ug/l
GW-4	L2025069-04	ISOPROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2025069-04	DIBROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.15	ug/l
GW-5	L2025069-05	ISOPROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	METHYL TERT BUTYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	METHYLENE CHLORIDE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	NAPHTHALENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2025069-05	STYRENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	TETRACHLOROETHENE	6/17/2020	50	Y	Y				0.50	0.18	ug/l
GW-5	L2025069-05	TOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	TRICHLOROFLUOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	TRICHLOROETHENE	6/17/2020	1.9	Y	Y				0.50	0.18	ug/l
GW-5	L2025069-05	HEXACHLOROBUTADIENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	ETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	ETHYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	DICHLORODIFLUOROMETHANE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2025069-05	DIBROMOMETHANE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2025069-05	DIBROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.15	ug/l
GW-5	L2025069-05	VINYL ACETATE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2025069-05	CHLOROFORM	6/17/2020	1.1	Y	Y	J		J	2.5	0.70	ug/l
GW-5	L2025069-05	4-ETHYLTOLUENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-5	L2025069-05	CHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2025069-05	TRANS-1,4-DICHLORO-2-BUTENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	CARBON TETRACHLORIDE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-5	L2025069-05	CHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	TRANS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-5	L2025069-05	TRANS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	TERT-BUTYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2025069-05	SEC-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	P/M-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	P-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,4-DIETHYLBENZENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
GW-5	L2025069-05	VINYL CHLORIDE	6/17/2020		Y	N	U		U	1.0	0.07	ug/l
GW-5	L2025069-05	O-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	O-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	N-PROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	N-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	CIS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-5	L2025069-05	CIS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	XYLENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	P-ISOPROPYLTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,2,3-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	1.0	0.14	ug/l
GW-5	L2025069-05	1,2-DICHLOROETHENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,2-DICHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
GW-5	L2025069-05	1,2-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,2-DIBROMOETHANE	6/17/2020		Y	N	U		U	2.0	0.65	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2025069-05	1,2-DIBROMO-3-CHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,1,1-TRICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,3,5-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,2,3-TRICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,2,4-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,1-DICHLOROPROPENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,1-DICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-5	L2025069-05	1,1-DICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,1,2-TRICHLOROETHANE	6/17/2020		Y	N	U		U	1.5	0.50	ug/l
GW-5	L2025069-05	1,1,2,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
GW-5	L2025069-05	CHLOROETHANE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2025069-05	1,1,1,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,2,4-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	BENZENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
GW-5	L2025069-05	CARBON DISULFIDE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2025069-05	1,2,4,5-TETRAMETHYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.0	0.54	ug/l
GW-5	L2025069-05	1,3-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	BROMOFORM	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
GW-5	L2025069-05	BROMODICHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.19	ug/l
GW-5	L2025069-05	BROMOBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	BROMOMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	ACRYLONITRILE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
GW-5	L2025069-05	1,4-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	1,3-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	BROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2025069-05	1,3-DICHLOROPROPENE, TOTAL	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
GW-5	L2025069-05	ACETONE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
GW-5	L2025069-05	1,4-DIOXANE	6/17/2020		Y	N	U	UJ	UJ	250	61	ug/l
GW-5	L2025069-05	2,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2025069-05	2-BUTANONE	6/17/2020		Y	N	U		U	5.0	1.9	ug/l
GW-5	L2025069-05	2-HEXANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2025069-05	4-METHYL-2-PENTANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2025069-06	METHYLENE CHLORIDE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	TRICHLOROFLUOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	TRICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.18	ug/l
FB	L2025069-06	TOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	TETRACHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.18	ug/l
FB	L2025069-06	STYRENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	NAPHTHALENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2025069-06	CHLOROFORM	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	METHYL TERT BUTYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	ISOPROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	HEXACHLOROBUTADIENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	ETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	ETHYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	DICHLORODIFLUOROMETHANE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2025069-06	DIBROMOMETHANE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
FB	L2025069-06	CHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	VINYL ACETATE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
FB	L2025069-06	DIBROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.15	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2025069-06	1,4-DIETHYLBENZENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
FB	L2025069-06	CHLOROETHANE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2025069-06	1,3,5-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	TRANS-1,4-DICHLORO-2-BUTENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	TRANS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	TERT-BUTYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2025069-06	SEC-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	P/M-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	TRANS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
FB	L2025069-06	4-ETHYLTOLUENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
FB	L2025069-06	VINYL CHLORIDE	6/17/2020		Y	N	U		U	1.0	0.07	ug/l
FB	L2025069-06	P-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	O-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	O-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	N-PROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	N-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	CIS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
FB	L2025069-06	CIS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	XYLENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	P-ISOPROPYLTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2,3-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2-DICHLOROETHENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2-DICHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
FB	L2025069-06	1,2-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2-DIBROMOETHANE	6/17/2020		Y	N	U		U	2.0	0.65	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2025069-06	1,2-DIBROMO-3-CHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,1,1,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2,4-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	1.0	0.14	ug/l
FB	L2025069-06	1,2,3-TRICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2,4-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,1-DICHLOROPROPENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,1-DICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
FB	L2025069-06	1,1-DICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,1,2-TRICHLOROETHANE	6/17/2020		Y	N	U		U	1.5	0.50	ug/l
FB	L2025069-06	1,1,2,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
FB	L2025069-06	1,1,1-TRICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,3-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	CHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	BROMOBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,2,4,5-TETRAMETHYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.0	0.54	ug/l
FB	L2025069-06	CARBON TETRACHLORIDE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
FB	L2025069-06	BROMOMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	BROMOFORM	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
FB	L2025069-06	BROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	CARBON DISULFIDE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
FB	L2025069-06	BENZENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
FB	L2025069-06	ACRYLONITRILE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l
FB	L2025069-06	1,4-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	1,3-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2025069-06	BROMODICHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.19	ug/l
FB	L2025069-06	1,3-DICHLOROPROPENE, TOTAL	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
FB	L2025069-06	ACETONE	6/17/2020	1.6	Y	Y	J		J	5.0	1.5	ug/l
FB	L2025069-06	1,4-DIOXANE	6/17/2020		Y	N	U	UJ	UJ	250	61	ug/l
FB	L2025069-06	2,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
FB	L2025069-06	2-BUTANONE	6/17/2020		Y	N	U		U	5.0	1.9	ug/l
FB	L2025069-06	2-HEXANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2025069-06	4-METHYL-2-PENTANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2025069-07	METHYL TERT BUTYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	TOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	TETRACHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.18	ug/l
TB	L2025069-07	STYRENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	NAPHTHALENE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2025069-07	METHYLENE CHLORIDE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	TRICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.18	ug/l
TB	L2025069-07	ISOPROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	HEXACHLOROBUTADIENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	ETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	ETHYL ETHER	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	DICHLORODIFLUOROMETHANE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2025069-07	DIBROMOMETHANE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
TB	L2025069-07	DIBROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.15	ug/l
TB	L2025069-07	CHLOROFORM	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	CHLOROETHANE	6/17/2020		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2025069-07	CHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2025069-07	O-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	TRANS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
TB	L2025069-07	1,3,5-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	TRANS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	CHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	SEC-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	P/M-XYLENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	P-ISOPROPYLTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	4-ETHYLTOLUENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
TB	L2025069-07	TERT-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	P-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	TRICHLOROFLUOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	O-CHLOROTOLUENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	N-PROPYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	N-BUTYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	CIS-1,3-DICHLOROPROPENE	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
TB	L2025069-07	CIS-1,2-DICHLOROETHENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	XYLENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	VINYL CHLORIDE	6/17/2020		Y	N	U		U	1.0	0.07	ug/l
TB	L2025069-07	VINYL ACETATE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
TB	L2025069-07	1,4-DIETHYLBENZENE	6/17/2020		Y	N	U		U	2.0	0.70	ug/l
TB	L2025069-07	1,1-DICHLOROPROPENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,3-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2-DIBROMOETHANE	6/17/2020		Y	N	U		U	2.0	0.65	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2025069-07	1,2-DIBROMO-3-CHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2,4-TRIMETHYLBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2,4-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2,4,5-TETRAMETHYLBENZENE	6/17/2020		Y	N	U	UJ	UJ	2.0	0.54	ug/l
TB	L2025069-07	1,2-DICHLOROETHENE (TOTAL)	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2,3-TRICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	1.0	0.14	ug/l
TB	L2025069-07	1,1-DICHLOROETHENE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
TB	L2025069-07	1,1-DICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,1,2-TRICHLOROETHANE	6/17/2020		Y	N	U		U	1.5	0.50	ug/l
TB	L2025069-07	1,1,2,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.17	ug/l
TB	L2025069-07	1,1,1-TRICHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,1,1,2-TETRACHLOROETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	TRANS-1,4-DICHLORO-2-BUTENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,2,3-TRICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	4-METHYL-2-PENTANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2025069-07	CARBON DISULFIDE	6/17/2020		Y	N	U		U	5.0	1.0	ug/l
TB	L2025069-07	BROMOMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	BROMOFORM	6/17/2020		Y	N	U		U	2.0	0.65	ug/l
TB	L2025069-07	BROMODICHLOROMETHANE	6/17/2020		Y	N	U		U	0.50	0.19	ug/l
TB	L2025069-07	BROMOCHLOROMETHANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	BROMOBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	BENZENE	6/17/2020		Y	N	U		U	0.50	0.16	ug/l
TB	L2025069-07	1,2-DICHLOROETHANE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
TB	L2025069-07	ACETONE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l

SDG: L2025069

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2025069-07	CARBON TETRACHLORIDE	6/17/2020		Y	N	U		U	0.50	0.13	ug/l
TB	L2025069-07	2-HEXANONE	6/17/2020		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2025069-07	2-BUTANONE	6/17/2020		Y	N	U		U	5.0	1.9	ug/l
TB	L2025069-07	2,2-DICHLOROPROPANE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,4-DIOXANE	6/17/2020		Y	N	U	UJ	UJ	250	61	ug/l
TB	L2025069-07	1,4-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	1,3-DICHLOROPROPENE, TOTAL	6/17/2020		Y	N	U		U	0.50	0.14	ug/l
TB	L2025069-07	1,3-DICHLOROBENZENE	6/17/2020		Y	N	U		U	2.5	0.70	ug/l
TB	L2025069-07	ACRYLONITRILE	6/17/2020		Y	N	U		U	5.0	1.5	ug/l

Bridge Cleaners, Long Island City, NY - LDC# 51114B

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2103234-01	ETHYL ETHER	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	CARBON TETRACHLORIDE	1/25/2021		Y	N	U		U	0.50	0.13	ug/l
GW-1	L2103234-01	TETRACHLOROETHENE	1/25/2021	19	Y	Y				0.50	0.18	ug/l
GW-1	L2103234-01	STYRENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	NAPHTHALENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	METHYLENE CHLORIDE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	METHYL TERT BUTYL ETHER	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	ISOPROPYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	TRICHLOROETHENE	1/25/2021	1.1	Y	Y				0.50	0.18	ug/l
GW-1	L2103234-01	ETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	TRICHLOROFLUOROMETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	DICHLORODIFLUOROMETHANE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2103234-01	DIBROMOMETHANE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-1	L2103234-01	DIBROMOCHLOROMETHANE	1/25/2021		Y	N	U		U	0.50	0.15	ug/l
GW-1	L2103234-01	CHLOROMETHANE	1/25/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-1	L2103234-01	CHLOROFORM	1/25/2021	0.78	Y	Y	J		J	2.5	0.70	ug/l
GW-1	L2103234-01	CHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	CHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	HEXACHLOROBUTADIENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	O-CHLOROTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	TRANS-1,3-DICHLOROPROPENE	1/25/2021		Y	N	U		U	0.50	0.16	ug/l
GW-1	L2103234-01	TERT-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	SEC-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2103234-01	P/M-XYLENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	P-ISOPROPYLTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	4-ETHYLTOLUENE	1/25/2021		Y	N	U		U	2.0	0.70	ug/l
GW-1	L2103234-01	1,4-DIETHYLBENZENE	1/25/2021		Y	N	U		U	2.0	0.70	ug/l
GW-1	L2103234-01	TOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	O-XYLENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	TRANS-1,2-DICHLOROETHENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	N-PROPYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	N-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	CIS-1,3-DICHLOROPROPENE	1/25/2021		Y	N	U		U	0.50	0.14	ug/l
GW-1	L2103234-01	CIS-1,2-DICHLOROETHENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	XYLENE (TOTAL)	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	VINYL CHLORIDE	1/25/2021		Y	N	U		U	1.0	0.07	ug/l
GW-1	L2103234-01	VINYL ACETATE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2103234-01	P-CHLOROTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,2,3-TRICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,2-DICHLOROETHENE (TOTAL)	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,2-DICHLOROETHANE	1/25/2021		Y	N	U		U	0.50	0.13	ug/l
GW-1	L2103234-01	1,2-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,2-DIBROMOETHANE	1/25/2021		Y	N	U		U	2.0	0.65	ug/l
GW-1	L2103234-01	1,2-DIBROMO-3-CHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,2,4-TRIMETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,1,1,2-TETRACHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,2-DICHLOROPROPANE	1/25/2021		Y	N	U		U	1.0	0.14	ug/l
GW-1	L2103234-01	CARBON DISULFIDE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2103234-01	1,2,4-TRICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,1-DICHLOROPROPENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,1-DICHLOROETHENE	1/25/2021		Y	N	U		U	0.50	0.17	ug/l
GW-1	L2103234-01	1,1-DICHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,1,2-TRICHLOROETHANE	1/25/2021		Y	N	U		U	1.5	0.50	ug/l
GW-1	L2103234-01	1,1,2,2-TETRACHLOROETHANE	1/25/2021		Y	N	U		U	0.50	0.17	ug/l
GW-1	L2103234-01	1,1,1-TRICHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	TRANS-1,4-DICHLORO-2-BUTENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,2,4,5-TETRAMETHYLBENZENE	1/25/2021		Y	N	U		U	2.0	0.54	ug/l
GW-1	L2103234-01	BENZENE	1/25/2021		Y	N	U		U	0.50	0.16	ug/l
GW-1	L2103234-01	BROMOMETHANE	1/25/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-1	L2103234-01	1,2,3-TRICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,3,5-TRIMETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	BROMOFORM	1/25/2021		Y	N	U		U	2.0	0.65	ug/l
GW-1	L2103234-01	BROMODICHLOROMETHANE	1/25/2021		Y	N	U		U	0.50	0.19	ug/l
GW-1	L2103234-01	BROMOBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	ACRYLONITRILE	1/25/2021		Y	N	U		U	5.0	1.5	ug/l
GW-1	L2103234-01	ACETONE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.5	ug/l
GW-1	L2103234-01	1,3-DICHLOROPROPENE, TOTAL	1/25/2021		Y	N	U		U	0.50	0.14	ug/l
GW-1	L2103234-01	1,3-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	BROMOCHLOROMETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,3-DICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	4-METHYL-2-PENTANONE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-1	L2103234-01	1,4-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	1,4-DIOXANE	1/25/2021		Y	N	U	UJ	UJ	250	61	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2103234-01	2,2-DICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2103234-01	2-BUTANONE	1/25/2021		Y	N	U		U	5.0	1.9	ug/l
GW-1	L2103234-01	2-HEXANONE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-2	L2103234-02	ISOPROPYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	CHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	TETRACHLOROETHENE	1/25/2021	18	Y	Y				0.50	0.18	ug/l
GW-2	L2103234-02	STYRENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	NAPHTHALENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	METHYLENE CHLORIDE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	METHYL TERT BUTYL ETHER	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	TRICHLOROETHENE	1/25/2021		Y	N	U		U	0.50	0.18	ug/l
GW-2	L2103234-02	HEXACHLOROBUTADIENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	ETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	ETHYL ETHER	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	DICHLORODIFLUOROMETHANE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-2	L2103234-02	DIBROMOMETHANE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-2	L2103234-02	DIBROMOCHLOROMETHANE	1/25/2021		Y	N	U		U	0.50	0.15	ug/l
GW-2	L2103234-02	CHLOROMETHANE	1/25/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-2	L2103234-02	CHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	CHLOROFORM	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	P-CHLOROTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,2-DICHLOROETHENE (TOTAL)	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	TRANS-1,3-DICHLOROPROPENE	1/25/2021		Y	N	U		U	0.50	0.16	ug/l
GW-2	L2103234-02	CARBON TETRACHLORIDE	1/25/2021		Y	N	U		U	0.50	0.13	ug/l
GW-2	L2103234-02	TERT-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2103234-02	SEC-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	P/M-XYLENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	P-ISOPROPYLTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	TRANS-1,2-DICHLOROETHENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,4-DIETHYLBENZENE	1/25/2021		Y	N	U		U	2.0	0.70	ug/l
GW-2	L2103234-02	VINYL ACETATE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-2	L2103234-02	O-XYLENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	O-CHLOROTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	N-PROPYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	N-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	CIS-1,3-DICHLOROPROPENE	1/25/2021		Y	N	U		U	0.50	0.14	ug/l
GW-2	L2103234-02	CIS-1,2-DICHLOROETHENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	XYLENE (TOTAL)	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	VINYL CHLORIDE	1/25/2021		Y	N	U		U	1.0	0.07	ug/l
GW-2	L2103234-02	4-ETHYLTOLUENE	1/25/2021		Y	N	U		U	2.0	0.70	ug/l
GW-2	L2103234-02	1,1-DICHLOROETHENE	1/25/2021		Y	N	U		U	0.50	0.17	ug/l
GW-2	L2103234-02	1,3,5-TRIMETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,2-DIBROMOETHANE	1/25/2021		Y	N	U		U	2.0	0.65	ug/l
GW-2	L2103234-02	1,2-DIBROMO-3-CHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,2,4-TRIMETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,2,4-TRICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,2,4,5-TETRAMETHYLBENZENE	1/25/2021		Y	N	U		U	2.0	0.54	ug/l
GW-2	L2103234-02	1,2,3-TRICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,2-DICHLOROETHANE	1/25/2021		Y	N	U		U	0.50	0.13	ug/l
GW-2	L2103234-02	1,1-DICHLOROPROPENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2103234-02	1,2-DICHLOROPROPANE	1/25/2021		Y	N	U		U	1.0	0.14	ug/l
GW-2	L2103234-02	1,1-DICHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,1,2-TRICHLOROETHANE	1/25/2021		Y	N	U		U	1.5	0.50	ug/l
GW-2	L2103234-02	1,1,2,2-TETRACHLOROETHANE	1/25/2021		Y	N	U		U	0.50	0.17	ug/l
GW-2	L2103234-02	1,1,1-TRICHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,1,1,2-TETRACHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	TRANS-1,4-DICHLORO-2-BUTENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	TRICHLOROFLUOROMETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,2,3-TRICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	2-HEXANONE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-2	L2103234-02	BROMOMETHANE	1/25/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-2	L2103234-02	BROMOFORM	1/25/2021		Y	N	U		U	2.0	0.65	ug/l
GW-2	L2103234-02	BROMODICHLOROMETHANE	1/25/2021		Y	N	U		U	0.50	0.19	ug/l
GW-2	L2103234-02	BROMOCHLOROMETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	BROMOBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	BENZENE	1/25/2021		Y	N	U		U	0.50	0.16	ug/l
GW-2	L2103234-02	ACRYLONITRILE	1/25/2021		Y	N	U		U	5.0	1.5	ug/l
GW-2	L2103234-02	1,2-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	4-METHYL-2-PENTANONE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-2	L2103234-02	CARBON DISULFIDE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-2	L2103234-02	2-BUTANONE	1/25/2021		Y	N	U		U	5.0	1.9	ug/l
GW-2	L2103234-02	2,2-DICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,4-DIOXANE	1/25/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-2	L2103234-02	1,4-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,3-DICHLOROPROPENE, TOTAL	1/25/2021		Y	N	U		U	0.50	0.14	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2103234-02	1,3-DICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	1,3-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2103234-02	ACETONE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.5	ug/l
GW-2	L2103234-02	TOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	CHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	ISOPROPYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	HEXACHLOROBUTADIENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	ETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	ETHYL ETHER	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	DICHLORODIFLUOROMETHANE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2103234-03	DIBROMOMETHANE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2103234-03	O-XYLENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	CHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	NAPHTHALENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	CARBON TETRACHLORIDE	1/25/2021		Y	N	U		U	0.50	0.13	ug/l
GW-3	L2103234-03	CARBON DISULFIDE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2103234-03	BROMOMETHANE	1/25/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-3	L2103234-03	BROMOFORM	1/25/2021		Y	N	U		U	2.0	0.65	ug/l
GW-3	L2103234-03	BROMODICHLOROMETHANE	1/25/2021		Y	N	U		U	0.50	0.19	ug/l
GW-3	L2103234-03	CHLOROMETHANE	1/25/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-3	L2103234-03	VINYL ACETATE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2103234-03	O-CHLOROTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	N-PROPYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	N-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	CIS-1,3-DICHLOROPROPENE	1/25/2021		Y	N	U		U	0.50	0.14	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2103234-03	CIS-1,2-DICHLOROETHENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	METHYL TERT BUTYL ETHER	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	VINYL CHLORIDE	1/25/2021		Y	N	U		U	1.0	0.07	ug/l
GW-3	L2103234-03	METHYLENE CHLORIDE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	TRICHLOROFLUOROMETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	TRICHLOROETHENE	1/25/2021	0.87	Y	Y				0.50	0.18	ug/l
GW-3	L2103234-03	TOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	TETRACHLOROETHENE	1/25/2021	23	Y	Y				0.50	0.18	ug/l
GW-3	L2103234-03	STYRENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	BENZENE	1/25/2021		Y	N	U		U	0.50	0.16	ug/l
GW-3	L2103234-03	XYLENE (TOTAL)	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,1-DICHLOROPROPENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2-DIBROMOETHANE	1/25/2021		Y	N	U		U	2.0	0.65	ug/l
GW-3	L2103234-03	1,2-DIBROMO-3-CHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2,4-TRIMETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2,4-TRICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2,4,5-TETRAMETHYLBENZENE	1/25/2021		Y	N	U		U	2.0	0.54	ug/l
GW-3	L2103234-03	BROMOCHLOROMETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2,3-TRICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2-DICHLOROETHENE (TOTAL)	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,1-DICHLOROETHENE	1/25/2021		Y	N	U		U	0.50	0.17	ug/l
GW-3	L2103234-03	1,1-DICHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,1,2-TRICHLOROETHANE	1/25/2021		Y	N	U		U	1.5	0.50	ug/l
GW-3	L2103234-03	1,1,2,2-TETRACHLOROETHANE	1/25/2021		Y	N	U		U	0.50	0.17	ug/l
GW-3	L2103234-03	1,1,1-TRICHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2103234-03	1,1,1,2-TETRACHLOROETHANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2,3-TRICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,4-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	DIBROMOCHLOROMETHANE	1/25/2021		Y	N	U		U	0.50	0.15	ug/l
GW-3	L2103234-03	ACRYLONITRILE	1/25/2021		Y	N	U		U	5.0	1.5	ug/l
GW-3	L2103234-03	ACETONE	1/25/2021		Y	N	U	UJ	UJ	5.0	1.5	ug/l
GW-3	L2103234-03	4-METHYL-2-PENTANONE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2103234-03	2-HEXANONE	1/25/2021		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2103234-03	2-BUTANONE	1/25/2021		Y	N	U		U	5.0	1.9	ug/l
GW-3	L2103234-03	1,2-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,4-DIOXANE	1/25/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-3	L2103234-03	1,2-DICHLOROETHANE	1/25/2021		Y	N	U		U	0.50	0.13	ug/l
GW-3	L2103234-03	1,3-DICHLOROPROPENE, TOTAL	1/25/2021		Y	N	U		U	0.50	0.14	ug/l
GW-3	L2103234-03	1,3-DICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,3-DICHLOROBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,3,5-TRIMETHYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,2-DICHLOROPROPANE	1/25/2021		Y	N	U		U	1.0	0.14	ug/l
GW-3	L2103234-03	BROMOBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	2,2-DICHLOROPROPANE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	TRANS-1,4-DICHLORO-2-BUTENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	1,4-DIETHYLBENZENE	1/25/2021		Y	N	U		U	2.0	0.70	ug/l
GW-3	L2103234-03	4-ETHYLTOLUENE	1/25/2021		Y	N	U		U	2.0	0.70	ug/l
GW-3	L2103234-03	P-ISOPROPYLTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	P/M-XYLENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	SEC-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2103234-03	TERT-BUTYLBENZENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	TRANS-1,2-DICHLOROETHENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	TRANS-1,3-DICHLOROPROPENE	1/25/2021		Y	N	U		U	0.50	0.16	ug/l
GW-3	L2103234-03	P-CHLOROTOLUENE	1/25/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2103234-03	CHLOROFORM	1/25/2021	1.5	Y	Y	J		J	2.5	0.70	ug/l
GW-4	L2103234-04	1,4-DIETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
GW-4	L2103234-04	4-ETHYLTOLUENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
GW-4	L2103234-04	P-ISOPROPYLTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	P/M-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	SEC-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	TERT-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,3-DICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2103234-04	CIS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	TRANS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	O-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	N-PROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,3-DICHLOROPROPENE, TOTAL	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
GW-4	L2103234-04	CIS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
GW-4	L2103234-04	4-METHYL-2-PENTANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2103234-04	XYLENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	VINYL CHLORIDE	1/24/2021		Y	N	U		U	1.0	0.07	ug/l
GW-4	L2103234-04	VINYL ACETATE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
GW-4	L2103234-04	N-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	BROMOBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	TRANS-1,4-DICHLORO-2-BUTENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2103234-04	TRANS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
GW-4	L2103234-04	1,3-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	CARBON TETRACHLORIDE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
GW-4	L2103234-04	CARBON DISULFIDE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2103234-04	BROMOMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	BROMOFORM	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
GW-4	L2103234-04	2-BUTANONE	1/24/2021		Y	N	U		U	5.0	1.9	ug/l
GW-4	L2103234-04	BROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,4-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	BENZENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
GW-4	L2103234-04	ACRYLONITRILE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
GW-4	L2103234-04	ACETONE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
GW-4	L2103234-04	O-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	2-HEXANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2103234-04	TRICHLOROFLUOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	2,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,4-DIOXANE	1/24/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-4	L2103234-04	BROMODICHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.19	ug/l
GW-4	L2103234-04	1,2,3-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2103234-04	1,2-DICHLOROETHENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,2-DICHLOROETHANE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
GW-4	L2103234-04	1,2-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,2-DIBROMOETHANE	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
GW-4	L2103234-04	1,2-DIBROMO-3-CHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2103234-04	1,2,4-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2103234-04	1,2,4-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2103234-04	1,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	1.0	0.14	ug/l
GW-4	L2103234-04	1,2,3-TRICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2103234-04	1,1-DICHLOROPROPENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	TRICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.18	ug/l
GW-4	L2103234-04	1,1-DICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.17	ug/l
GW-4	L2103234-04	P-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,1,2-TRICHLOROETHANE	1/24/2021		Y	N	U		U	1.5	0.50	ug/l
GW-4	L2103234-04	1,1,2,2-TETRACHLOROETHANE	1/24/2021		Y	N	U	UJ	UJ	0.50	0.17	ug/l
GW-4	L2103234-04	1,1,1-TRICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,1,1,2-TETRACHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,2,4,5-TETRAMETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.54	ug/l
GW-4	L2103234-04	METHYLENE CHLORIDE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	TETRACHLOROETHENE	1/24/2021	1.4	Y	Y				0.50	0.18	ug/l
GW-4	L2103234-04	1,1-DICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	TOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	1,3,5-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	STYRENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	NAPHTHALENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2103234-04	METHYL TERT BUTYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	ISOPROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	HEXACHLOROBUTADIENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2103234-04	ETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	DICHLORODIFLUOROMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
GW-4	L2103234-04	DIBROMOMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2103234-04	DIBROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.15	ug/l
GW-4	L2103234-04	CHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	CHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	ETHYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	CHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2103234-04	CHLOROFORM	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	ISOPROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	XYLENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	VINYL CHLORIDE	1/24/2021		Y	N	U		U	1.0	0.07	ug/l
GW-5	L2103234-05	VINYL ACETATE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2103234-05	TRICHLOROETHENE	1/24/2021	2.0	Y	Y				0.50	0.18	ug/l
GW-5	L2103234-05	HEXACHLOROBUTADIENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2103234-05	METHYL TERT BUTYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	STYRENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	NAPHTHALENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2103234-05	METHYLENE CHLORIDE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	CIS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	P/M-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	TETRACHLOROETHENE	1/24/2021	67	Y	Y				0.50	0.18	ug/l
GW-5	L2103234-05	P-ISOPROPYLTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	ETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	TOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	TRANS-1,4-DICHLORO-2-BUTENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	TRANS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
GW-5	L2103234-05	TRANS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2103234-05	4-ETHYLTOLUENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
GW-5	L2103234-05	SEC-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	CIS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
GW-5	L2103234-05	1,4-DIETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
GW-5	L2103234-05	P-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	O-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	O-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	N-PROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	N-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	TERT-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	ACRYLONITRILE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
GW-5	L2103234-05	DICHLORODIFLUOROMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2103234-05	DIBROMOMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2103234-05	CHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	CHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	CHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	CARBON TETRACHLORIDE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
GW-5	L2103234-05	CARBON DISULFIDE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2103234-05	BROMOMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	BROMOFORM	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
GW-5	L2103234-05	BROMODICHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.19	ug/l
GW-5	L2103234-05	BROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	ETHYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	BENZENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
GW-5	L2103234-05	DIBROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.15	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2103234-05	ACETONE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
GW-5	L2103234-05	4-METHYL-2-PENTANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2103234-05	2-HEXANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2103234-05	2-BUTANONE	1/24/2021		Y	N	U		U	5.0	1.9	ug/l
GW-5	L2103234-05	2,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,4-DIOXANE	1/24/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-5	L2103234-05	1,4-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,3-DICHLOROPROPENE, TOTAL	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
GW-5	L2103234-05	1,3-DICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2103234-05	1,3-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	TRICHLOROFLUOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,3,5-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	BROMOBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,2,3-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2103234-05	1,2-DICHLOROETHENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,2-DICHLOROETHANE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
GW-5	L2103234-05	1,2-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,2-DIBROMOETHANE	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
GW-5	L2103234-05	1,2-DIBROMO-3-CHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2103234-05	1,2,4-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2103234-05	1,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	1.0	0.14	ug/l
GW-5	L2103234-05	1,2,3-TRICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2103234-05	1,2,4-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,1-DICHLOROPROPENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,1-DICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.17	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2103234-05	1,1-DICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,1,2-TRICHLOROETHANE	1/24/2021		Y	N	U		U	1.5	0.50	ug/l
GW-5	L2103234-05	1,1,2,2-TETRACHLOROETHANE	1/24/2021		Y	N	U	UJ	UJ	0.50	0.17	ug/l
GW-5	L2103234-05	1,1,1-TRICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,1,1,2-TETRACHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	CHLOROFORM	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2103234-05	1,2,4,5-TETRAMETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.54	ug/l
MW-5	L2103234-06	ETHYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	TRICHLOROETHENE	1/24/2021	0.24	Y	Y	J		J	0.50	0.18	ug/l
MW-5	L2103234-06	TOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	TETRACHLOROETHENE	1/24/2021	5.8	Y	Y				0.50	0.18	ug/l
MW-5	L2103234-06	P-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	NAPHTHALENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2103234-06	METHYL TERT BUTYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	ISOPROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	ETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	N-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	DICHLORODIFLUOROMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
MW-5	L2103234-06	DIBROMOMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
MW-5	L2103234-06	DIBROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.15	ug/l
MW-5	L2103234-06	CHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	CHLOROFORM	1/24/2021	1.6	Y	Y	J		J	2.5	0.70	ug/l
MW-5	L2103234-06	CHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	CHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	HEXACHLOROBUTADIENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-5	L2103234-06	TRANS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
MW-5	L2103234-06	4-ETHYLTOLUENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
MW-5	L2103234-06	1,4-DIETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
MW-5	L2103234-06	P/M-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	SEC-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	CARBON TETRACHLORIDE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
MW-5	L2103234-06	TERT-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	METHYLENE CHLORIDE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	O-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	O-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	N-PROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	TRANS-1,4-DICHLORO-2-BUTENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	TRICHLOROFLUOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	VINYL ACETATE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
MW-5	L2103234-06	VINYL CHLORIDE	1/24/2021		Y	N	U		U	1.0	0.07	ug/l
MW-5	L2103234-06	XYLENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	CIS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	CIS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
MW-5	L2103234-06	P-ISOPROPYLTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	TRANS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,3,5-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	2-HEXANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
MW-5	L2103234-06	STYRENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	2-BUTANONE	1/24/2021		Y	N	U		U	5.0	1.9	ug/l
MW-5	L2103234-06	2,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-5	L2103234-06	1,4-DIOXANE	1/24/2021		Y	N	U	UJ	UJ	250	61	ug/l
MW-5	L2103234-06	1,4-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,3-DICHLOROPROPENE, TOTAL	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
MW-5	L2103234-06	CARBON DISULFIDE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
MW-5	L2103234-06	1,3-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	4-METHYL-2-PENTANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
MW-5	L2103234-06	1,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	1.0	0.14	ug/l
MW-5	L2103234-06	1,2-DICHLOROETHENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,2-DICHLOROETHANE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
MW-5	L2103234-06	1,2-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,2-DIBROMOETHANE	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
MW-5	L2103234-06	1,2-DIBROMO-3-CHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2103234-06	1,2,4-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,2,4-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2103234-06	1,3-DICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2103234-06	1,2,3-TRICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2103234-06	1,1,1,2-TETRACHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,1,1-TRICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,1,2,2-TETRACHLOROETHANE	1/24/2021		Y	N	U	UJ	UJ	0.50	0.17	ug/l
MW-5	L2103234-06	1,1,2-TRICHLOROETHANE	1/24/2021		Y	N	U		U	1.5	0.50	ug/l
MW-5	L2103234-06	1,1-DICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,1-DICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.17	ug/l
MW-5	L2103234-06	1,1-DICHLOROPROPENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,2,3-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2103234-06	BENZENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-5	L2103234-06	BROMOMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	BROMOFORM	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
MW-5	L2103234-06	BROMODICHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.19	ug/l
MW-5	L2103234-06	BROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	BROMOBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2103234-06	1,2,4,5-TETRAMETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.54	ug/l
MW-5	L2103234-06	ACRYLONITRILE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
MW-5	L2103234-06	ACETONE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
FB	L2103234-07	VINYL CHLORIDE	1/24/2021		Y	N	U		U	1.0	0.07	ug/l
FB	L2103234-07	1,2-DICHLOROETHANE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
FB	L2103234-07	O-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	O-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	P-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,4-DIETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
FB	L2103234-07	4-ETHYLTOLUENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
FB	L2103234-07	N-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	CIS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
FB	L2103234-07	CIS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	XYLENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	N-PROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,2,4-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2103234-07	1,1,1,2-TETRACHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,1,1-TRICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,1,2,2-TETRACHLOROETHANE	1/24/2021		Y	N	U	UJ	UJ	0.50	0.17	ug/l
FB	L2103234-07	1,1,2-TRICHLOROETHANE	1/24/2021		Y	N	U		U	1.5	0.50	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2103234-07	1,1-DICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,1-DICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.17	ug/l
FB	L2103234-07	1,1-DICHLOROPROPENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,2,3-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2103234-07	1,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	1.0	0.14	ug/l
FB	L2103234-07	1,2,4,5-TETRAMETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.54	ug/l
FB	L2103234-07	VINYL ACETATE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
FB	L2103234-07	1,2,4-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,2-DIBROMO-3-CHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2103234-07	1,2-DIBROMOETHANE	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
FB	L2103234-07	1,2-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TRANS-1,4-DICHLORO-2-BUTENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,2-DICHLOROETHENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	P-ISOPROPYLTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,3,5-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TRICHLOROFLUOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,2,3-TRICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2103234-07	STYRENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	DIBROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.15	ug/l
FB	L2103234-07	DIBROMOMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
FB	L2103234-07	DICHLORODIFLUOROMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
FB	L2103234-07	ETHYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	ETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	HEXACHLOROBUTADIENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2103234-07	ISOPROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2103234-07	METHYL TERT BUTYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TRANS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	NAPHTHALENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2103234-07	CHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TETRACHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.18	ug/l
FB	L2103234-07	2-HEXANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2103234-07	2-BUTANONE	1/24/2021		Y	N	U		U	5.0	1.9	ug/l
FB	L2103234-07	2,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,4-DIOXANE	1/24/2021		Y	N	U	UJ	UJ	250	61	ug/l
FB	L2103234-07	1,4-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	1,3-DICHLOROPROPENE, TOTAL	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
FB	L2103234-07	1,3-DICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2103234-07	METHYLENE CHLORIDE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	BENZENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
FB	L2103234-07	SEC-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TERT-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TRANS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
FB	L2103234-07	1,3-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	4-METHYL-2-PENTANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2103234-07	ACETONE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
FB	L2103234-07	CHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	ACRYLONITRILE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
FB	L2103234-07	CHLOROFORM	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	BROMOBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2103234-07	BROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	BROMODICHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.19	ug/l
FB	L2103234-07	BROMOFORM	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
FB	L2103234-07	BROMOMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	CARBON DISULFIDE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2103234-07	CARBON TETRACHLORIDE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
FB	L2103234-07	CHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	P/M-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2103234-07	TRICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.18	ug/l
TB	L2103234-08	1,2-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	ETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	TOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	TETRACHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.18	ug/l
TB	L2103234-08	STYRENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	NAPHTHALENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2103234-08	METHYLENE CHLORIDE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	METHYL TERT BUTYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,2-DIBROMO-3-CHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2103234-08	HEXACHLOROBUTADIENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2103234-08	VINYL ACETATE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
TB	L2103234-08	ETHYL ETHER	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	DICHLORODIFLUOROMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
TB	L2103234-08	DIBROMOMETHANE	1/24/2021		Y	N	U		U	5.0	1.0	ug/l
TB	L2103234-08	DIBROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.15	ug/l
TB	L2103234-08	CHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2103234-08	CHLOROFORM	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	CHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	ISOPROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	O-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	TRANS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	TERT-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	SEC-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	P/M-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	P-ISOPROPYLTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	4-ETHYLTOLUENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
TB	L2103234-08	1,4-DIETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.70	ug/l
TB	L2103234-08	TRICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.18	ug/l
TB	L2103234-08	O-XYLENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	TRICHLOROFLUOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	N-PROPYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	N-BUTYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	CIS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
TB	L2103234-08	CIS-1,2-DICHLOROETHENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	XYLENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	VINYL CHLORIDE	1/24/2021		Y	N	U		U	1.0	0.07	ug/l
TB	L2103234-08	CARBON TETRACHLORIDE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
TB	L2103234-08	P-CHLOROTOLUENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,2,3-TRICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2103234-08	CHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	1.0	0.14	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2103234-08	1,2-DICHLOROETHENE (TOTAL)	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,2-DICHLOROETHANE	1/24/2021		Y	N	U		U	0.50	0.13	ug/l
TB	L2103234-08	TRANS-1,3-DICHLOROPROPENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l
TB	L2103234-08	1,2-DIBROMOETHANE	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
TB	L2103234-08	1,2,4-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,3-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,2,4,5-TETRAMETHYLBENZENE	1/24/2021		Y	N	U		U	2.0	0.54	ug/l
TB	L2103234-08	1,3-DICHLOROPROPANE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2103234-08	1,2,3-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2103234-08	1,1-DICHLOROPROPENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,1-DICHLOROETHENE	1/24/2021		Y	N	U		U	0.50	0.17	ug/l
TB	L2103234-08	1,1-DICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,1,2-TRICHLOROETHANE	1/24/2021		Y	N	U		U	1.5	0.50	ug/l
TB	L2103234-08	1,1,2,2-TETRACHLOROETHANE	1/24/2021		Y	N	U	UJ	UJ	0.50	0.17	ug/l
TB	L2103234-08	1,1,1-TRICHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,2,4-TRICHLOROBENZENE	1/24/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2103234-08	ACETONE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
TB	L2103234-08	1,1,1,2-TETRACHLOROETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	CARBON DISULFIDE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2103234-08	BROMOMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	BROMOFORM	1/24/2021		Y	N	U		U	2.0	0.65	ug/l
TB	L2103234-08	BROMODICHLOROMETHANE	1/24/2021		Y	N	U		U	0.50	0.19	ug/l
TB	L2103234-08	BROMOCHLOROMETHANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	BROMOBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,3,5-TRIMETHYLBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2103234

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2103234-08	ACRYLONITRILE	1/24/2021		Y	N	U		U	5.0	1.5	ug/l
TB	L2103234-08	TRANS-1,4-DICHLORO-2-BUTENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	4-METHYL-2-PENTANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2103234-08	2-HEXANONE	1/24/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2103234-08	2-BUTANONE	1/24/2021		Y	N	U		U	5.0	1.9	ug/l
TB	L2103234-08	2,2-DICHLOROPROPANE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,4-DIOXANE	1/24/2021		Y	N	U	UJ	UJ	250	61	ug/l
TB	L2103234-08	1,4-DICHLOROBENZENE	1/24/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2103234-08	1,3-DICHLOROPROPENE, TOTAL	1/24/2021		Y	N	U		U	0.50	0.14	ug/l
TB	L2103234-08	BENZENE	1/24/2021		Y	N	U		U	0.50	0.16	ug/l

Bridge Cleaners, Long Island City, NY - LDC# 51114C

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2122042-01	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-1	L2122042-01	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-1	L2122042-01	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2122042-01	DIBROMOFLUOROMETHANE	5/7/2021	108	Y	Y						
GW-1	L2122042-01	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-1	L2122042-01	CHLOROFORM	5/7/2021	0.80	Y	Y	J		J	2.5	0.70	ug/l
GW-1	L2122042-01	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-1	L2122042-01	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-1	L2122042-01	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-1	L2122042-01	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
GW-1	L2122042-01	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
GW-1	L2122042-01	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2122042-01	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
GW-1	L2122042-01	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-1	L2122042-01	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-1	L2122042-01	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	TETRACHLOROETHENE	5/7/2021	9.1	Y	Y				0.50	0.18	ug/l
GW-1	L2122042-01	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-1	L2122042-01	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
GW-1	L2122042-01	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2122042-01	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	TRICHLOROETHENE	5/7/2021	0.59	Y	Y				0.50	0.18	ug/l
GW-1	L2122042-01	TOLUENE-D8	5/7/2021	97.0	Y	Y						
GW-1	L2122042-01	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2122042-01	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-1	L2122042-01	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
GW-1	L2122042-01	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-1	L2122042-01	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
GW-1	L2122042-01	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2122042-01	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-1	L2122042-01	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-1	L2122042-01	4-BROMOFLUOROBENZENE	5/7/2021	93.0	Y	Y						
GW-1	L2122042-01	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-1	L2122042-01	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-1	L2122042-01	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
GW-1	L2122042-01	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-1	L2122042-01	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
GW-1	L2122042-01	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-1	L2122042-01	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-1	L2122042-01	1,2-DICHLOROETHANE-D4	5/7/2021	96.0	Y	Y						
GW-2	L2122042-02	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	DIBROMOFLUOROMETHANE	5/7/2021	108	Y	Y						
GW-2	L2122042-02	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-2	L2122042-02	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-2	L2122042-02	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-2	L2122042-02	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-2	L2122042-02	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
GW-2	L2122042-02	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CHLOROFORM	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-2	L2122042-02	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2122042-02	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-2	L2122042-02	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
GW-2	L2122042-02	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-2	L2122042-02	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-2	L2122042-02	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-2	L2122042-02	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
GW-2	L2122042-02	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-2	L2122042-02	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-2	L2122042-02	TETRACHLOROETHENE	5/7/2021	0.40	Y	Y	J		J	0.50	0.18	ug/l
GW-2	L2122042-02	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2122042-02	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
GW-2	L2122042-02	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	TRICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
GW-2	L2122042-02	TOLUENE-D8	5/7/2021	98.0	Y	Y						
GW-2	L2122042-02	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-2	L2122042-02	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
GW-2	L2122042-02	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-2	L2122042-02	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-2	L2122042-02	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-2	L2122042-02	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
GW-2	L2122042-02	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-2	L2122042-02	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	4-BROMOFLUOROBENZENE	5/7/2021	93.0	Y	Y						
GW-2	L2122042-02	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-2	L2122042-02	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-2	L2122042-02	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-2	L2122042-02	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
GW-2	L2122042-02	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-2	L2122042-02	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,2-DICHLOROETHANE-D4	5/7/2021	96.0	Y	Y						
GW-2	L2122042-02	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-2	L2122042-02	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
GW-2	L2122042-02	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-2	L2122042-02	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
GW-3	L2122042-03	DIBROMOFLUOROMETHANE	5/7/2021	115	Y	Y						
GW-3	L2122042-03	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2122042-03	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2122042-03	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-3	L2122042-03	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-3	L2122042-03	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2122042-03	CHLOROFORM	5/7/2021	1.8	Y	Y	J		J	2.5	0.70	ug/l
GW-3	L2122042-03	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-3	L2122042-03	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-3	L2122042-03	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
GW-3	L2122042-03	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
GW-3	L2122042-03	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-3	L2122042-03	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-3	L2122042-03	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
GW-3	L2122042-03	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2122042-03	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
GW-3	L2122042-03	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-3	L2122042-03	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-3	L2122042-03	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2122042-03	TETRACHLOROETHENE	5/7/2021	23	Y	Y				0.50	0.18	ug/l
GW-3	L2122042-03	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
GW-3	L2122042-03	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	TRICHLOROETHENE	5/7/2021	0.77	Y	Y				0.50	0.18	ug/l
GW-3	L2122042-03	TOLUENE-D8	5/7/2021	94.0	Y	Y						
GW-3	L2122042-03	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-3	L2122042-03	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-3	L2122042-03	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
GW-3	L2122042-03	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
GW-3	L2122042-03	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-3	L2122042-03	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-3	L2122042-03	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-3	L2122042-03	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-3	L2122042-03	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-3	L2122042-03	4-BROMOFLUOROBENZENE	5/7/2021	95.0	Y	Y						
GW-3	L2122042-03	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2122042-03	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
GW-3	L2122042-03	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-3	L2122042-03	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-3	L2122042-03	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-3	L2122042-03	1,2-DICHLOROETHANE-D4	5/7/2021	101	Y	Y						
GW-4	L2122042-04	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
GW-4	L2122042-04	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	TOLUENE-D8	5/7/2021	97.0	Y	Y						
GW-4	L2122042-04	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2122042-04	TETRACHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
GW-4	L2122042-04	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-4	L2122042-04	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2122042-04	DIBROMOFLUOROMETHANE	5/7/2021	116	Y	Y						
GW-4	L2122042-04	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	TRICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
GW-4	L2122042-04	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	CHLOROFORM	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-4	L2122042-04	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-4	L2122042-04	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
GW-4	L2122042-04	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-4	L2122042-04	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2122042-04	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
GW-4	L2122042-04	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2122042-04	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-4	L2122042-04	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-4	L2122042-04	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
GW-4	L2122042-04	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2122042-04	4-BROMOFLUOROBENZENE	5/7/2021	95.0	Y	Y						
GW-4	L2122042-04	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-4	L2122042-04	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-4	L2122042-04	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
GW-4	L2122042-04	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
GW-4	L2122042-04	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-4	L2122042-04	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-4	L2122042-04	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-4	L2122042-04	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-4	L2122042-04	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-4	L2122042-04	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
GW-4	L2122042-04	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-4	L2122042-04	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2-DICHLOROETHANE-D4	5/7/2021	101	Y	Y						
GW-4	L2122042-04	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
GW-4	L2122042-04	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-4	L2122042-04	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-4	L2122042-04	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
GW-4	L2122042-04	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-4	L2122042-04	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-4	L2122042-04	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	CHLOROFORM	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	TOLUENE-D8	5/7/2021	96.0	Y	Y						

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2122042-05	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	TETRACHLOROETHENE	5/7/2021	72	Y	Y				0.50	0.18	ug/l
GW-5	L2122042-05	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	TRICHLOROETHENE	5/7/2021	2.5	Y	Y				0.50	0.18	ug/l
GW-5	L2122042-05	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2122042-05	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
GW-5	L2122042-05	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2122042-05	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2122042-05	DIBROMOFLUOROMETHANE	5/7/2021	104	Y	Y						
GW-5	L2122042-05	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
GW-5	L2122042-05	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
GW-5	L2122042-05	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
GW-5	L2122042-05	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-5	L2122042-05	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2122042-05	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-5	L2122042-05	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
GW-5	L2122042-05	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2122042-05	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
GW-5	L2122042-05	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-5	L2122042-05	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-5	L2122042-05	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-5	L2122042-05	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2122042-05	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
GW-5	L2122042-05	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
GW-5	L2122042-05	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2122042-05	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
GW-5	L2122042-05	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-5	L2122042-05	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
GW-5	L2122042-05	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
GW-5	L2122042-05	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
GW-5	L2122042-05	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
GW-5	L2122042-05	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,2-DICHLOROETHANE-D4	5/7/2021	91.0	Y	Y						
GW-5	L2122042-05	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
GW-5	L2122042-05	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
GW-5	L2122042-05	4-BROMOFLUOROBENZENE	5/7/2021	92.0	Y	Y						
GW-5	L2122042-05	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
GW-5	L2122042-05	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
GW-5	L2122042-05	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
GW-5	L2122042-05	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
GW-5	L2122042-05	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
GW-5	L2122042-05	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
GW-5	L2122042-05	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
MW-5	L2122042-06	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
MW-5	L2122042-06	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
MW-5	L2122042-06	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
MW-5	L2122042-06	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
MW-5	L2122042-06	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
MW-5	L2122042-06	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
MW-5	L2122042-06	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
MW-5	L2122042-06	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
MW-5	L2122042-06	4-BROMOFLUOROBENZENE	5/7/2021	92.0	Y	Y						

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-5	L2122042-06	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
MW-5	L2122042-06	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
MW-5	L2122042-06	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
MW-5	L2122042-06	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
MW-5	L2122042-06	1,2-DICHLOROETHANE-D4	5/7/2021	94.0	Y	Y						
MW-5	L2122042-06	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
MW-5	L2122042-06	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
MW-5	L2122042-06	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
MW-5	L2122042-06	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
MW-5	L2122042-06	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
MW-5	L2122042-06	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-5	L2122042-06	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
MW-5	L2122042-06	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
MW-5	L2122042-06	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
MW-5	L2122042-06	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
MW-5	L2122042-06	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	CHLOROFORM	5/7/2021	0.86	Y	Y	J		J	2.5	0.70	ug/l
MW-5	L2122042-06	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	TETRACHLOROETHENE	5/7/2021	7.4	Y	Y				0.50	0.18	ug/l
MW-5	L2122042-06	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
MW-5	L2122042-06	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2122042-06	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
MW-5	L2122042-06	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	TOLUENE-D8	5/7/2021	95.0	Y	Y						
MW-5	L2122042-06	TRICHLOROETHENE	5/7/2021	0.19	Y	Y	J		J	0.50	0.18	ug/l
MW-5	L2122042-06	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
MW-5	L2122042-06	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
MW-5	L2122042-06	DIBROMOFLUOROMETHANE	5/7/2021	107	Y	Y						
MW-5	L2122042-06	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
MW-5	L2122042-06	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
MW-5	L2122042-06	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
DUP	L2122042-07	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
DUP	L2122042-07	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	CHLOROFORM	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
DUP	L2122042-07	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
DUP	L2122042-07	DIBROMOFLUOROMETHANE	5/7/2021	109	Y	Y						
DUP	L2122042-07	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
DUP	L2122042-07	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
DUP	L2122042-07	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
DUP	L2122042-07	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
DUP	L2122042-07	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
DUP	L2122042-07	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
DUP	L2122042-07	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
DUP	L2122042-07	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
DUP	L2122042-07	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
DUP	L2122042-07	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
DUP	L2122042-07	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
DUP	L2122042-07	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
DUP	L2122042-07	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,2-DICHLOROETHANE-D4	5/7/2021	96.0	Y	Y						
DUP	L2122042-07	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
DUP	L2122042-07	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
DUP	L2122042-07	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
DUP	L2122042-07	4-BROMOFLUOROBENZENE	5/7/2021	92.0	Y	Y						
DUP	L2122042-07	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
DUP	L2122042-07	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
DUP	L2122042-07	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
DUP	L2122042-07	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
DUP	L2122042-07	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	TOLUENE-D8	5/7/2021	95.0	Y	Y						
DUP	L2122042-07	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
DUP	L2122042-07	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	TRICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
DUP	L2122042-07	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
DUP	L2122042-07	TETRACHLOROETHENE	5/7/2021	0.37	Y	Y	J		J	0.50	0.18	ug/l
DUP	L2122042-07	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
DUP	L2122042-07	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
DUP	L2122042-07	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
DUP	L2122042-07	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
DUP	L2122042-07	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
DUP	L2122042-07	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
DUP	L2122042-07	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
DUP	L2122042-07	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
DUP	L2122042-07	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
TB	L2122042-08	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
TB	L2122042-08	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
TB	L2122042-08	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
TB	L2122042-08	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
TB	L2122042-08	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	CHLOROFORM	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
TB	L2122042-08	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
TB	L2122042-08	DIBROMOFLUOROMETHANE	5/7/2021	117	Y	Y						

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2122042-08	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
TB	L2122042-08	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2122042-08	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
TB	L2122042-08	1,2-DICHLOROETHANE-D4	5/7/2021	103	Y	Y						
TB	L2122042-08	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
TB	L2122042-08	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
TB	L2122042-08	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
TB	L2122042-08	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
TB	L2122042-08	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2122042-08	4-BROMOFLUOROBENZENE	5/7/2021	94.0	Y	Y						
TB	L2122042-08	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2122042-08	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2122042-08	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
TB	L2122042-08	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
TB	L2122042-08	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2122042-08	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	TETRACHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
TB	L2122042-08	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	TOLUENE-D8	5/7/2021	96.0	Y	Y						
TB	L2122042-08	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
TB	L2122042-08	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
TB	L2122042-08	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
TB	L2122042-08	TRICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
TB	L2122042-08	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
TB	L2122042-08	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
TB	L2122042-08	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
TB	L2122042-08	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
TB	L2122042-08	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
TB	L2122042-08	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
TB	L2122042-08	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
TB	L2122042-08	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
FB	L2122042-09	ETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	4-METHYL-2-PENTANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2122042-09	CARBON DISULFIDE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
FB	L2122042-09	1,3-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
FB	L2122042-09	1,4-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,4-DIOXANE	5/7/2021		Y	N	U	UJ	UJ	250	61	ug/l
FB	L2122042-09	2,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2122042-09	2-BUTANONE	5/7/2021		Y	N	U		U	5.0	1.9	ug/l
FB	L2122042-09	1,3,5-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	4-BROMOFLUOROBENZENE	5/7/2021	93.0	Y	Y						
FB	L2122042-09	1,2-DICHLOROPROPANE	5/7/2021		Y	N	U		U	1.0	0.14	ug/l
FB	L2122042-09	ACETONE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
FB	L2122042-09	ACRYLONITRILE	5/7/2021		Y	N	U		U	5.0	1.5	ug/l
FB	L2122042-09	BENZENE	5/7/2021		Y	N	U		U	0.50	0.16	ug/l
FB	L2122042-09	BROMOBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	BROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	BROMODICHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.19	ug/l
FB	L2122042-09	BROMOFORM	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
FB	L2122042-09	ISOPROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	2-HEXANONE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2122042-09	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.54	ug/l
FB	L2122042-09	1,1,1,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,1,1-TRICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,1,2,2-TETRACHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
FB	L2122042-09	1,1,2-TRICHLOROETHANE	5/7/2021		Y	N	U		U	1.5	0.50	ug/l
FB	L2122042-09	1,1-DICHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,1-DICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.17	ug/l
FB	L2122042-09	1,1-DICHLOROPROPENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,3-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,2,3-TRICHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	CARBON TETRACHLORIDE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
FB	L2122042-09	1,2,4-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2122042-09	1,2,4-TRIMETHYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,2-DIBROMOETHANE	5/7/2021		Y	N	U		U	2.0	0.65	ug/l
FB	L2122042-09	1,2-DICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,2-DICHLOROETHANE	5/7/2021		Y	N	U		U	0.50	0.13	ug/l
FB	L2122042-09	1,2-DICHLOROETHANE-D4	5/7/2021	105	Y	Y						
FB	L2122042-09	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	1,2,3-TRICHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	P-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	BROMOMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	VINYL CHLORIDE	5/7/2021		Y	N	U		U	1.0	0.07	ug/l
FB	L2122042-09	XYLENE (TOTAL)	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	CIS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	CIS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U		U	0.50	0.14	ug/l
FB	L2122042-09	N-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	N-PROPYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	TRICHLOROFLUOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	O-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	TRICHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
FB	L2122042-09	1,4-DIETHYLBENZENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
FB	L2122042-09	4-ETHYLTOLUENE	5/7/2021		Y	N	U		U	2.0	0.70	ug/l
FB	L2122042-09	P-ISOPROPYLTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	P/M-XYLENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	SEC-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	TERT-BUTYLBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
FB	L2122042-09	TRANS-1,2-DICHLOROETHENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	TRANS-1,3-DICHLOROPROPENE	5/7/2021		Y	N	U	UJ	UJ	0.50	0.16	ug/l
FB	L2122042-09	O-CHLOROTOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	ETHYL ETHER	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	CHLOROBENZENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	CHLOROETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	CHLOROFORM	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	CHLOROMETHANE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	DIBROMOCHLOROMETHANE	5/7/2021		Y	N	U		U	0.50	0.15	ug/l
FB	L2122042-09	DIBROMOFLUOROMETHANE	5/7/2021	122	Y	Y						
FB	L2122042-09	DIBROMOMETHANE	5/7/2021		Y	N	U		U	5.0	1.0	ug/l
FB	L2122042-09	VINYL ACETATE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2122042-09	DICHLORODIFLUOROMETHANE	5/7/2021		Y	N	U	UJ	UJ	5.0	1.0	ug/l
FB	L2122042-09	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	HEXACHLOROBUTADIENE	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2122042-09	METHYL TERT BUTYL ETHER	5/7/2021		Y	N	U	UJ	UJ	2.5	0.70	ug/l
FB	L2122042-09	METHYLENE CHLORIDE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	NAPHTHALENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	STYRENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	TETRACHLOROETHENE	5/7/2021		Y	N	U		U	0.50	0.18	ug/l
FB	L2122042-09	TOLUENE	5/7/2021		Y	N	U		U	2.5	0.70	ug/l
FB	L2122042-09	TOLUENE-D8	5/7/2021	98.0	Y	Y						
WG1496	WG1496280-3	DICHLORODIFLUOROMETHANE	5/7/2021	8.2	N	Y				5	1.0	ug/l
WG1496	WG1496280-3	4-BROMOFLUOROBENZENE	5/7/2021	96	N	Y						
WG1496	WG1496280-3	CARBON DISULFIDE	5/7/2021	10	N	Y				5	1.0	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-3	1,3,5-TRIMETHYLBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,3-DICHLOROBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,3-DICHLOROPROPANE	5/7/2021	8.2	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,4-DICHLOROBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,4-DIOXANE	5/7/2021	520	N	Y				250	61	ug/l
WG1496	WG1496280-3	2,2-DICHLOROPROPANE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,2-DICHLOROETHANE-D4	5/7/2021	89	N	Y						
WG1496	WG1496280-3	2-HEXANONE	5/7/2021	7.6	N	Y				5	1.0	ug/l
WG1496	WG1496280-3	1,2-DICHLOROETHANE	5/7/2021	8.7	N	Y				.5	0.13	ug/l
WG1496	WG1496280-3	4-METHYL-2-PENTANONE	5/7/2021	7.5	N	Y				5	1.0	ug/l
WG1496	WG1496280-3	ACETONE	5/7/2021	9.1	N	Y				5	1.5	ug/l
WG1496	WG1496280-3	ACRYLONITRILE	5/7/2021	8.7	N	Y				5	1.5	ug/l
WG1496	WG1496280-3	BENZENE	5/7/2021	9.3	N	Y				.5	0.16	ug/l
WG1496	WG1496280-3	BROMOCHLOROMETHANE	5/7/2021	11	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	BROMOFORM	5/7/2021	9.8	N	Y				2	0.65	ug/l
WG1496	WG1496280-3	BROMOMETHANE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	2-BUTANONE	5/7/2021	9.0	N	Y				5	1.9	ug/l
WG1496	WG1496280-3	1,2,3-TRICHLOROBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	CHLOROBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,1,1,2-TETRACHLOROETHANE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,1,1-TRICHLOROETHANE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,1,2,2-TETRACHLOROETHANE	5/7/2021	9.1	N	Y				.5	0.17	ug/l
WG1496	WG1496280-3	ETHYLBENZENE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,1,2-TRICHLOROETHANE	5/7/2021	8.6	N	Y				1.5	0.50	ug/l
WG1496	WG1496280-3	1,1-DICHLOROETHANE	5/7/2021	9.3	N	Y				2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-3	1,2-DICHLOROPROPANE	5/7/2021	8.4	N	Y				1	0.14	ug/l
WG1496	WG1496280-3	1,1-DICHLOROPROPENE	5/7/2021	9.2	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	BROMODICHLOROMETHANE	5/7/2021	9.1	N	Y				.5	0.19	ug/l
WG1496	WG1496280-3	1,2,3-TRICHLOROPROPANE	5/7/2021	8.2	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021	9.7	N	Y				2	0.54	ug/l
WG1496	WG1496280-3	1,2,4-TRICHLOROBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,2,4-TRIMETHYLBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021	8.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,2-DIBROMOETHANE	5/7/2021	9.3	N	Y				2	0.65	ug/l
WG1496	WG1496280-3	1,2-DICHLOROBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,1-DICHLOROETHENE	5/7/2021	10	N	Y				.5	0.17	ug/l
WG1496	WG1496280-3	ISOPROPYLBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	TRANS-1,3-DICHLOROPROPENE	5/7/2021	7.7	N	Y				.5	0.16	ug/l
WG1496	WG1496280-3	CARBON TETRACHLORIDE	5/7/2021	10	N	Y				.5	0.13	ug/l
WG1496	WG1496280-3	TOLUENE-D8	5/7/2021	99	N	Y						
WG1496	WG1496280-3	BROMOBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	TETRACHLOROETHENE	5/7/2021	11	N	Y				.5	0.18	ug/l
WG1496	WG1496280-3	STYRENE	5/7/2021	20	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	NAPHTHALENE	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	TRANS-1,2-DICHLOROETHENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	METHYL TERT BUTYL ETHER	5/7/2021	6.5	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021	8.3	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	HEXACHLOROBUTADIENE	5/7/2021	12	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	ETHYL ETHER	5/7/2021	8.5	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	DIBROMOMETHANE	5/7/2021	8.9	N	Y				5	1.0	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-3	DIBROMOFLUOROMETHANE	5/7/2021	101	N	Y						
WG1496	WG1496280-3	DIBROMOCHLOROMETHANE	5/7/2021	9.4	N	Y				.5	0.15	ug/l
WG1496	WG1496280-3	CHLOROMETHANE	5/7/2021	8.9	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	CHLOROFORM	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	CHLOROETHANE	5/7/2021	8.5	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	METHYLENE CHLORIDE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	CIS-1,2-DICHLOROETHENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	VINYL CHLORIDE	5/7/2021	8.6	N	Y				1	0.07	ug/l
WG1496	WG1496280-3	VINYL ACETATE	5/7/2021	10	N	Y				5	1.0	ug/l
WG1496	WG1496280-3	TRICHLOROFLUOROMETHANE	5/7/2021	11	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	TOLUENE	5/7/2021	9.9	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	TRICHLOROETHENE	5/7/2021	9.4	N	Y				.5	0.18	ug/l
WG1496	WG1496280-3	TERT-BUTYLBENZENE	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	CIS-1,3-DICHLOROPROPENE	5/7/2021	8.4	N	Y				.5	0.14	ug/l
WG1496	WG1496280-3	N-BUTYLBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	P/M-XYLENE	5/7/2021	20	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	O-CHLOROTOLUENE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	O-XYLENE	5/7/2021	20	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	P-CHLOROTOLUENE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	1,4-DIETHYLBENZENE	5/7/2021	10	N	Y				2	0.70	ug/l
WG1496	WG1496280-3	4-ETHYLTOLUENE	5/7/2021	10	N	Y				2	0.70	ug/l
WG1496	WG1496280-3	P-ISOPROPYLTOLUENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	N-PROPYLBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-3	SEC-BUTYLBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	P/M-XYLENE	5/7/2021	19	N	Y				2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-4	TERT-BUTYLBENZENE	5/7/2021	9.1	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	TRANS-1,2-DICHLOROETHENE	5/7/2021	9.9	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	TRANS-1,3-DICHLOROPROPENE	5/7/2021	7.6	N	Y				.5	0.16	ug/l
WG1496	WG1496280-4	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021	8.1	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	4-ETHYLTOLUENE	5/7/2021	9.4	N	Y				2	0.70	ug/l
WG1496	WG1496280-4	1,2-DICHLOROBENZENE	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	P-ISOPROPYLTOLUENE	5/7/2021	9.6	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	BROMOFORM	5/7/2021	8.9	N	Y				2	0.65	ug/l
WG1496	WG1496280-4	2-BUTANONE	5/7/2021	7.5	N	Y				5	1.9	ug/l
WG1496	WG1496280-4	2-HEXANONE	5/7/2021	7.5	N	Y				5	1.0	ug/l
WG1496	WG1496280-4	4-BROMOFLUOROBENZENE	5/7/2021	95	N	Y						
WG1496	WG1496280-4	4-METHYL-2-PENTANONE	5/7/2021	7.1	N	Y				5	1.0	ug/l
WG1496	WG1496280-4	ACETONE	5/7/2021	7.0	N	Y				5	1.5	ug/l
WG1496	WG1496280-4	ACRYLONITRILE	5/7/2021	8.5	N	Y				5	1.5	ug/l
WG1496	WG1496280-4	BENZENE	5/7/2021	9.3	N	Y				.5	0.16	ug/l
WG1496	WG1496280-4	BROMOBENZENE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	DIBROMOMETHANE	5/7/2021	8.8	N	Y				5	1.0	ug/l
WG1496	WG1496280-4	BROMODICHLOROMETHANE	5/7/2021	9.0	N	Y				.5	0.19	ug/l
WG1496	WG1496280-4	1,4-DICHLOROBENZENE	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	BROMOMETHANE	5/7/2021	9.6	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	CARBON DISULFIDE	5/7/2021	9.4	N	Y				5	1.0	ug/l
WG1496	WG1496280-4	CARBON TETRACHLORIDE	5/7/2021	9.8	N	Y				.5	0.13	ug/l
WG1496	WG1496280-4	CHLOROBENZENE	5/7/2021	9.4	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	CHLOROETHANE	5/7/2021	7.6	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	CHLOROFORM	5/7/2021	9.3	N	Y				2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-4	CHLOROMETHANE	5/7/2021	8.0	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	DIBROMOCHLOROMETHANE	5/7/2021	9.3	N	Y				.5	0.15	ug/l
WG1496	WG1496280-4	SEC-BUTYLBENZENE	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	BROMOCHLOROMETHANE	5/7/2021	11	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,1-DICHLOROETHANE	5/7/2021	8.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,2-DICHLOROETHANE	5/7/2021	8.3	N	Y				.5	0.13	ug/l
WG1496	WG1496280-4	1,2-DICHLOROETHANE-D4	5/7/2021	91	N	Y						
WG1496	WG1496280-4	1,2-DIBROMOETHANE	5/7/2021	9.0	N	Y				2	0.65	ug/l
WG1496	WG1496280-4	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021	8.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,2,4-TRIMETHYLBENZENE	5/7/2021	9.6	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,2,4-TRICHLOROBENZENE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021	9.1	N	Y				2	0.54	ug/l
WG1496	WG1496280-4	1,2,3-TRICHLOROPROPANE	5/7/2021	8.2	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,2,3-TRICHLOROBENZENE	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	2,2-DICHLOROPROPANE	5/7/2021	10	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,1-DICHLOROETHENE	5/7/2021	9.8	N	Y				.5	0.17	ug/l
WG1496	WG1496280-4	1,4-DIOXANE	5/7/2021	500	N	Y				250	61	ug/l
WG1496	WG1496280-4	1,1,2-TRICHLOROETHANE	5/7/2021	8.5	N	Y				1.5	0.50	ug/l
WG1496	WG1496280-4	1,1,2,2-TETRACHLOROETHANE	5/7/2021	8.8	N	Y				.5	0.17	ug/l
WG1496	WG1496280-4	1,1,1-TRICHLOROETHANE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,1,1,2-TETRACHLOROETHANE	5/7/2021	8.9	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,2-DICHLOROPROPANE	5/7/2021	8.5	N	Y				1	0.14	ug/l
WG1496	WG1496280-4	1,3,5-TRIMETHYLBENZENE	5/7/2021	9.5	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,3-DICHLOROBENZENE	5/7/2021	9.8	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,3-DICHLOROPROPANE	5/7/2021	8.1	N	Y				2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-4	DICHLORODIFLUOROMETHANE	5/7/2021	7.4	N	Y				5	1.0	ug/l
WG1496	WG1496280-4	1,1-DICHLOROPROPENE	5/7/2021	8.9	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	VINYL ACETATE	5/7/2021	10	N	Y				5	1.0	ug/l
WG1496	WG1496280-4	CIS-1,2-DICHLOROETHENE	5/7/2021	9.9	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	CIS-1,3-DICHLOROPROPENE	5/7/2021	8.9	N	Y				.5	0.14	ug/l
WG1496	WG1496280-4	DIBROMOFLUOROMETHANE	5/7/2021	104	N	Y						
WG1496	WG1496280-4	N-BUTYLBENZENE	5/7/2021	9.5	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	1,4-DIETHYLBENZENE	5/7/2021	9.4	N	Y				2	0.70	ug/l
WG1496	WG1496280-4	N-PROPYLBENZENE	5/7/2021	9.3	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	O-CHLOROTOLUENE	5/7/2021	9.2	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	O-XYLENE	5/7/2021	19	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	VINYL CHLORIDE	5/7/2021	7.6	N	Y				1	0.07	ug/l
WG1496	WG1496280-4	TRICHLOROFLUOROMETHANE	5/7/2021	9.9	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	TRICHLOROETHENE	5/7/2021	9.6	N	Y				.5	0.18	ug/l
WG1496	WG1496280-4	METHYLENE CHLORIDE	5/7/2021	9.4	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	ETHYL ETHER	5/7/2021	8.2	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	ETHYLBENZENE	5/7/2021	9.3	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	HEXACHLOROBUTADIENE	5/7/2021	11	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	P-CHLOROTOLUENE	5/7/2021	9.2	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	METHYL TERT BUTYL ETHER	5/7/2021	8.0	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	TOLUENE-D8	5/7/2021	98	N	Y						
WG1496	WG1496280-4	NAPHTHALENE	5/7/2021	9.5	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	STYRENE	5/7/2021	19	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-4	TETRACHLOROETHENE	5/7/2021	10	N	Y				.5	0.18	ug/l
WG1496	WG1496280-4	TOLUENE	5/7/2021	9.2	N	Y				2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-4	ISOPROPYLBENZENE	5/7/2021	9.7	N	Y				2.5	0.70	ug/l
WG1496	WG1496280-5	1,3-DICHLOROPROPENE, TOTAL	5/7/2021		N	N	U		U	0.50	0.14	ug/l
WG1496	WG1496280-5	P/M-XYLENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	CIS-1,2-DICHLOROETHENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	TRANS-1,3-DICHLOROPROPENE	5/7/2021		N	N	U		U	0.50	0.16	ug/l
WG1496	WG1496280-5	TRANS-1,2-DICHLOROETHENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	TERT-BUTYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	SEC-BUTYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	P-ISOPROPYLTOLUENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	4-ETHYLTOLUENE	5/7/2021		N	N	U		U	2.0	0.70	ug/l
WG1496	WG1496280-5	1,4-DIETHYLBENZENE	5/7/2021		N	N	U		U	2.0	0.70	ug/l
WG1496	WG1496280-5	P-CHLOROTOLUENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	O-XYLENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	O-CHLOROTOLUENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	N-PROPYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	CIS-1,3-DICHLOROPROPENE	5/7/2021		N	N	U		U	0.50	0.14	ug/l
WG1496	WG1496280-5	XYLENE (TOTAL)	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	VINYL CHLORIDE	5/7/2021		N	N	U		U	1.0	0.07	ug/l
WG1496	WG1496280-5	VINYL ACETATE	5/7/2021		N	N	U		U	5.0	1.0	ug/l
WG1496	WG1496280-5	TRICHLOROFLUOROMETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	TRANS-1,4-DICHLORO-2-BUTENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	N-BUTYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,2-DIBROMO-3-CHLOROPROPANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	4-BROMOFLUOROBENZENE	5/7/2021	95.0	N	Y						
WG1496	WG1496280-5	2-HEXANONE	5/7/2021		N	N	U		U	5.0	1.0	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-5	2-BUTANONE	5/7/2021		N	N	U		U	5.0	1.9	ug/l
WG1496	WG1496280-5	2,2-DICHLOROPROPANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,4-DICHLOROBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,3-DICHLOROPROPANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,3-DICHLOROBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,3,5-TRIMETHYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,2-DICHLOROPROPANE	5/7/2021		N	N	U		U	1.0	0.14	ug/l
WG1496	WG1496280-5	1,2-DICHLOROETHENE (TOTAL)	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,2-DICHLOROETHANE-D4	5/7/2021	94.0	N	Y						
WG1496	WG1496280-5	1,2-DICHLOROETHANE	5/7/2021		N	N	U		U	0.50	0.13	ug/l
WG1496	WG1496280-5	1,4-DIOXANE	5/7/2021		N	N	U		U	250	61	ug/l
WG1496	WG1496280-5	1,2-DIBROMOETHANE	5/7/2021		N	N	U		U	2.0	0.65	ug/l
WG1496	WG1496280-5	ACRYLONITRILE	5/7/2021		N	N	U		U	5.0	1.5	ug/l
WG1496	WG1496280-5	1,2,4-TRIMETHYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,2,4-TRICHLOROBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,2,4,5-TETRAMETHYLBENZENE	5/7/2021		N	N	U		U	2.0	0.54	ug/l
WG1496	WG1496280-5	1,2,3-TRICHLOROPROPANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,2,3-TRICHLOROBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,1-DICHLOROPROPENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,1-DICHLOROETHENE	5/7/2021		N	N	U		U	0.50	0.17	ug/l
WG1496	WG1496280-5	1,1-DICHLOROETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,1,2-TRICHLOROETHANE	5/7/2021		N	N	U		U	1.5	0.50	ug/l
WG1496	WG1496280-5	1,1,2,2-TETRACHLOROETHANE	5/7/2021		N	N	U		U	0.50	0.17	ug/l
WG1496	WG1496280-5	1,1,1-TRICHLOROETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	1,1,1,2-TETRACHLOROETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-5	1,2-DICHLOROBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	DIBROMOCHLOROMETHANE	5/7/2021		N	N	U		U	0.50	0.15	ug/l
WG1496	WG1496280-5	TOLUENE-D8	5/7/2021	97.0	N	Y						
WG1496	WG1496280-5	TOLUENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	TETRACHLOROETHENE	5/7/2021		N	N	U		U	0.50	0.18	ug/l
WG1496	WG1496280-5	STYRENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	NAPHTHALENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	METHYLENE CHLORIDE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	METHYL TERT BUTYL ETHER	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	ISOPROPYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	HEXACHLOROBUTADIENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	ETHYLBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	ETHYL ETHER	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	DICHLORODIFLUOROMETHANE	5/7/2021		N	N	U		U	5.0	1.0	ug/l
WG1496	WG1496280-5	4-METHYL-2-PENTANONE	5/7/2021		N	N	U		U	5.0	1.0	ug/l
WG1496	WG1496280-5	DIBROMOFLUOROMETHANE	5/7/2021	109	N	Y						
WG1496	WG1496280-5	ACETONE	5/7/2021		N	N	U		U	5.0	1.5	ug/l
WG1496	WG1496280-5	CHLOROMETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	CHLOROFORM	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	CHLOROETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	CHLOROBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	CARBON TETRACHLORIDE	5/7/2021		N	N	U		U	0.50	0.13	ug/l
WG1496	WG1496280-5	CARBON DISULFIDE	5/7/2021		N	N	U		U	5.0	1.0	ug/l
WG1496	WG1496280-5	BROMOMETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	BROMOFORM	5/7/2021		N	N	U		U	2.0	0.65	ug/l

SDG: L2122042

Analytical Method SW8260C

Sample ID	Lab Sample ID	Chemical Name	Anal Date	Result	Validated	Detect	Lab Qual	Val Qual	Final qual	RL	MDL	Units
WG1496	WG1496280-5	BROMODICHLOROMETHANE	5/7/2021		N	N	U		U	0.50	0.19	ug/l
WG1496	WG1496280-5	BROMOCHLOROMETHANE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	BROMOBENZENE	5/7/2021		N	N	U		U	2.5	0.70	ug/l
WG1496	WG1496280-5	BENZENE	5/7/2021		N	N	U		U	0.50	0.16	ug/l
WG1496	WG1496280-5	TRICHLOROETHENE	5/7/2021		N	N	U		U	0.50	0.18	ug/l
WG1496	WG1496280-5	DIBROMOMETHANE	5/7/2021		N	N	U		U	5.0	1.0	ug/l