



2022 Annual Monitoring Report

**New Richmond Closed Landfill
1935 115th Street
New Richmond, Wisconsin**

Michael Best & Friedrich LLP

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1. Introduction

GHD Services Inc. (GHD) has prepared this Annual Monitoring Report (Report) for the New Richmond Landfill (WDNR License #2492) in New Richmond, Wisconsin, on behalf of the New Richmond Landfill Settling Potential Responsible Parties (PRPs). This Report presents the results of the Soil Vapor Extraction (SVE)/Landfill Gas (LFG) extraction system and groundwater monitoring activities associated with Operable Unit 1 (OU1) – source remedy and Operable Unit 2 Aquifer Restoration (OU2 AR), respectively at the Site from January 2022 through December 2022 as required by the Operation, Maintenance, and Monitoring Plan.

1.1 History

The New Richmond Landfill (Site) is located at 1935 115th Street, at the southeast corner of the intersection of 115th Street and 195th Avenue, approximately two miles northwest of the City of New Richmond (Figure 1.1). The property for the landfill was purchased by the City of New Richmond from St. Croix County in November 1975 and licensed on October 1, 1976. The landfill was constructed, operated, and closed by the City in accordance with the Wisconsin Department of Natural Resources (WDNR) regulations. The landfill ceased collection of waste by August 1, 1982. Approximately 163,000 cubic yards (CY) of waste were disposed of at the Site in an area approximately 7.6 acres in size.

During groundwater monitoring of Site monitoring wells in 1999, several volatile organic compounds (VOCs) were detected at concentrations exceeding State of Wisconsin ch. NR 140 Enforcement Standards. Residential well monitoring was conducted at residences down gradient of the Site in 2000, revealing chlorinated VOCs at concentrations exceeding enforcement standards. Activated carbon systems were subsequently installed at eleven residences.

A Remedial Investigation (RI) was performed between August 2003 and April 2006 by Short Elliott Hendrickson, Inc. (SEH) that included excavation of test pits, collection of surface water and sediment samples, installation of 21 monitoring wells, collection of groundwater samples from new and existing monitoring wells, installation of 15 landfill gas probes and the completion of a landfill gas extraction pilot test.

SEH completed a Feasibility Study (FS) in October 2006 outlining the remediation alternatives. Final approval of the FS Report and the Final Remedy Plan was provided by the WDNR in a letter dated September 7, 2007. The selected remedy for OU 1 was OU 1 C which included upgrading the landfill cover to be in compliance with the landfill closure plan, installing and operating a soil vapor extraction (SVE) system below the waste, and installing and operating a landfill gas extraction (LFG) system within the waste.

The selected remedy for OU 2 had two components, aquifer restoration and water supply. The selected aquifer restoration remedy is OU 2 AR B which involves monitored natural attenuation (MNA). The water supply portion of the remedy was addressed separately. The current groundwater monitoring well and residential well locations are shown on the Site Plan (Figure 1.2).

The SVE/LFG system installation and cap upgrade was completed in 2008. The primary purpose of the SVE/LFG system is to reduce the VOCs present in the landfill and the vadose zone below the landfill, thereby reducing the VOCs available to migrate to the groundwater. The SVE/LFG monitoring locations are shown on Figure 1.3.

1.2 Site Geology

The Site is underlain with glacial deposits consisting of sand and gravel with admixtures of silt and clay of the St. Croix moraine. Alluvial deposits consisting of sand and gravel occur in the Apple River Valley west of the Site.

The upper most bedrock underlying the site is the Prairie du Chien group (OPDC) of dolomites and sandy dolomites. The OPDC consists of from youngest to oldest, the Shakopee Formation, New Richmond sandstone and Oneota

Formation. The Shakopee Formation is characterized by dolomite with karst features and is composed of two members, the Willow River Member, and the New Richmond Member. The Willow River Member overlies the New Richmond Member and consists of gray to brown, medium grained, thin bedded dolomite. The New Richmond Member is a thin (6.5 to 16.5 feet thick) brown to gray, fine grained, dolomitic sandstone and siltstone. Sand and some clay infillings are common in the karst features found in the Shakopee Formation. The unit is not saturated at the Site.

The New Richmond sandstone occurs between the Shakopee and Oneota Formation. The New Richmond sandstone is approximately 20 feet thick in the New Richmond area.

The Oneota Formation forms the basal part of the OPDC and consists of gray thick bedded, crystalline dolomite with chert and oolite beds. The dolomite is generally massive and contains vertical and horizontal fractures.

The thickness of the OPDC at the Site ranges from approximately 50 to 55 feet, and is much thinner than what is reported in the City of New Richmond municipal wells (217 feet thick). The top of the OPDC is an erosional surface, attributing to the variable thickness in the area.

The Jordan sandstone underlies the OPDC and is the primary bedrock aquifer in this area of St. Croix County. The Jordan Formation is a weak to moderately cemented, tan to whitish colored, fine to coarse grained sandstone, with some thin beds of dolomite and shale laminae approximately 90 feet in thickness.

The depth to groundwater at the Site ranges from approximately 100 to 150 ft bgs. The water table is located near the contact of the OPDC Jordan aquifer. The groundwater flows in a northwesterly direction toward the Apple River.

1.3 Objectives

The objectives of the OU1 source remedy monitoring program, which focuses on the landfill cap and the SVE/LFG system, is to ensure ongoing protection of human health and the environment by monitoring potential migration pathways. The OU1 remedy is intended to prohibit infiltration into the landfill, reduce leachate generation, prevent off Site migration of combustible landfill gases and reduce the VOC mass within the waste, and reduce the VOC mass within the soil below the waste and above the water table in order to minimize VOCs leaching into the groundwater.

The scope of the OU1 source remedy monitoring program includes:

- Monitoring combustible gas percentage, oxygen percentage, well vacuum, flow rate and total VOC concentration as measured by a flame ionization detector (FID) at SVE wells.
- Monitoring combustible gas percentage, oxygen percentage, temperature, well vacuum, flow rate and total VOC concentration as measured by a FID at LFG wells.
- Monitoring combustible gas percentage, oxygen percentage, temperature, system pressure, flow rate and total VOC concentration as measured by a FID at the blower discharge.
- VOC monitoring by collecting summa canisters for laboratory analysis by EPA method TO-15 at select SVE wells and the blower discharge.
- Monitoring combustible gas percentage, oxygen percentage, and well vacuum at gas probes.

The objective of the OU2-AR, aquifer restoration, is to determine the effectiveness and protectiveness of the selected remedy for groundwater, MNA.

The scope of OU2-AR program includes:

- Monitoring flow direction and hydraulic gradient through the measurement and assessment of groundwater levels.
- Monitoring the natural attenuation of the plume through collection and chemical analysis of groundwater samples from monitoring wells.
- Monitoring long term improvement in groundwater quality through the collection and chemical analysis of groundwater samples from monitoring wells.
- Monitoring compliance with groundwater cleanup standards for the Site. The groundwater cleanup standards are State of Wisconsin ch. NR 140 Enforcement Standards.

- Monitoring potential impact on residential wells through collection and chemical analysis of water samples from targeted residential wells.

The OU1 and OU2 monitoring are conducted in accordance with the Operation, Maintenance and Monitoring (OM&M) Plan (April 2008) and subsequent revisions.

2. Groundwater Monitoring

Groundwater monitoring, including water level measurements and water sampling, was conducted in May 2022 and November 2022 according to the procedures in the Operation, Maintenance, and Monitoring Plan and associated revision in 2013. Groundwater monitoring was conducted using the monitoring well network of 34 wells and selected residential wells.

The results from the May 2022 residential sampling round were submitted to the WDNR on August 16, 2022.

2.1 Water Level Monitoring

Table 2.1 presents the groundwater elevation data collected from November 2022 sampling round. Water table contours based on the November 2022 measurements are presented on Figure 2.1. Water table contours from the 2022 measurements are similar to the historical water table contours. Historical groundwater elevations are presented in Appendix A.

Figure 2.1 shows that groundwater flows northwesterly toward the Apple River, consistent with historical groundwater elevation measurements collected since 2003. As the groundwater flows towards the Apple River, it encounters a geologic change as it goes from the OPDC at the landfill to unconsolidated alluvial sediments. The geologic change does not affect the groundwater flow pattern and only slightly diminishes the horizontal hydraulic gradient.

2.2 Groundwater Sampling

Samples from two residential wells were collected in May 2022 according to the Operation, Maintenance, and Monitoring Plan. A sample was not collected from the third location due to access restrictions.

The annual round of groundwater sampling was conducted in November 2022. Groundwater samples were analyzed for VOCs by EPA method 8260. A monitoring well sampling summary is presented in Table 2.2.

Groundwater sampling and analysis was conducted according to the Quality Assurance Project Plan (QAPP). All samples were shipped to Eurofins Laboratories in University Park, Illinois for analysis. Copies of data quality validation memoranda and Laboratory Reports are included in Appendix B.

3. Results/Evaluation

The objectives of groundwater sampling at the New Richmond Landfill are to monitor for natural attenuation in the contaminant plume and the long-term improvement in groundwater quality. Samples from all events were analyzed for VOCs to monitor the long-term improvement in the aquifer.

Table 3.1 presents laboratory results for VOCs that have exceeded a Wisconsin Preventative Action Limit (PAL) from the sampling events discussed in this report. None of the results listed in Table 3.1 exceed the WDNR enforcement standards. Appendix C presents the historical VOC results for monitoring wells for all parameters since monitoring began in 1999. Appendix D presents the historical residential well sampling results.

3.1 Monitoring Well Results and Evaluation

The primary VOCs found in the groundwater, based on concentration, are 1,1,1-trichloroethane (1,1,1-TCA) and its degradation product 1,1-dichloroethane (1,1-DCA); however, neither of these VOCs exceeded the Wisconsin Enforcement Standards (ES) of 200 µg/L and 850 µg/L, respectively. The highest concentrations of 1,1,1-TCA was found at MW-18 with a concentration of 14 µg/L and the highest concentrations of 1,1-DCA was found at MW-1 with a concentration of 10 µg/L. Figure 3.1 presents the 1,1,1-TCA concentrations at each well for the November 2022 sampling event.

None of the wells sampled in either sampling round had an exceedance of the ES. Table 3.2 presents the laboratory results for 1,1,1-TCA, tetrachloroethene, and detected VOCs for the wells within the contaminant plume.

Since the SVE system started up in September 2008, there have been thirty groundwater monitoring events. The SVE system has removed approximately 1,386 pounds of VOCs from the vadose zone through the end of 2022. The laboratory results for the monitoring well closest to the landfill (MW-2R), shows that the VOCs removed by the SVE system have caused reduced concentrations in the groundwater. For instance, at MW-2R, the concentrations of 1,1,1-TCA and 1,1-dichloroethene (1,1-DCE) are significantly lower since the system started up. At wells farther from the landfill, the VOC concentrations have also started to decline since the SVE system began operation. Figures 3.2 through 3.7 show the 1,1-DCE, 1,1,1-TCA, and tetrachloroethene concentrations at the wells located inside of the groundwater plume. Figures 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 show downward trends in the sample results from the wells farther from the landfill.

The first detection of VOCs at 2055 County Road C (old Thommes well) (approximately 7,000 feet down gradient) was in 2004. Thommes was provided with a new water supply well in 2009 and the old well was converted to a monitoring well. Starting in 2014, the old residential well on Thommes property was renamed MW-18. Figure 3.7 shows the sample results for 1,1,1-TCA and 1,1-DCE in MW-18 from October 2007 to November 2022.

As shown on Figure 3.7, the chemical concentrations in MW-18 had been increasing since sampling started in 2007. The highest concentration of 1,1,1-TCA was recorded in May of 2015. Since then, the concentration of 1,1,1-TCA is significantly less. MW-18 is the farthest well from the landfill and is located on the down gradient edge of the groundwater plume. Since MW-18 is the farthest well from the SVE system and given the slow rate of groundwater movement, it has taken several years to show any improvement.

3.2 Residential Well Results

GHD collected samples in May 2022 from 2055 County Road C and 2056 County Road C. An additional sample was collected from 2055 County Road C in November 2022. 2056 County Road C had no landfill related VOC detections while the 2055 County Road C sample had a concentration of 1,1-DCE at 0.48 J µg/L in May and 0.80 J µg/L in November. GHD did not collect samples at 1070 192nd Ave because of access issues. The ES for 1,1-DCE is 7 µg/L and the PAL for 1,1-DCE is 0.7 µg/L. The November 1,1-DCE concentration at 2055 County Road C is above the PAL but below the ES.

At the request of the homeowner, the PRPs paid to have a carbon filter treatment system installed at 2055 County Road C in the spring of 2019. The system was installed to improve the quality of drinking water and to remove any VOCs. Pre-filter and post filter samples were collected during both the May and November 2019 sampling events. Minor VOC reductions were observed in the May 2019 post filter sample. After some equipment issues were fixed in the treatment system, the post filter sample from November 2019 had no VOC detections.

As discussed further in Section 2.0, the sampling frequency was recently increased to semi-annual at 2055 County Road C. The residential wells located at 2056 County Road C and 1070 192nd Ave will continue to be sampled annually.

4. Landfill Gas and Soil Vapor Extraction System Operation, Maintenance and Monitoring

The following sections detail the OM&M performed for the LFG and SVE system installed at the Site during 2022 (January 1 through December 31, 2022).

On October 21, 2015, the WDNR conditionally approved the SVE/LFG modifications recommended in the 2014 Annual Monitoring Report. The approved modifications are summarized below:

- Operate only select SVE wells (SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14) (at reduced flow rates) which are monitored on a monthly basis. All other SVE wells will be monitored semi-annually (April and October) and will be included in the operational schedule of the system if concentrations become elevated. Extraction from LFG wells will be modified to focus extraction in the vicinity of the GP-2 nest (LFG-4, LFG-6, and LFG-8). Gas probes were monitored monthly for a minimum of 3 months to verify that landfill gas migration was being controlled, and returned to quarterly thereafter, with the possibility for monthly monitoring of select probes.
- Change operation of the LFG/SVE system from continuous (24-hours per day) to operation during off-peak hours (5:00 p.m. to 9:00 a.m.).

Results of 2022 post modification monitoring events are discussed in the sections below.

4.1 LFG/SVE System Operational Summary

Routine inspections of the LFG/SVE system were performed monthly in accordance with the OM&M Plan for the Site. Table 4.1 provides select field monitoring data for the system during 2022. Field monitoring data presented includes combustible gas percentage, oxygen percentage, pressure, temperature, flow rate, and concentration of VOCs as measured using a FID. Select field monitoring data for the system discharge since system start up is presented in Appendix E.1. Figure 1.3 displays a Site plan showing the location of the blower building and the individual SVE wells, LFG wells, and gas probes.

During 2022, it was noted that the LFG/SVE system continued to achieve the desired results, including removal of VOCs in the sub landfill soils via the SVE system, and control of landfill gas migration via the LFG system. Details of the system operation will be discussed in the sections below.

During 2022 the LFG/SVE system experienced five (5) unscheduled shutdowns. Details of the shutdowns are provided in Appendix F. The LFG/SVE system was operational for 4,455 out of 5,840 hours (76 percent) during 2022 (based on the part-time system operation).

4.2 SVE System Well Field Measurements

SVE well measurements at the Site were taken using a Landtec GEM-500 gas extraction monitor and a Photovac Micro-FID. Measurements recorded at each well included combustible gas percentage, oxygen percentage, header pressure, flow rate, and VOC concentrations. Flow rate adjustments were made at the SVE wells throughout the reporting period to maintain system target flow rates.

Monitoring of select SVE wells (SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14) was completed monthly during the reporting period. Semiannual monitoring of all Site SVE wells was completed in April and October. Table 4.1 provides select field monitoring data for the SVE wells during 2021. SVE well data collected since system start-up is presented in Appendix E.2. Additionally, Figure 4.1 presents a Site plan with the maximum VOC concentration by FID and flow rate range observed for the individual SVE wells while they were operating during 2022.

Combustible gas was only detected three times (SVE-8: 1.0% in April, and SVE-11: 1.5% in April and 0.7% in October) in any of the semi-annual monitored SVE wells (SVE-1, SVE-2, SVE-3, SVE-5, SVE-8, SVE-9, SVE-10, SVE-11, SVE-15, SVE-16, SVE-17, SVE-18, SVE-19). Combustible gas was not detected in any of the monthly monitored SVE wells.

A flow rate was unable to be obtained at each of the monthly monitored SVE wells during at least one of the monitoring events. Each, however, produced measurable flow at least one time during the reporting period.

GHD will continue to perform necessary repairs and maintenance work to ensure adequate capture of VOCs throughout the extraction system, including maintenance or cleaning of well components. Routine cleaning and maintenance of SVE well components are scheduled for the spring of 2023.

4.3 LFG System Well Field Measurements

LFG well measurements at the Site were taken using a Landtec GEM-500 gas extraction monitor and a Photovac Micro-FID. Measurements recorded at each well included combustible gas percentage, oxygen percentage, header pressure, temperature, flow rate, and VOC concentrations. Flow rate adjustments were made at the LFG wells as necessary throughout the 2022 reporting period to maintain system design flow rates.

Monitoring of the LFG wells was completed monthly during the reporting period. Table 4.1 provides select field monitoring data for the LFG wells during 2022. LFG well data collected since system start-up is presented in Appendix E.3. Additionally, Figure 4.1 presents a Site plan with the maximum VOC concentration by FID and flow rate range observed for the individual LFG wells during 2022.

During 2022, the LFG system was noted to be operating as designed and controlling landfill gas. Combustible gas was detected in at least one LFG well during each monitoring event in 2022. Well LFG-8 had the highest concentration of combustible gas (11.3 percent) detected in 2022 during the December 2022 monitoring event. The month of December 2022 had the most LFG wells (8) with combustible gas detected (all wells except LFG-9). The months of May and June 2022 had the least LFG wells (1) with combustible gas detected (only LFG-8).

4.4 Gas Probe Measurements

Monitoring of Site gas probes occurred quarterly during the reporting period. Measurements recorded during gas probe monitoring include combustible gas percentage, oxygen percentage, and pressure. Gas probes were purged before final measurements were taken.

Combustible gas was not detected in any gas probe during the 2022 monitoring events. All seventeen (17) gas probes were noted to be under vacuum influence from the landfill at least once during 2022, verifying that soil gas is being drawn towards the landfill by the LFG/SVE system. Table 4.1 provides select field monitoring data for the gas probes during 2022. Gas probe data collected since system start-up is presented in Appendix E.4.

4.5 Condensate Management

Condensate generation at the Site has generally been observed to occur when the gas temperature drops below approximately 50-degrees Fahrenheit. During times of condensate generation, condensate is pumped from the blower building knock-out vessel to condensate storage tanks within the blower building. As the tanks near capacity, condensate is pumped from the tanks and transported to the City of New Richmond wastewater treatment facility (WWTF) by Mondors, Inc.

Condensate removal was performed three times during 2022 with approximately 1,275 gallons of condensate disposed of at the City of New Richmond WWTF. A graph showing the volume of condensate disposed each month over the past two years is presented in Figure 4.2.

4.6 VOC (TO-15) Monitoring

On January 7, 2014, during a meeting with Patrick Collins of the WDNR, GHD proposed reducing the monitoring frequency of VOCs (by EPA method TO-15) at select SVE wells from semi-annual to annual. The request was approved. VOC monitoring at the LFG/SVE system blower continued to be performed on a semiannually basis.

4.6.1 Blower Discharge Monitoring

Semiannual monitoring of the blower discharge was performed in April and October 2022. The discharge samples were collected via summa canister and shipped to Eurofins Laboratories for analysis by EPA method TO-15. Results of the TO-15 sample analyses from system startup through the October 27, 2022 sampling event are included in Table 4.2. As seen in Table 4.2, the concentration of VOCs detected in the blower discharge has decreased significantly since system startup in September 2008. Figure 4.3 displays concentrations over time for several chlorinated solvents 1,1,1-TCA, 1,1-DCA, 1,1-DCE, cis-1,2-dichloroethene, chloroethane, tetrachloroethene, trichloroethene (TCE), and vinyl chloride (VC,) since system startup. As shown on Figure 4.3, VOCs held steady throughout 2022, and were in the same range as the previous three years of results.

Blower discharge mass loading calculations were performed for 2022 using the April 28, 2022 sample results and maximum flow rate recorded during 2022. Blower mass loading calculations are presented in Table 4.3 for the April 28, 2022 monitoring event. As can be seen in Table 4.3, the blower discharge continues to remain well under WDNR emission thresholds (WDNR NR 445.07), hence, no off-gas treatment is required.

In addition, the total VOC mass removal since system startup is displayed in Table 4.4. Approximately 1,386 pounds of VOCs have been removed from the landfill and the underlying soil. Of the total VOCs removed, approximately 340 pounds have been in the form of 1,1,1-TCA, approximately 278 pounds have been in the form of 1,1-DCA, approximately 40.8 pounds have been in the form of 1,1-DCE, and approximately 52.9 pounds have been in the form of tetrachloroethene as shown on Tables 4.5, 4.6, 4.7, and 4.8 respectively. Figure 4.4 presents the cumulative totals of Total VOCs, 1,1,-TCA, 1,1-DCA, 1,1-DCE, and tetrachloroethene removed since system startup.

Since system startup the total concentration of VOCs has decreased from approximately 200,000 $\mu\text{g}/\text{m}^3$ in September 2008 to approximately 785 $\mu\text{g}/\text{m}^3$ in October 2022.

4.6.2 Select SVE Well Monitoring

Annual monitoring of select SVE wells was performed on October 27, 2022. During the October 2022 monitoring round SVE wells SVE-4, SVE-6, SVE-7, SVE-12 and SVE-14 were monitored in order to further evaluate the distribution of VOCs in the soils underlying the landfill. The samples were collected via summa canister and shipped to Eurofins Laboratories for analysis by EPA method TO-15. Results of the TO-15 sample analyses from system startup through the October 2022 sampling event are included in Table 4.2. As shown in Table 4.2, the VOC levels at the individual SVE wells have shown significant reductions since system start-up and are at very low levels at the majority of the wells.

Figures 4.5 through 4.16 display 1,1,1-TCA concentrations since system start-up for wells SVE-2, SVE-3, SVE-4, SVE-5, SVE-6, SVE-7, SVE-8, SVE-10, SVE-12, SVE-14, SVE-15, and SVE-16, respectively. As shown on Figures 4.5 through 4.16, 1,1,1-TCA concentrations at individual SVE wells are very low in comparison to pre-start-up levels, and concentrations have generally continued to decrease. Based on the graphical results, continued operation of the system yields a much lower percentage of VOCs in the extracted vapors as time goes on.

4.7 Additional O&M Activities Conducted and Upcoming O&M Activities

A summary of additional operation and maintenance activities conducted and miscellaneous observations made at the Site are as follows:

- Pumped accumulated water out of well field vaults
- Replaced condensate peristaltic pump
- Performed quarterly system maintenance including greasing the motor and blower bearings

Upcoming O&M activities are as follows:

- Routine cleaning of SVE well pitot tubes.

5. Conclusions

Based on the 2022 sampling activities, the following conclusions are made:

- The groundwater flows northwesterly towards the Apple River, consistent with historical findings.
- 1,1,1-Trichloroethane and 1,1-dichloroethane are the primary groundwater contaminants based on highest concentration. These VOCs do not exceed the Wisconsin ch. NR 140 ESs but are highlighted because they illustrate the VOC plume.
- 1,1-Dichloroethene has not exceeded the Wisconsin ch. NR 140 ES (7 µg/L) at any of the wells since 2012.
- Tetrachloroethene has not exceeded the Wisconsin ch. NR 140 ES (5 µg/L) in any of the wells since 2016.
- VOC concentrations at most monitoring wells are declining as a result of the SVE remedy and natural attenuation. VOC concentrations in MW-18 are fluctuating.
- Landfill associated VOCs were not detected in one of the two residential wells sampled. 1,1-Dichloroethene and 1,1-Dichloroethane were detected in one residential well (2055 County Road C) with 1,1-DCE being above the Wisconsin ch. NR 140 PAL but below the Wisconsin ch. NR 140 ES.
- The recently installed carbon filter system removes all VOC detections from the residential well water at 2055 County Road C.
- The SVE/LFG system continues to remove VOCs from the landfill and underlying soils.
- During gas probe monitoring in 2022 there were no detections of methane at site gas probes.
- During gas probe monitoring in 2022 all gas probes were found to be under vacuum during at least one monitoring event.

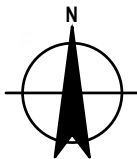
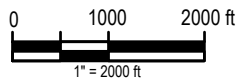
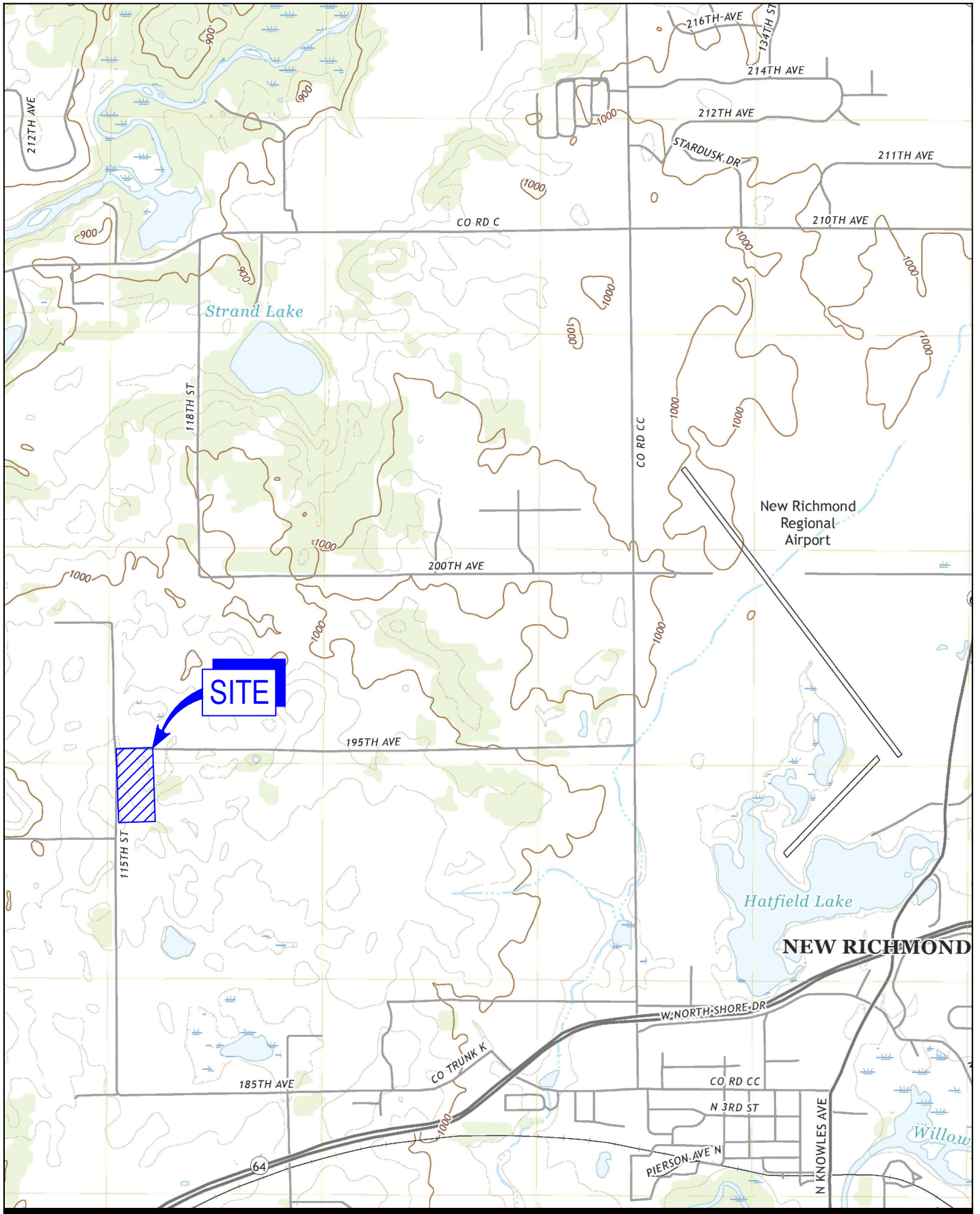
6. Recommendations

Based on the conclusions stated above, GHD recommends the following:

- Continue with semiannual sampling of 2055 County Road C (Thommes) and annual sampling of 2056 County Road C (TNT Metals).
- Remove 1070 192nd Avenue from the sampling plan. Landfill associated VOCs have never been detected at this address.
- Reduce the amount and frequency of monitoring wells sampled at the Site. A separate letter will be sent to the WDNR detailing the proposed modifications to the Sampling Plan. The letter will detail the rationale behind the proposed modifications.
- Continue reduced operation of the LFG/SVE system as approved by the WDNR on October 21, 2015. This includes operation during off-peak hours (5:00 p.m. to 9:00 a.m.) and operating only select SVE wells (SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14). Also continue focused extraction from LFG wells in the vicinity of the GP-2 nest (LFG-4, LFG-6, and LFG-8).

- Continue semi-annual monitoring (April and October) of all SVE wells and “turn on” these wells on an as needed basis as discussed in the 2014 Annual Monitoring Report (CRA, May 2015) and approved by the WDNR on October 21, 2015.

Figures

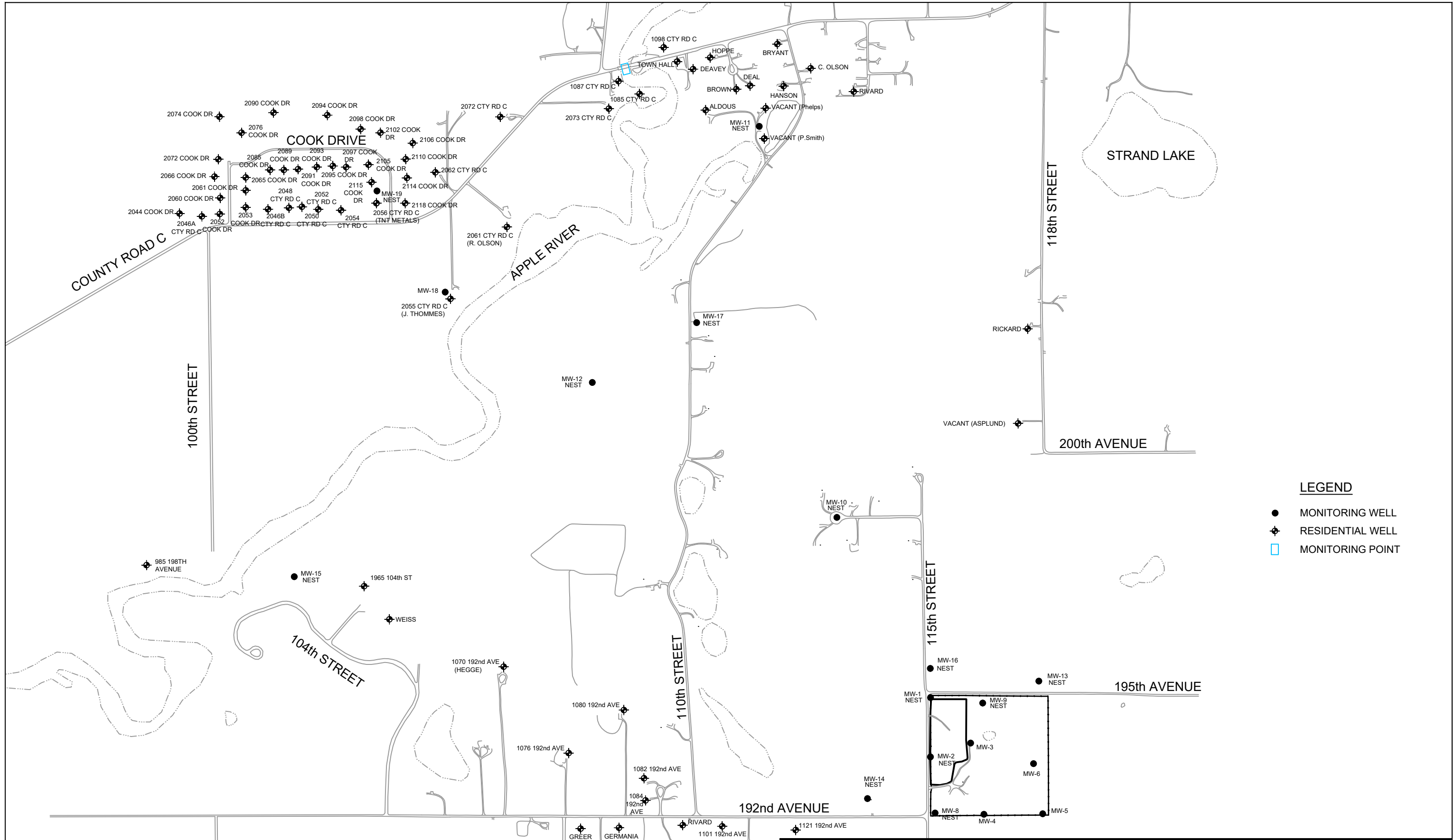


**NEW RICHMOND LANDFILL (#2492)
NEW RICHMOND, WISCONSIN**

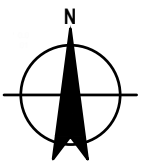
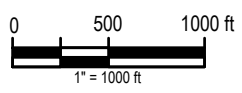
Project No. **48038**
Date **January 2023**

SITE LOCATION

FIGURE 1.1



- LEGEND**
- MONITORING WELL
 - ◆ RESIDENTIAL WELL
 - MONITORING POINT

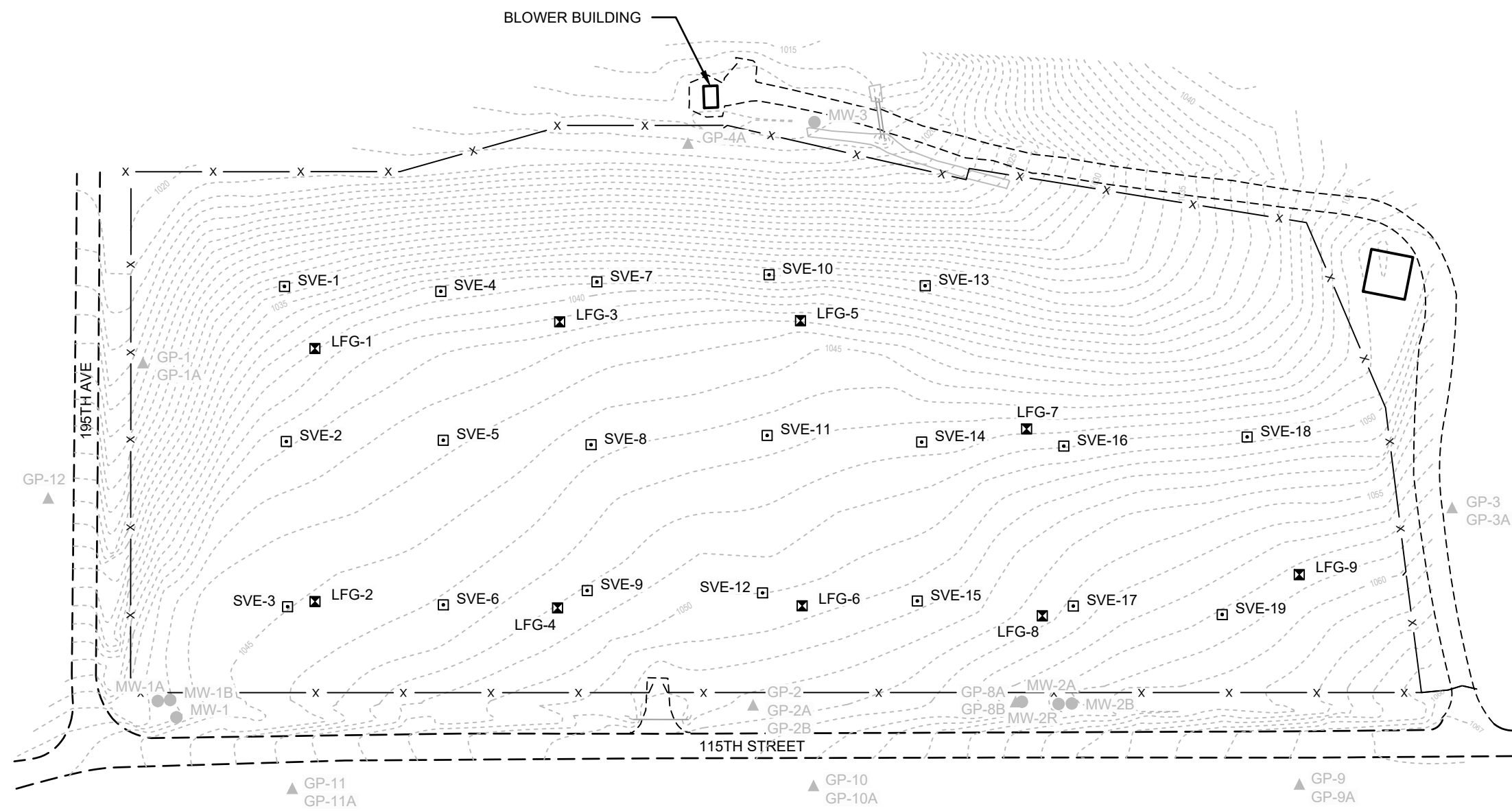


NEW RICHMOND LANDFILL (#2492)
NEW RICHMOND, WISCONSIN

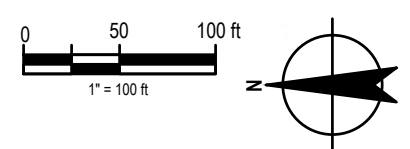
Project No. 48038
Date January 2023

SITE PLAN

FIGURE 1.2



- LEGEND**
- SVE WELL
 - ⊗ LFG WELL
 - MONITORING WELL
 - ▲ GAS PROBE
 - BUILDING
 - x - FENCE



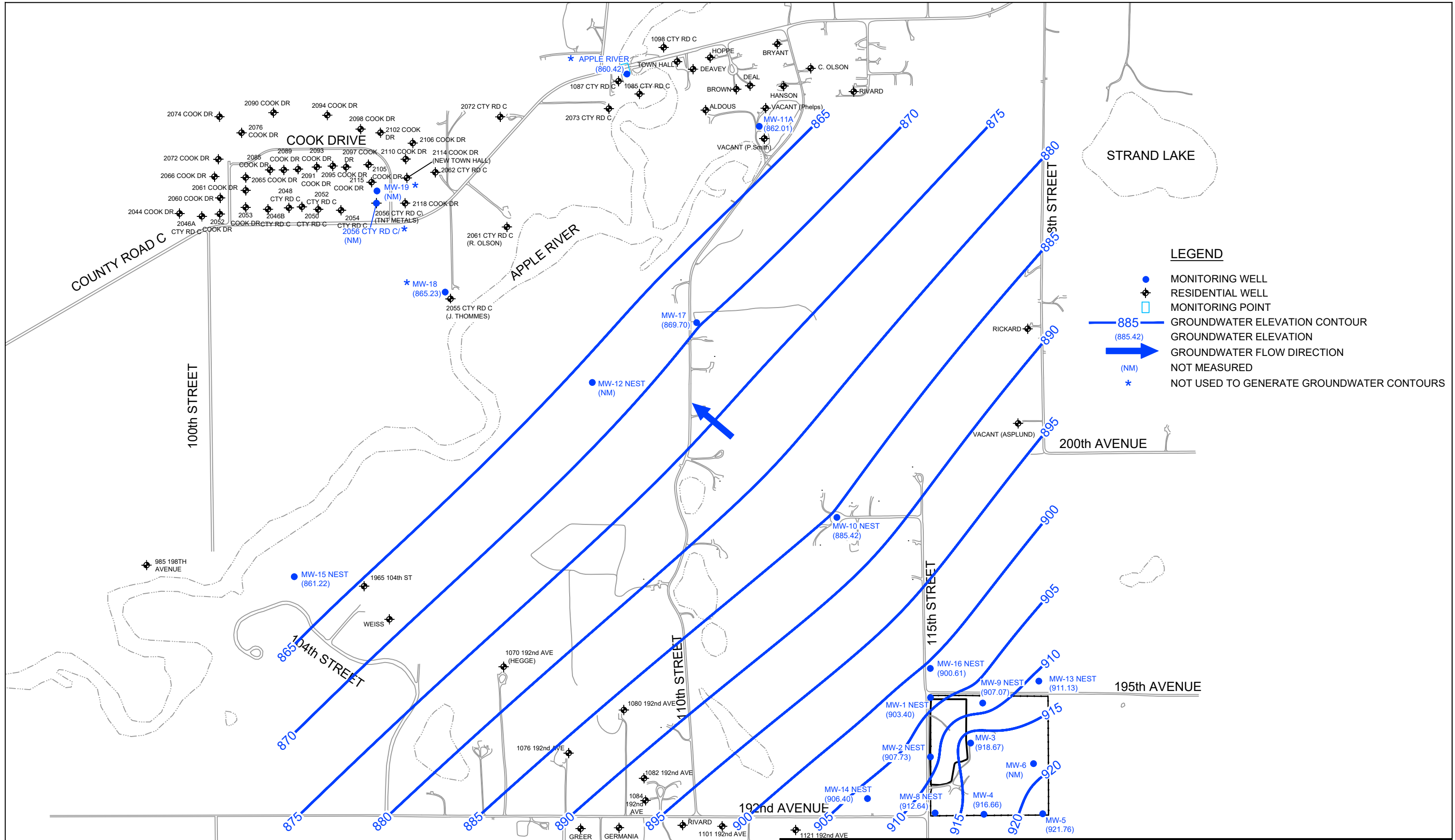
NEW RICHMOND LANDFILL (#2492)
NEW RICHMOND, WISCONSIN

Project No. 48038
Date January 2023

SVE/LFG MONITORING LOCATIONS

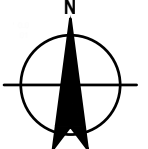
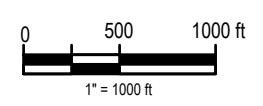
FIGURE 1.3

Filename: \\ghdnet\ghd\US\St Paul\Projects\563048038\Digital_Design\ACAD 2017\Figures\RPT-2022 Annual_Monitoring\048038-GHD-00-00-RPT-EN-D103_WA-2022 Annual_Monitoring.dwg
Plot Date: 26 January 2023 4:38 PM



LEGEND

- MONITORING WELL
- ⊕ RESIDENTIAL WELL
- MONITORING POINT
- 885 GROUNDWATER ELEVATION CONTOUR
- 885.42 GROUNDWATER ELEVATION
- ➔ GROUNDWATER FLOW DIRECTION
- (NM) NOT MEASURED
- * NOT USED TO GENERATE GROUNDWATER CONTOURS



NEW RICHMOND LANDFILL (#2492)
NEW RICHMOND, WISCONSIN

Project No. 48038
Date January 2023

GROUNDWATER CONTOURS
NOVEMBER 2022

FIGURE 2.1

Data Source: SEH.

Figure 3.2
1,1,1-TCA and 1,1,-DCE Concentrations
(MW-2R)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

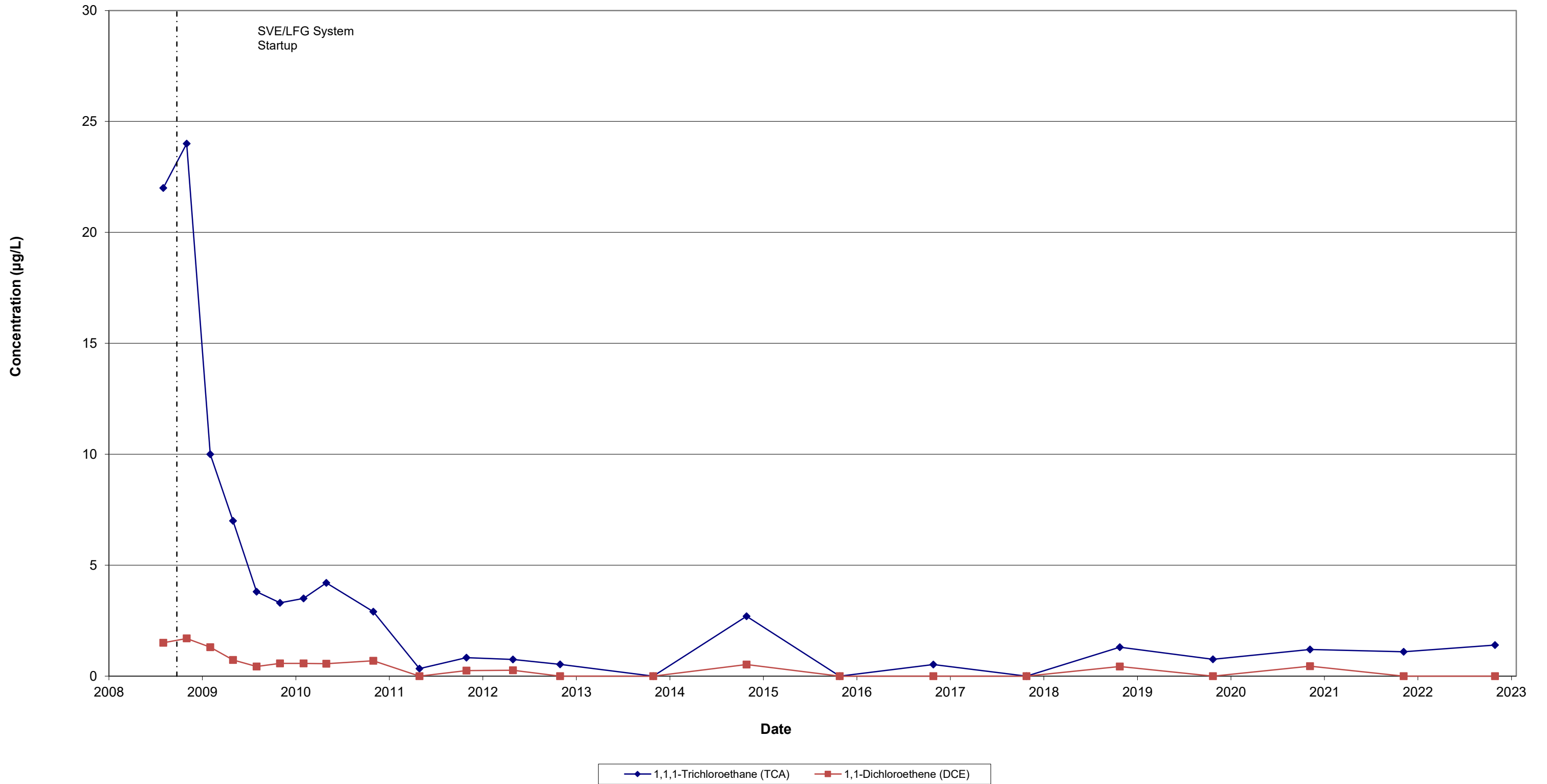


Figure 3.3
1,1,1-TCA, 1,1-DCE, and PCE Concentrations
(MW-16)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

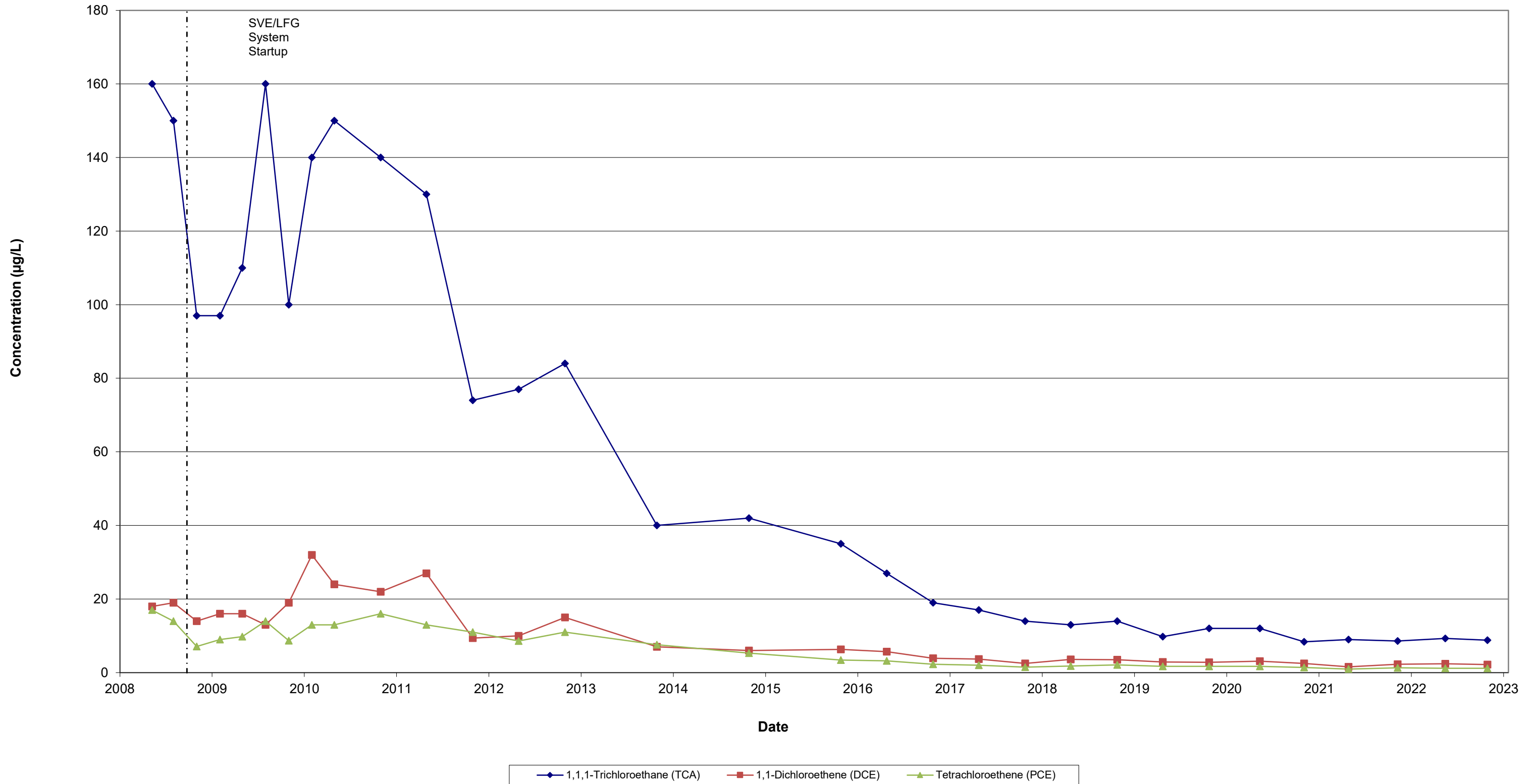


Figure 3.4
1,1,1-TCA, 1,1-DCE, and PCE Concentrations
(MW-10)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

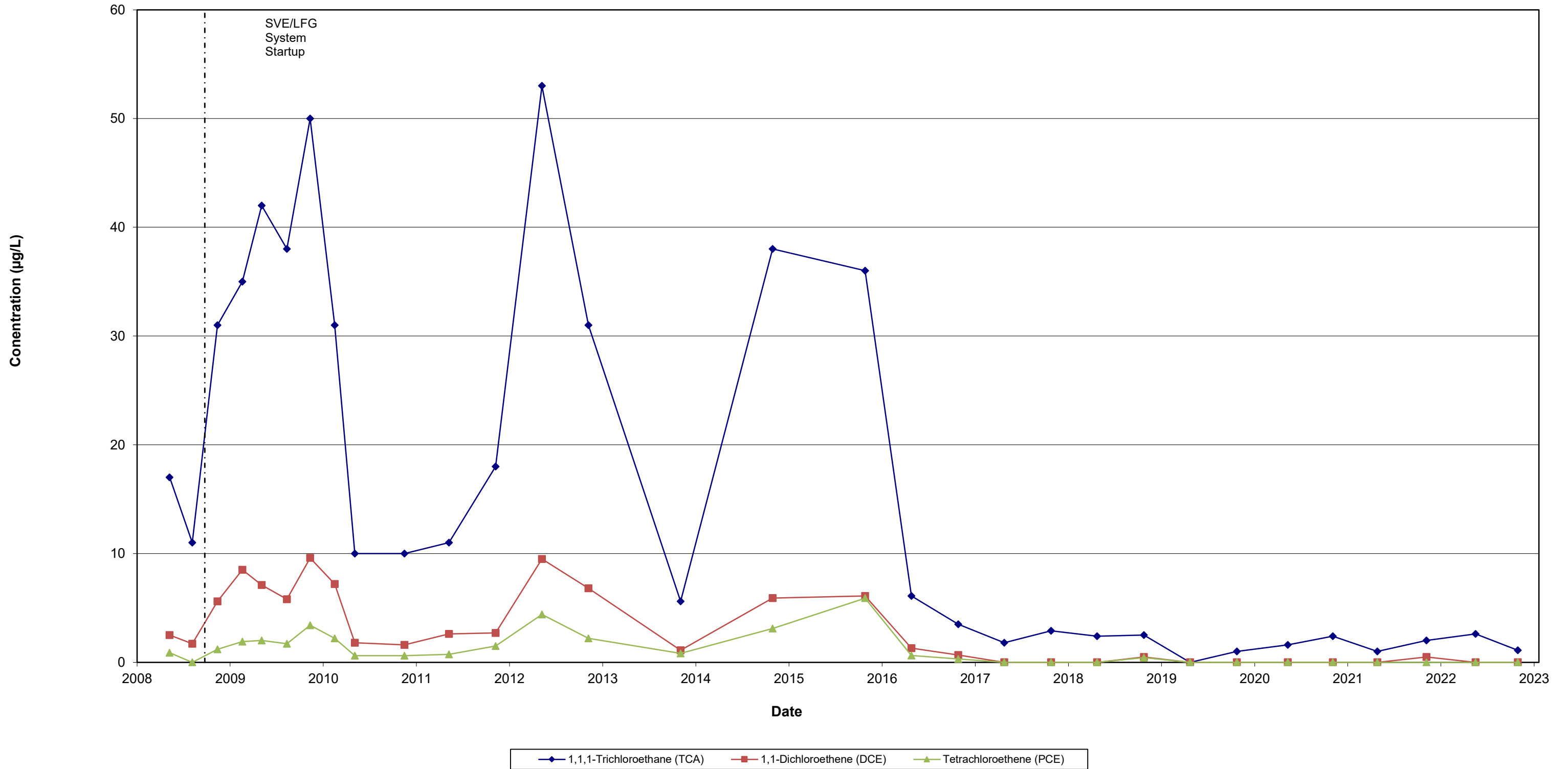


Figure 3.5
 1,1,1-TCA, 1,1-DCE, and PCE Concentrations
 (MW-10A)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

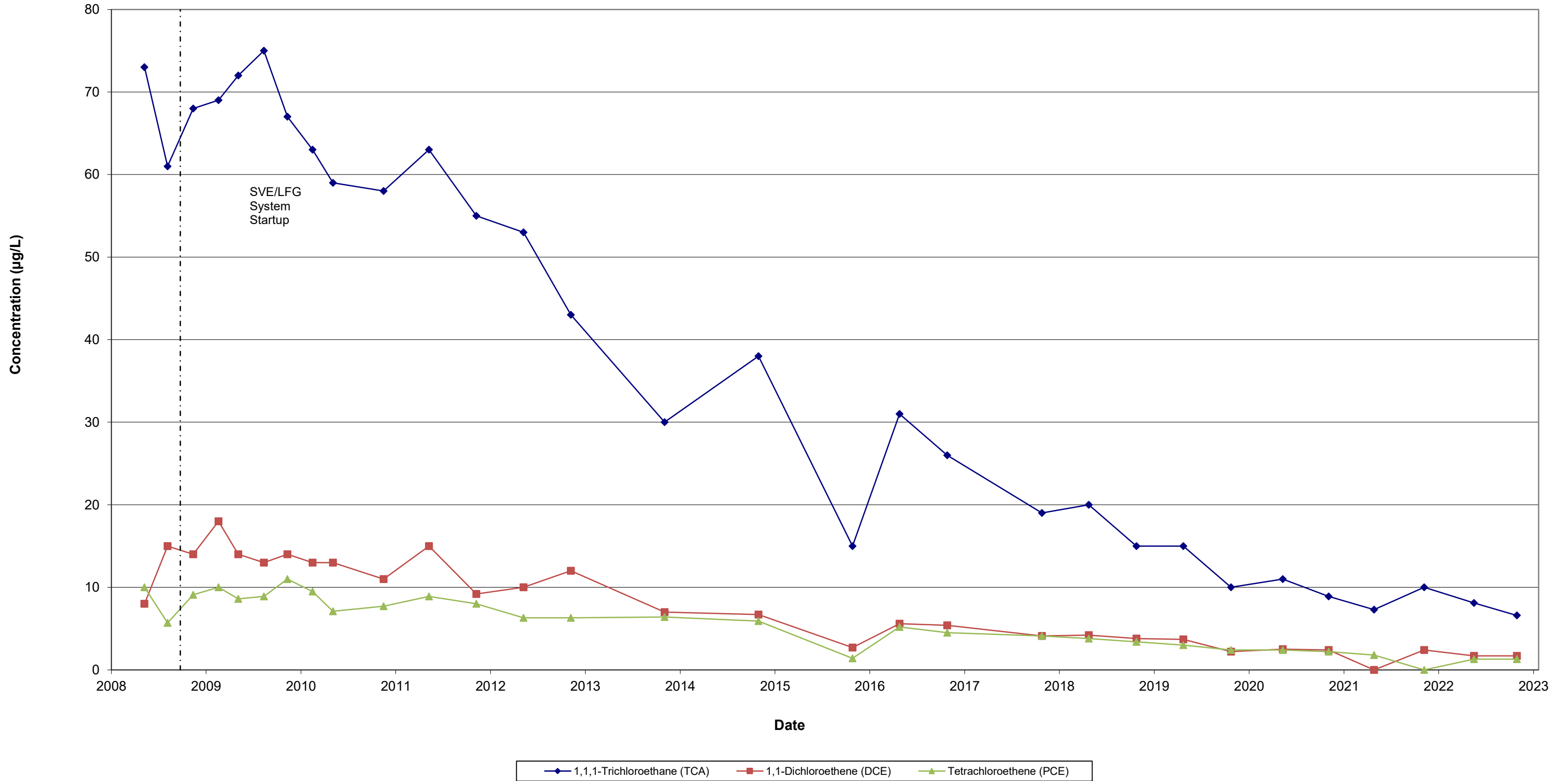


Figure 3.6
1,1,1-TCA, 1,1-DCE, and PCE Concentrations
(MW-17)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

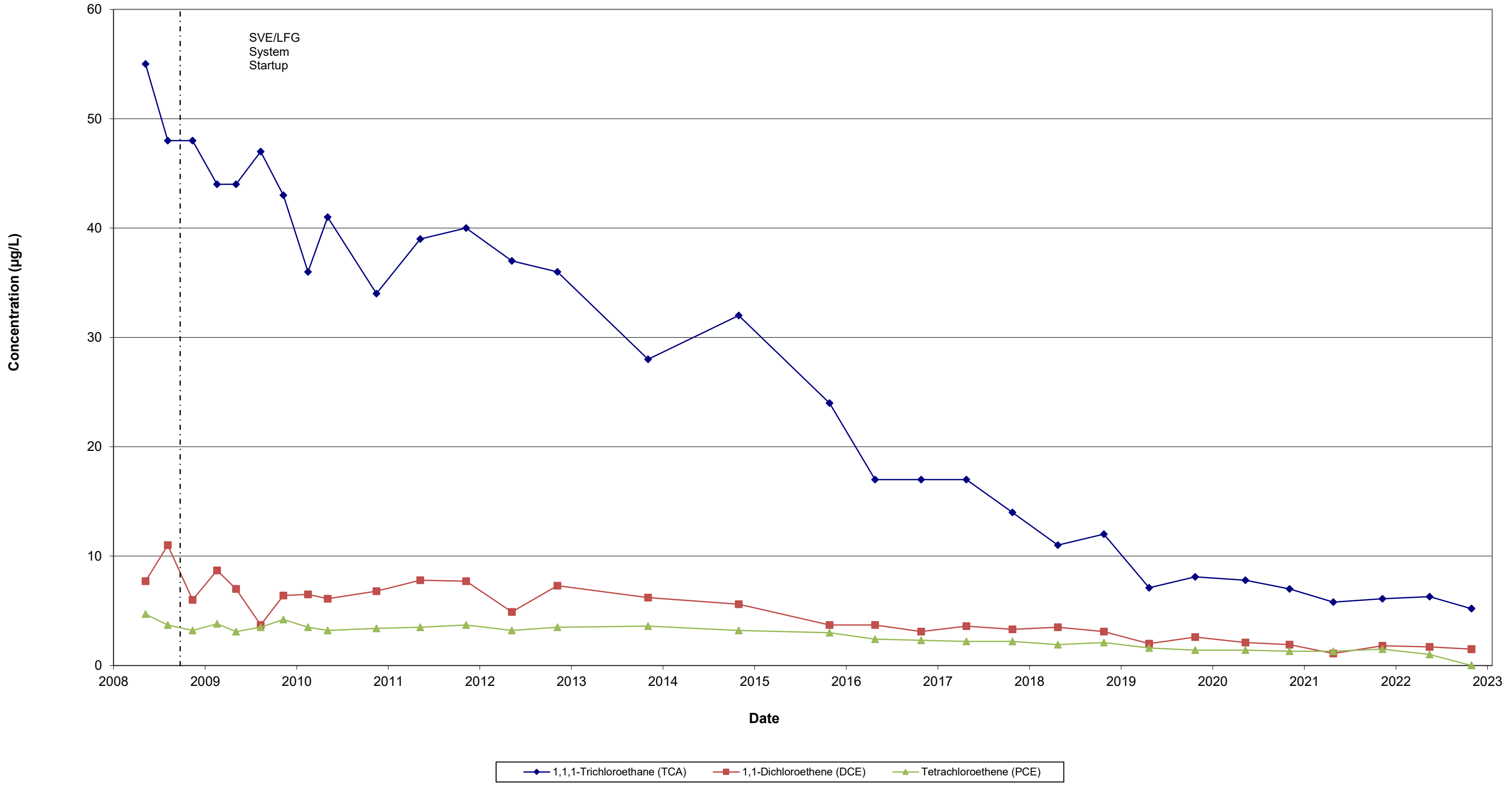
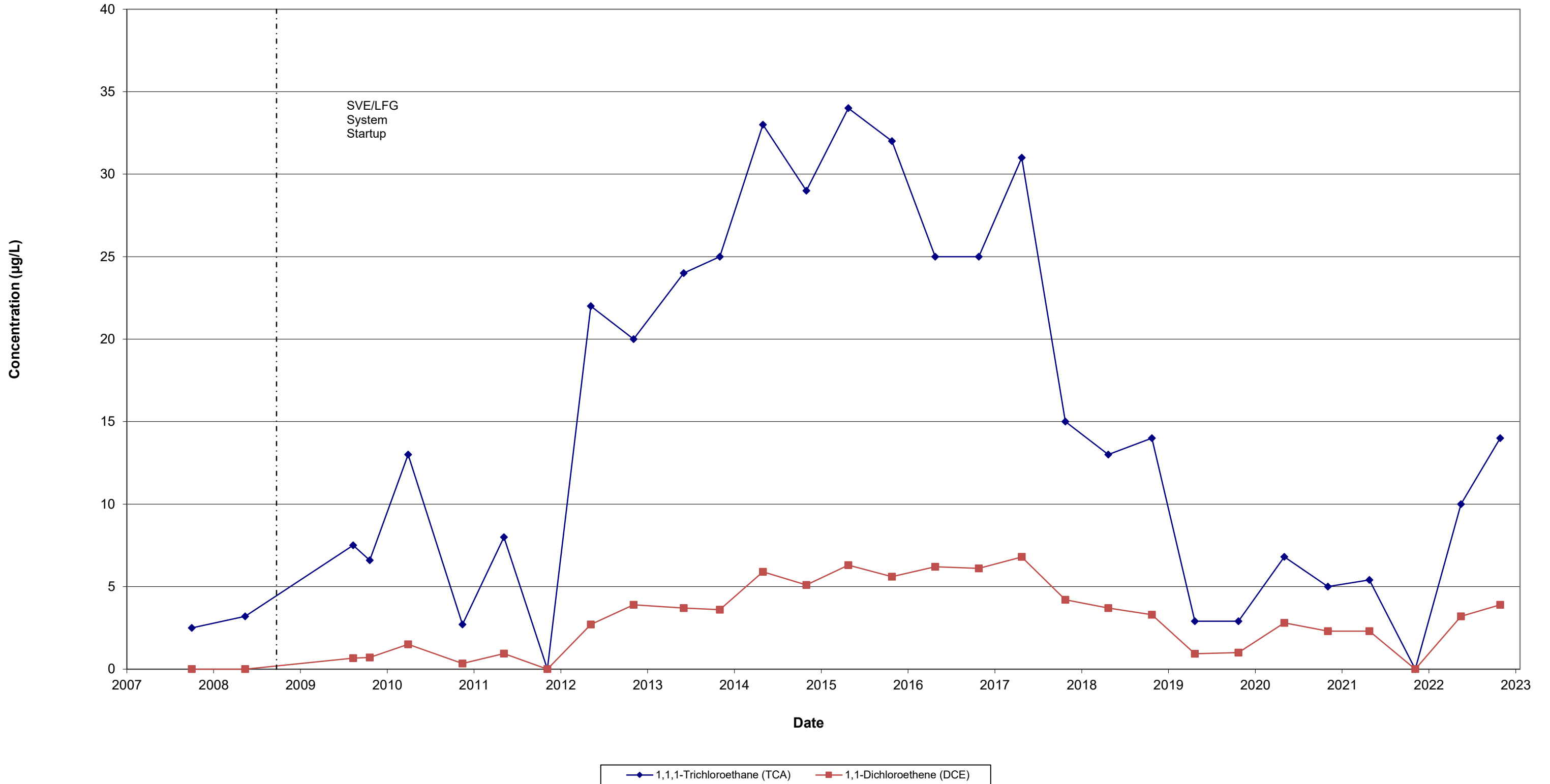
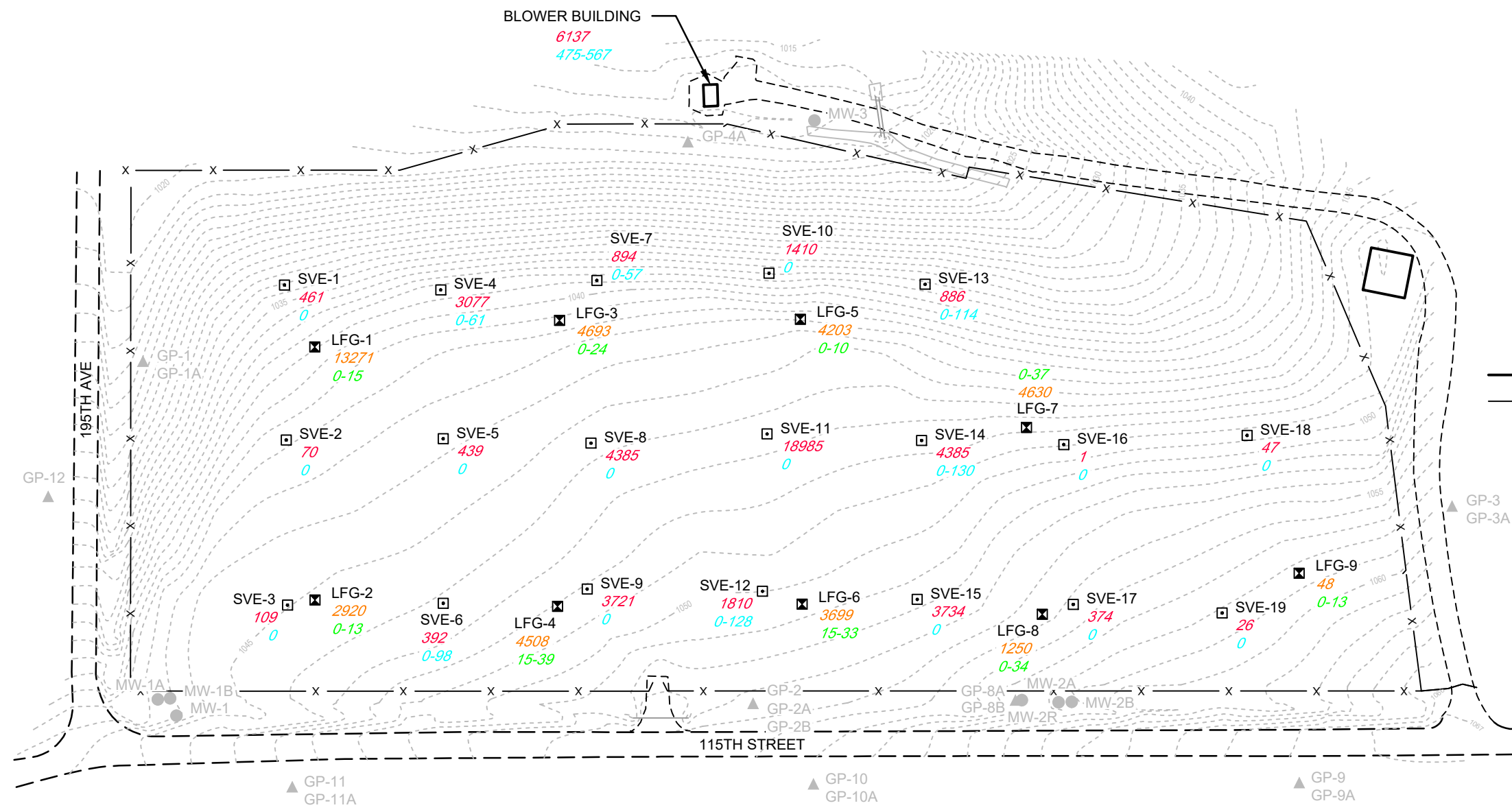


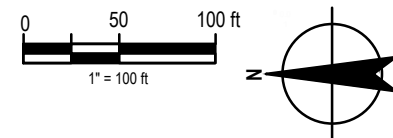
Figure 3.7
1,1,1-TCA and 1,1-DCE Concentrations
(MW-18)
New Richmond Landfill (#2492)
New Richmond, Wisconsin





NOTES:

- * - WELL IS NOT UNDER VACUUM/FROZEN UNABLE TO OBTAIN FLOW READING.



NEW RICHMOND LANDFILL (#2492)
NEW RICHMOND, WISCONSIN

Project No. 48038
Date February 2023

2022 LFG AND SVE WELL DATA

FIGURE 4.1

Figure 4.2

Monthly Condensate Discharge Volumes to New Richmond WWTF
New Richmond Landfill (#2492)
New Richmond, Wisconsin

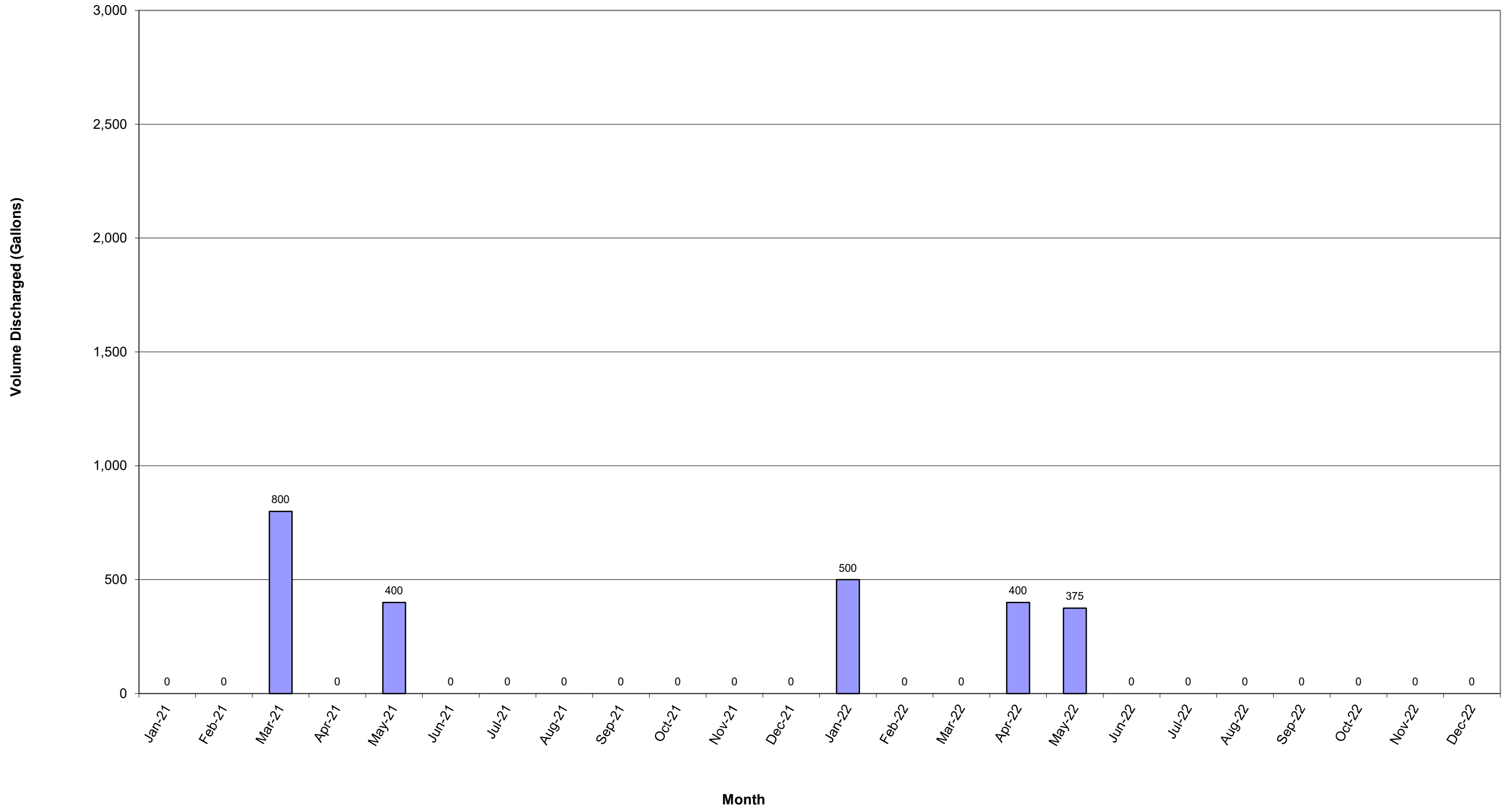


Figure 4.4

Historical Blower Discharge Removal of Select VOCs
(Cumulative Since September 2008)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

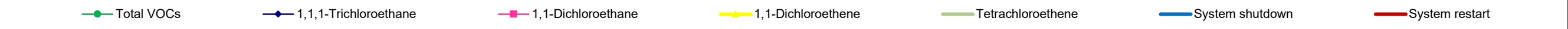
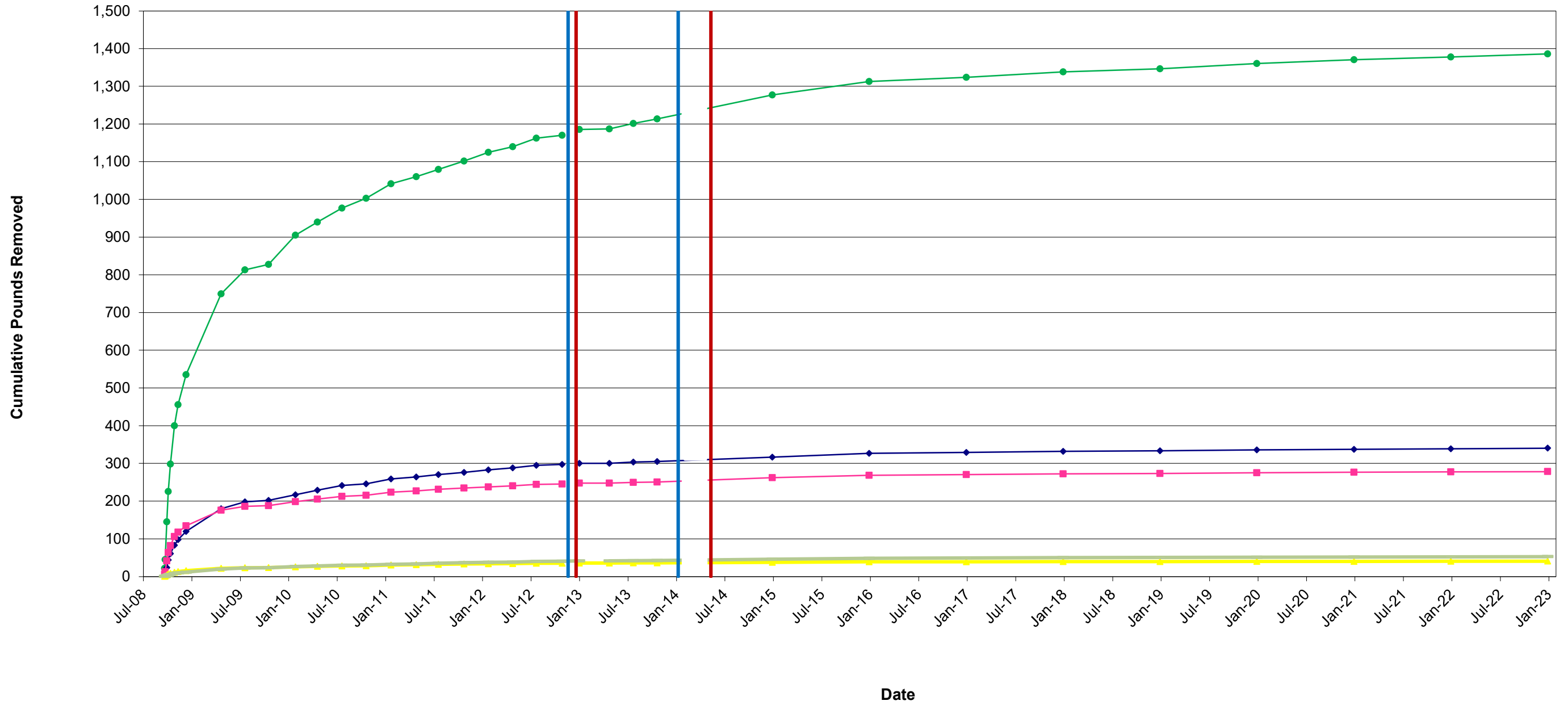


Figure 4.5

1,1,1-TCA Concentration Over Time
(SVE-2)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

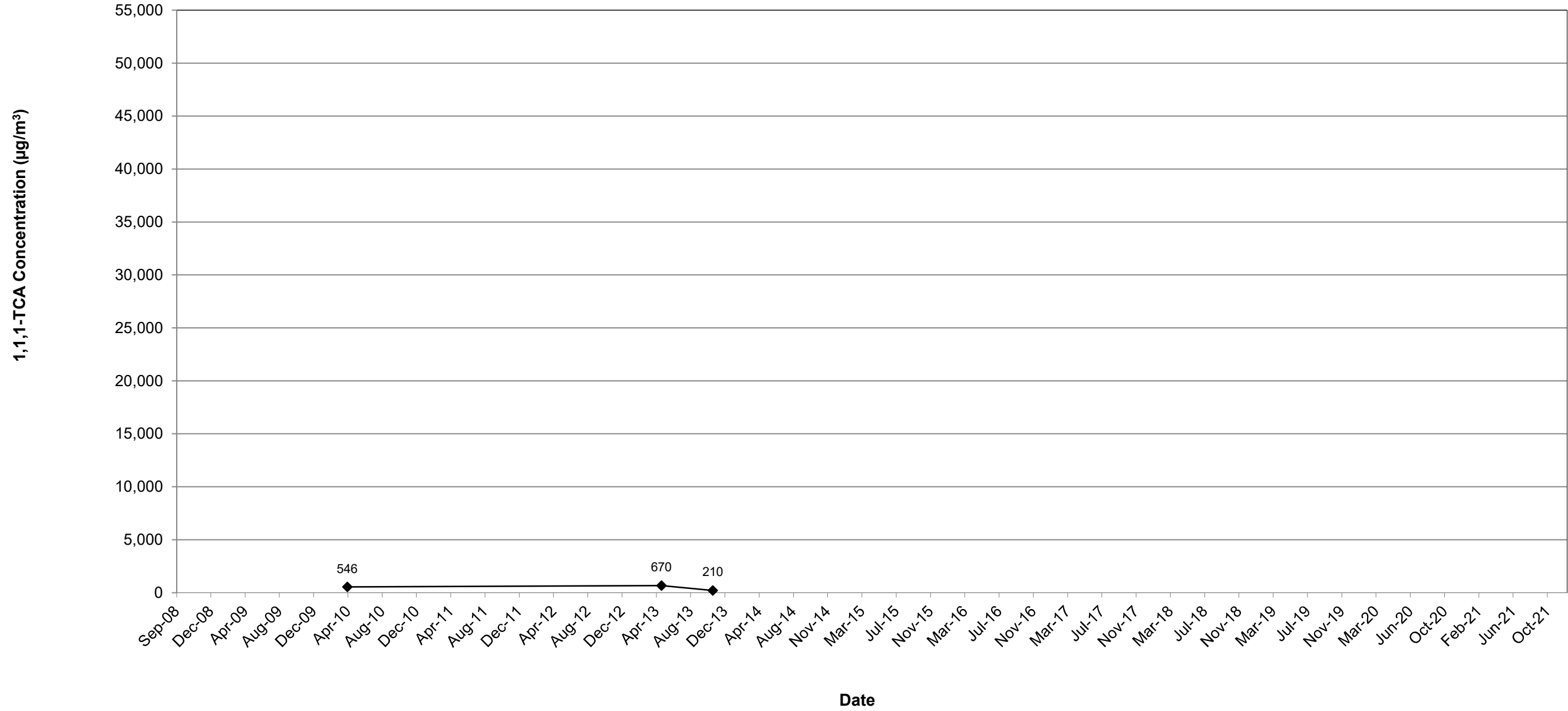


Figure 4.6

1,1,1-TCA Concentration Over Time
(SVE-3)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

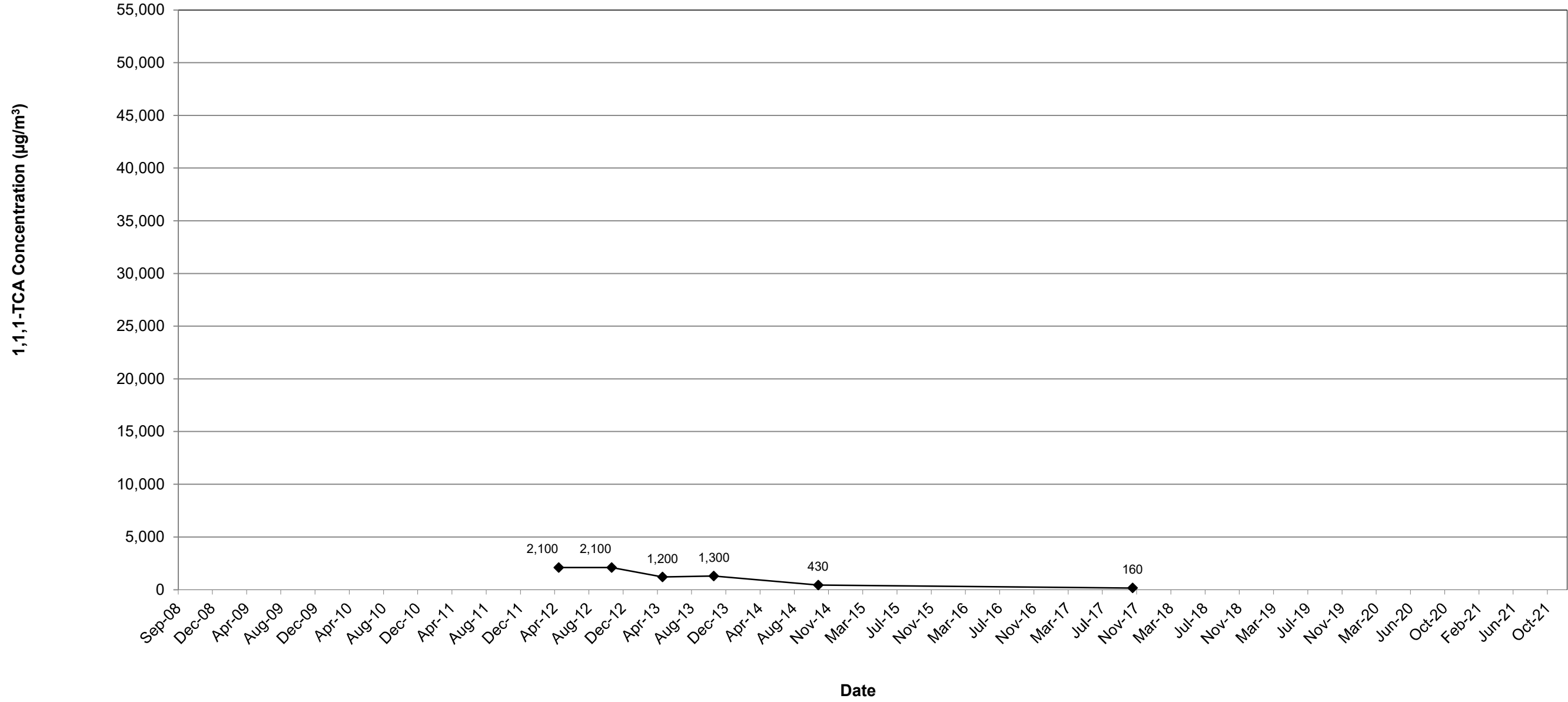


Figure 4.7

1,1,1-TCA Concentration Over Time
(SVE-4)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

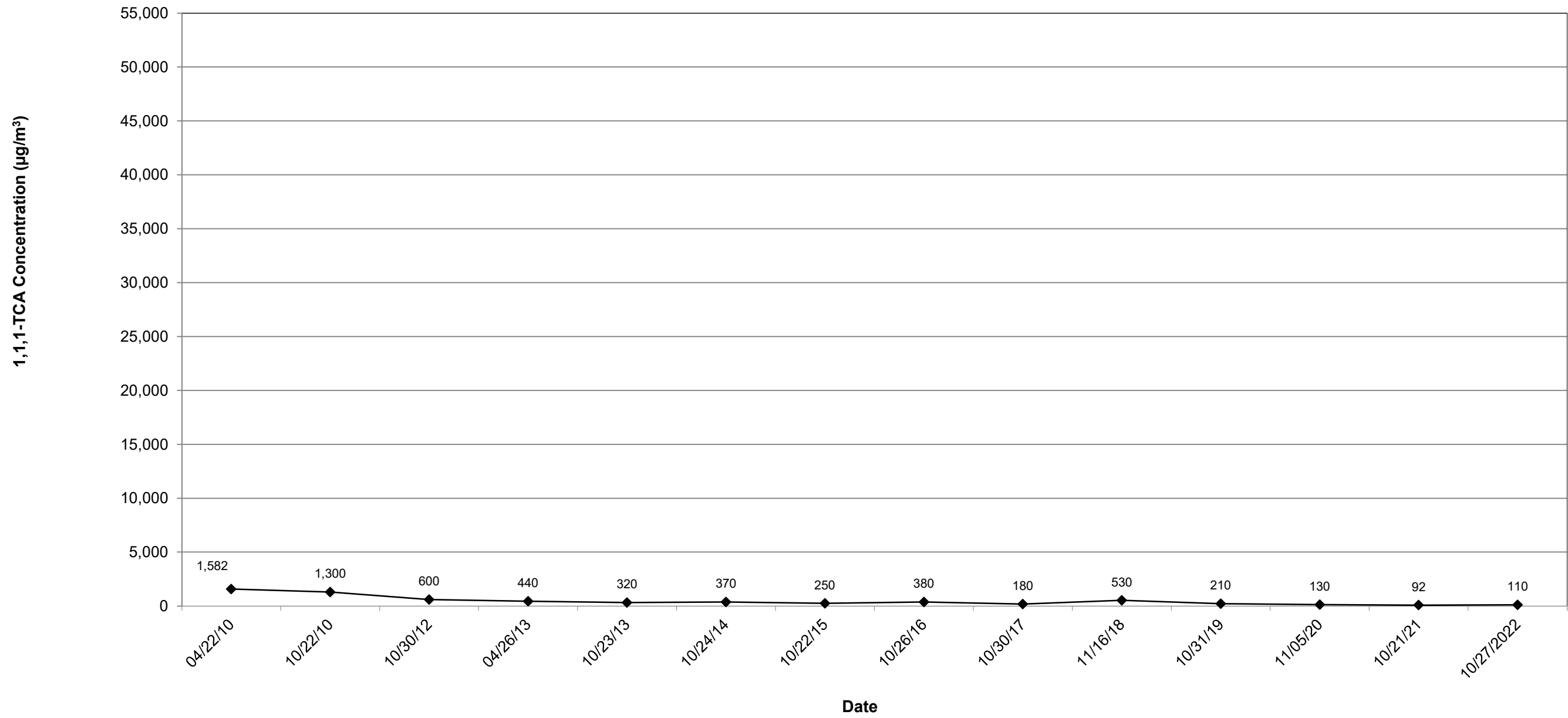


Figure 4.8

1,1,1-TCA Concentration Over Time
(SVE-5)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

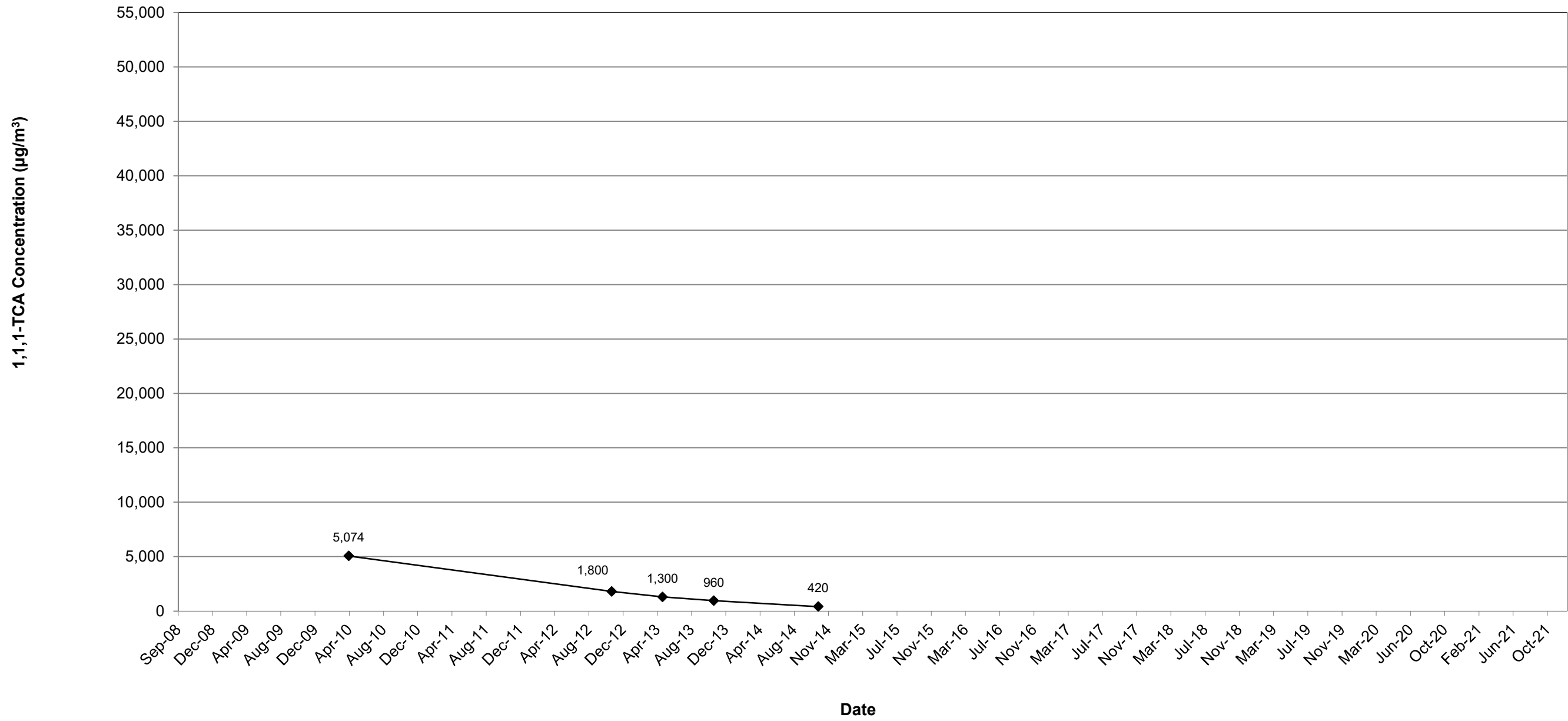


Figure 4.9
1,1,1-TCA Concentration Over Time
(SVE-6)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

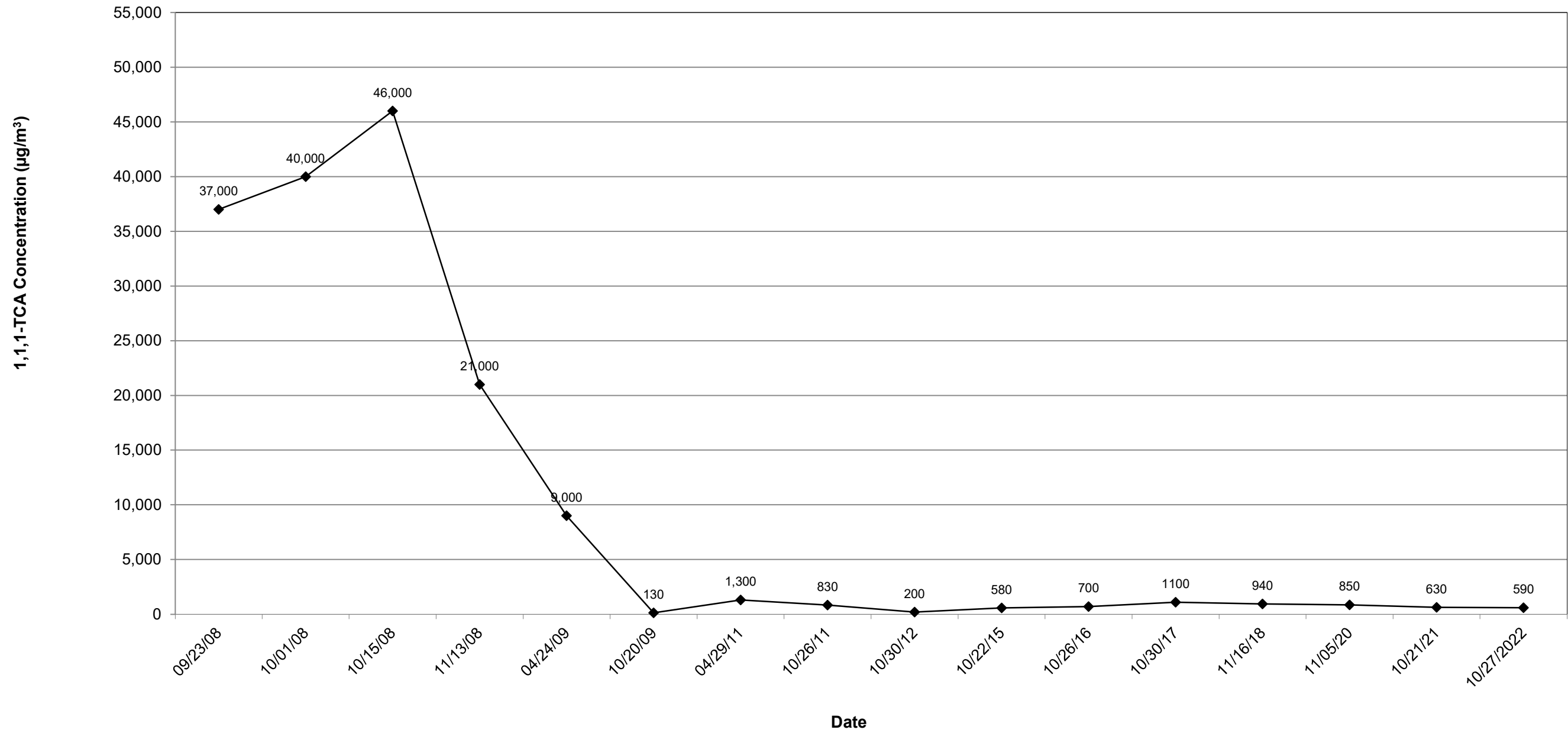


Figure 4.10

1,1,1-TCA Concentration Over Time
(SVE-7)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

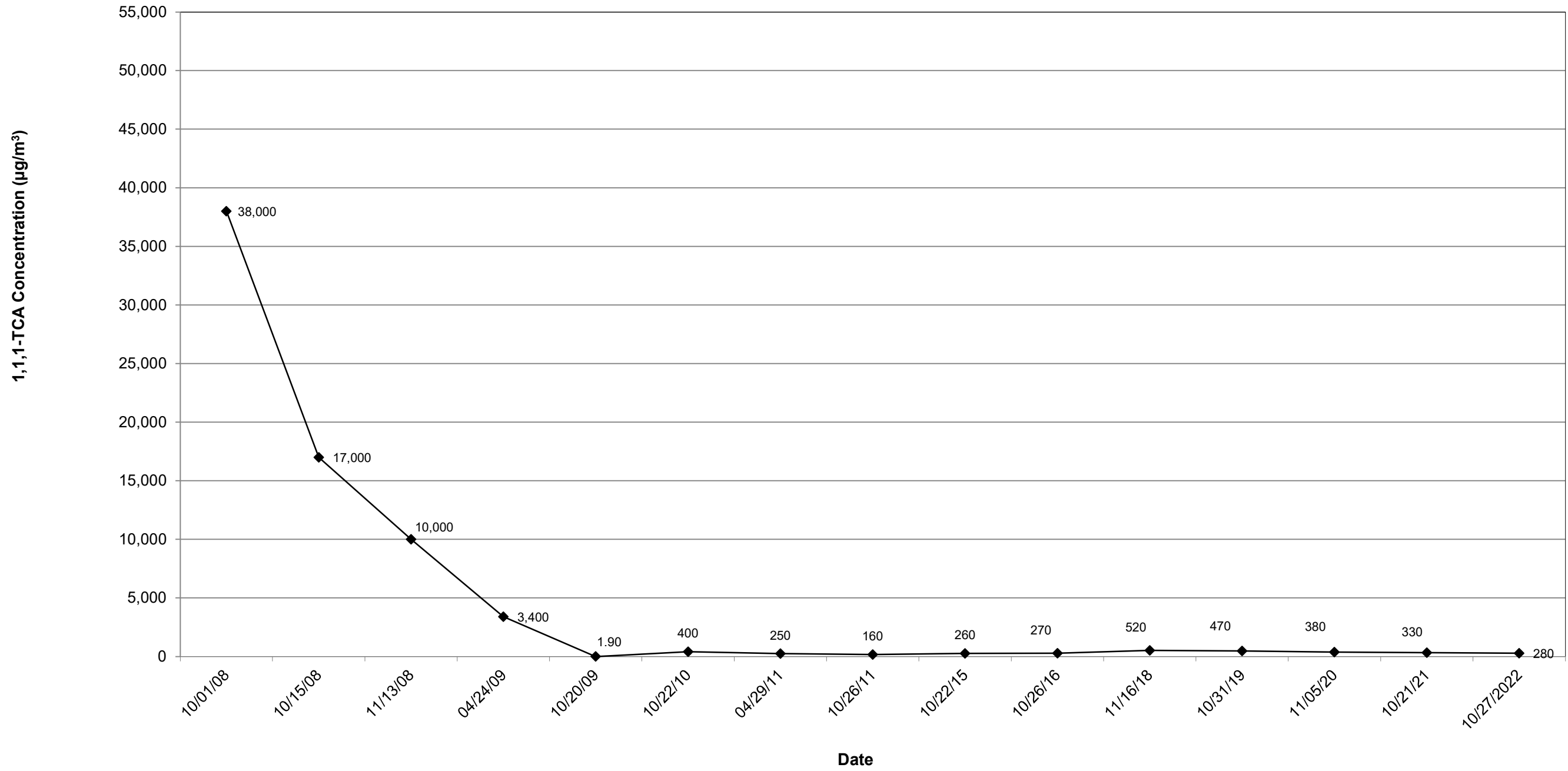


Figure 4.11
1,1,1-TCA Concentration Over Time
(SVE-8)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

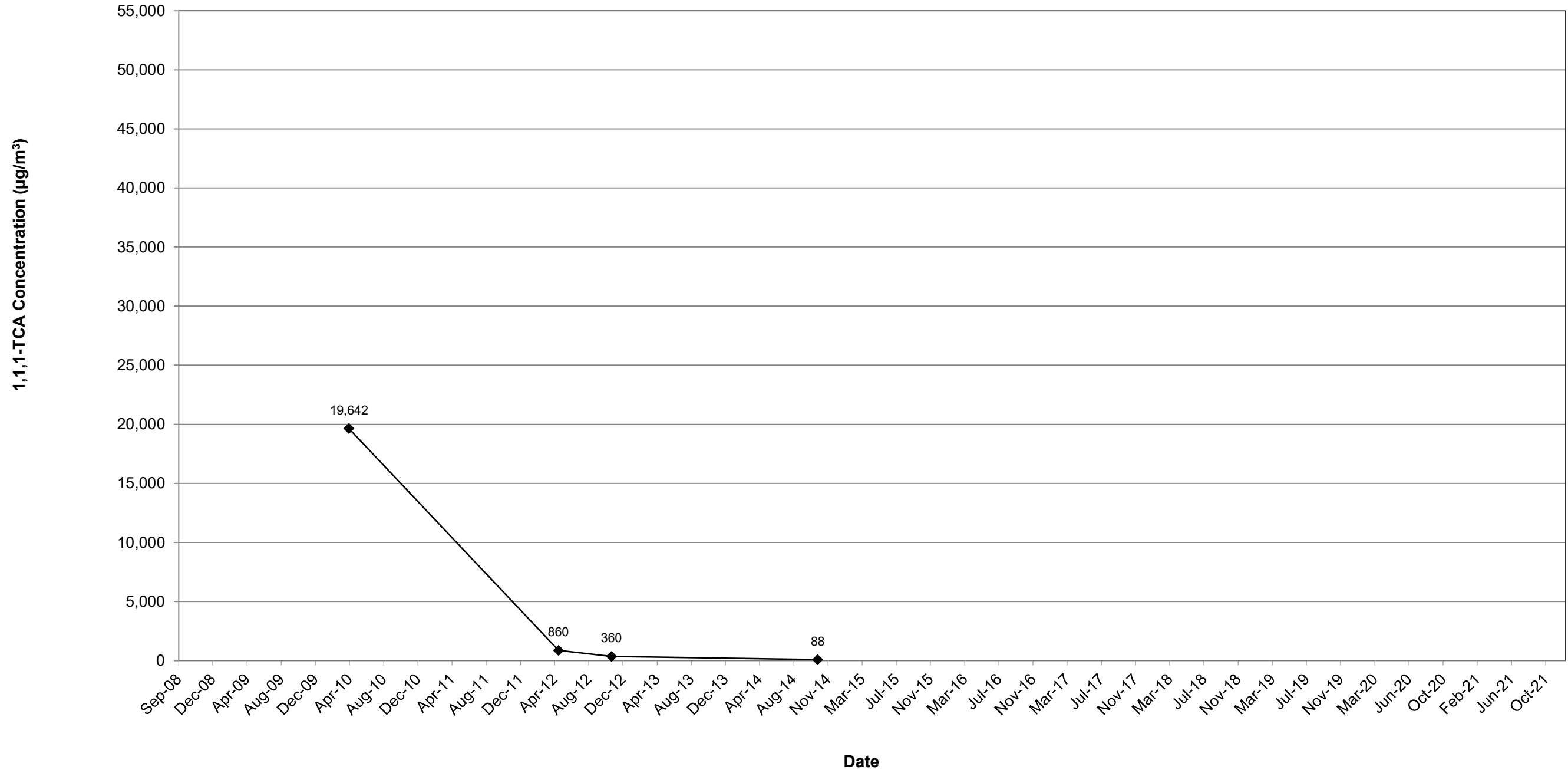


Figure 4.12
1,1,1-TCA Concentration Over Time
(SVE-10)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

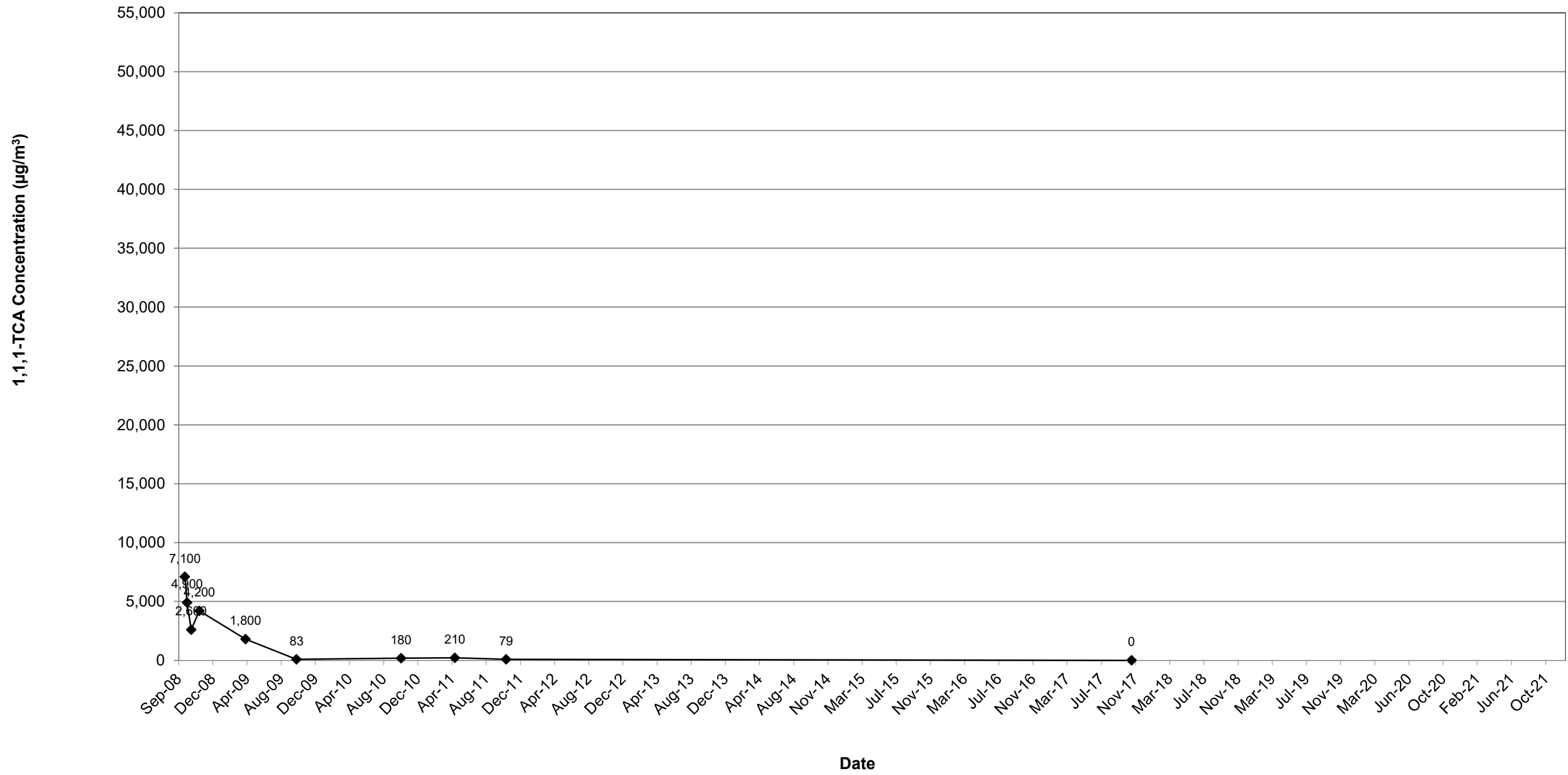


Figure 4.13
1,1,1-TCA Concentration Over Time
(SVE-12)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

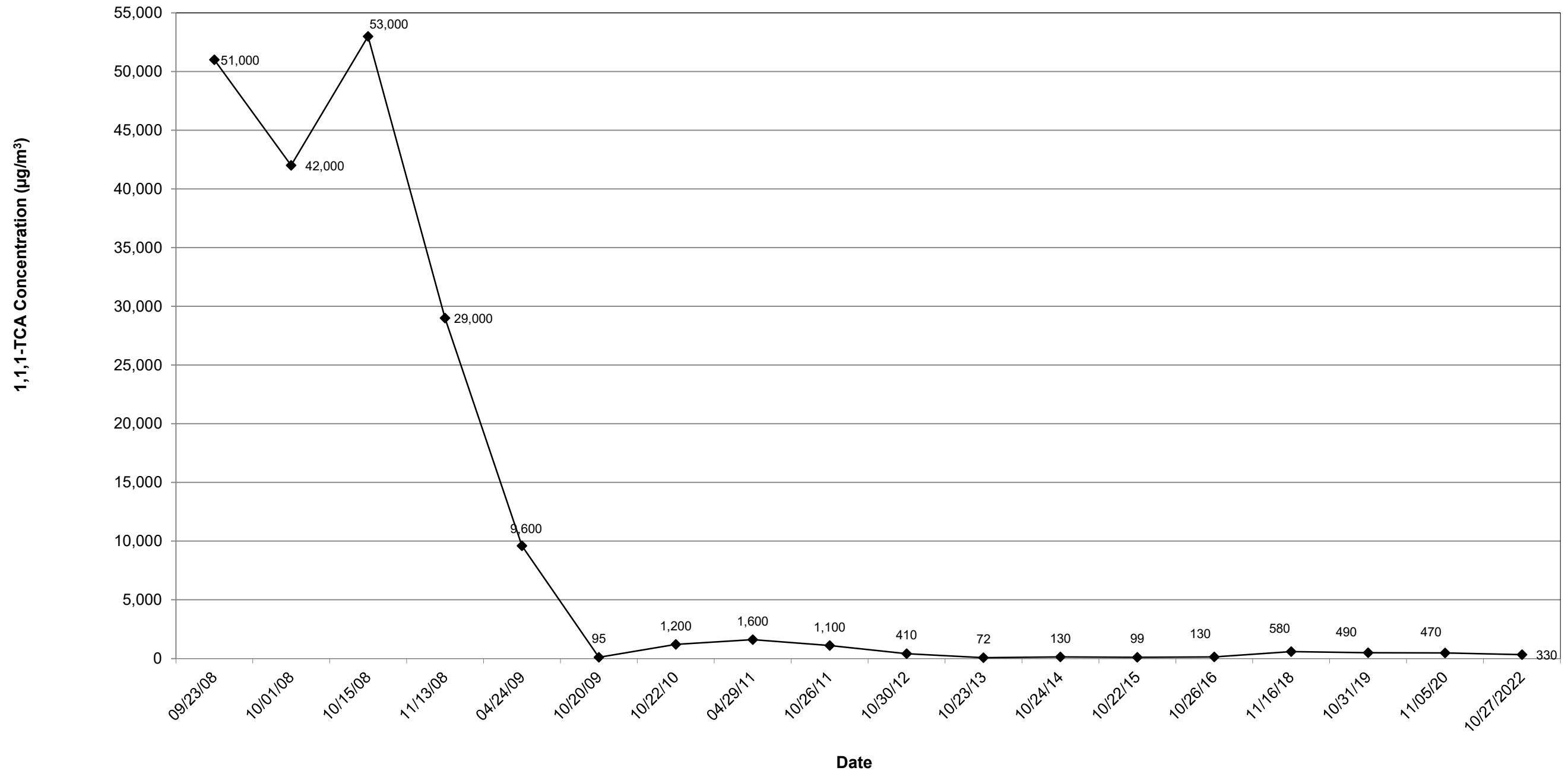


Figure 4.14

1,1,1-TCA Concentration Over Time
(SVE-14)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

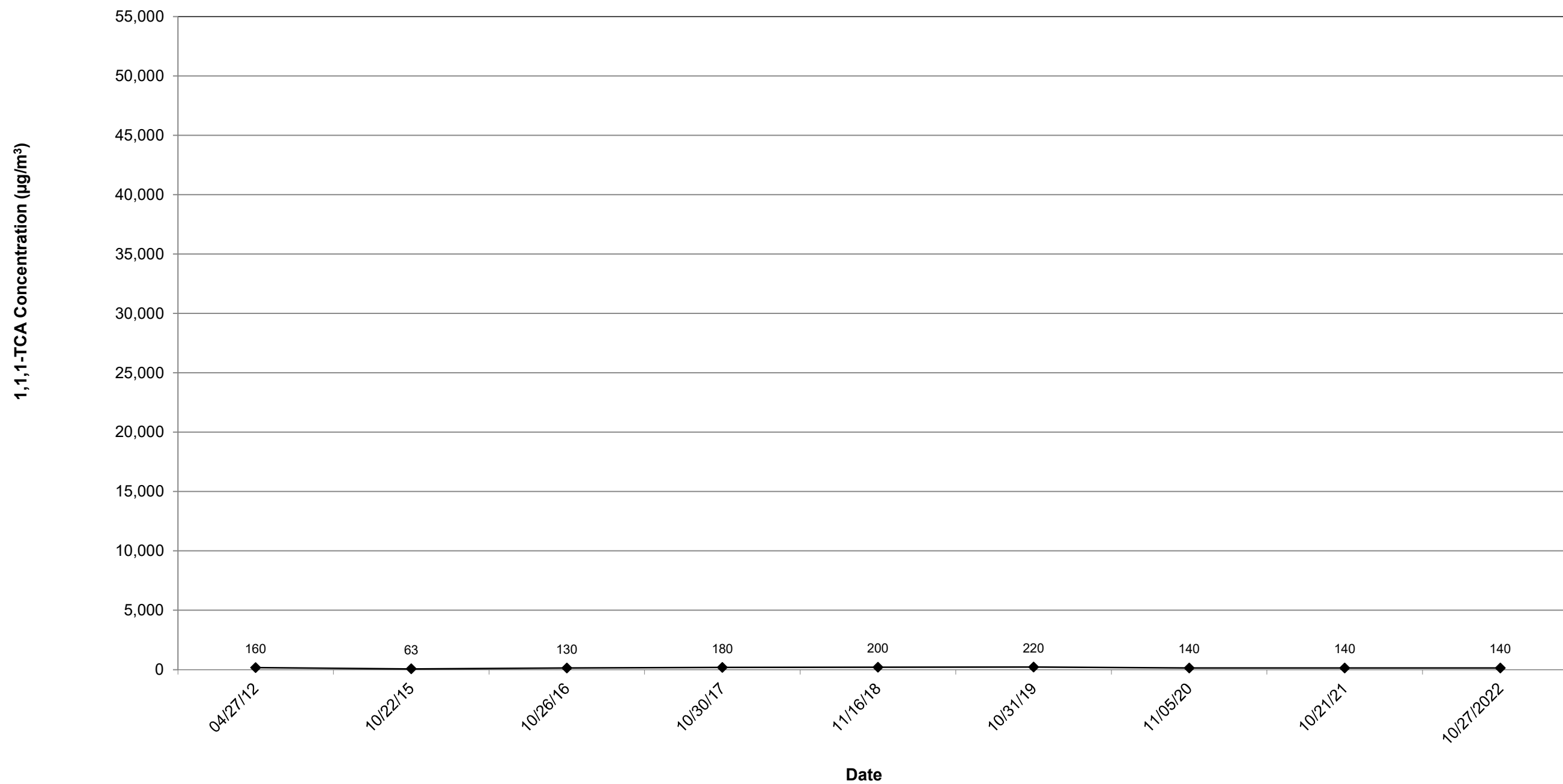


Figure 4.15

1,1,1-TCA Concentration Over Time
(SVE-15)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

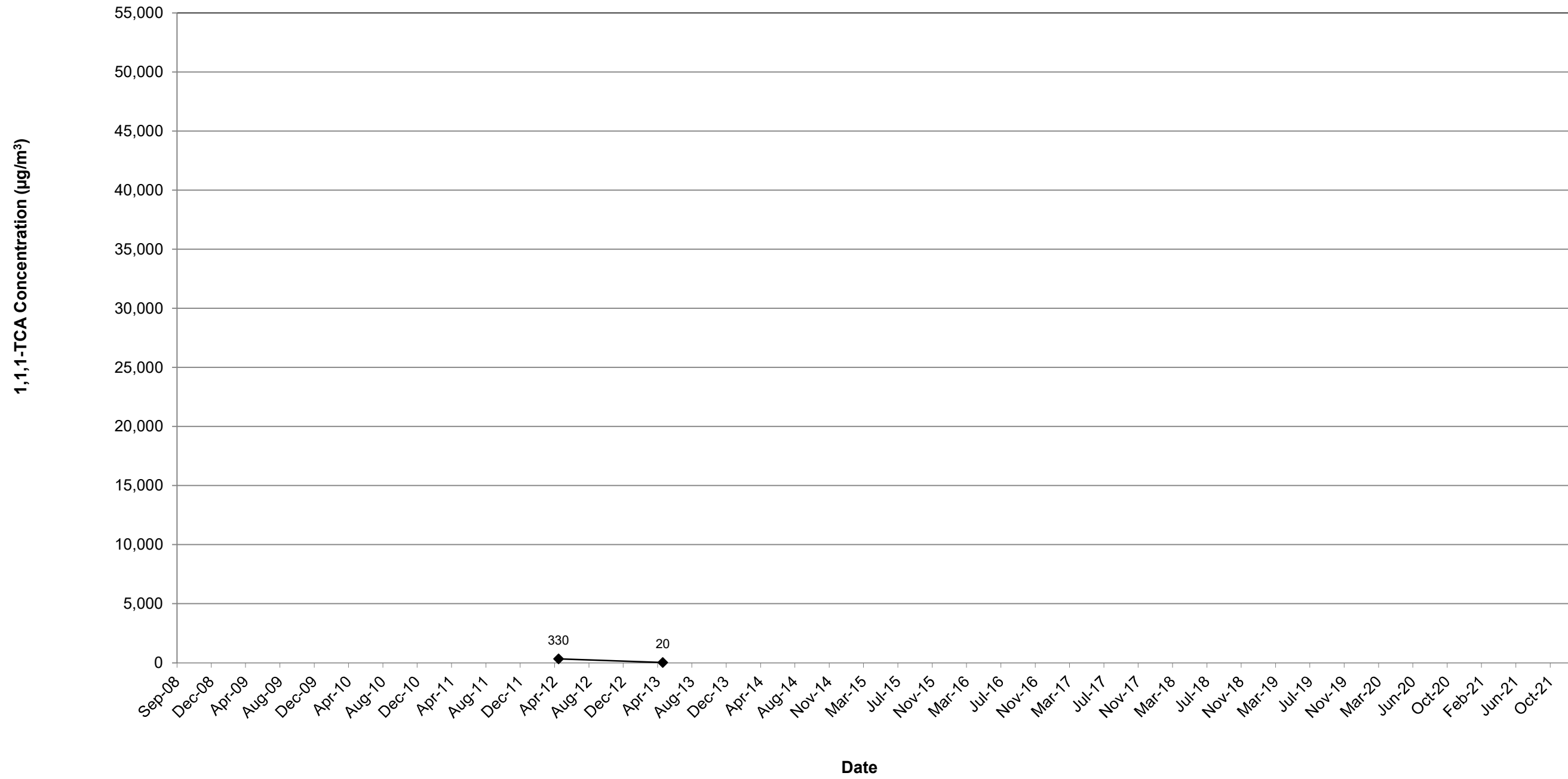
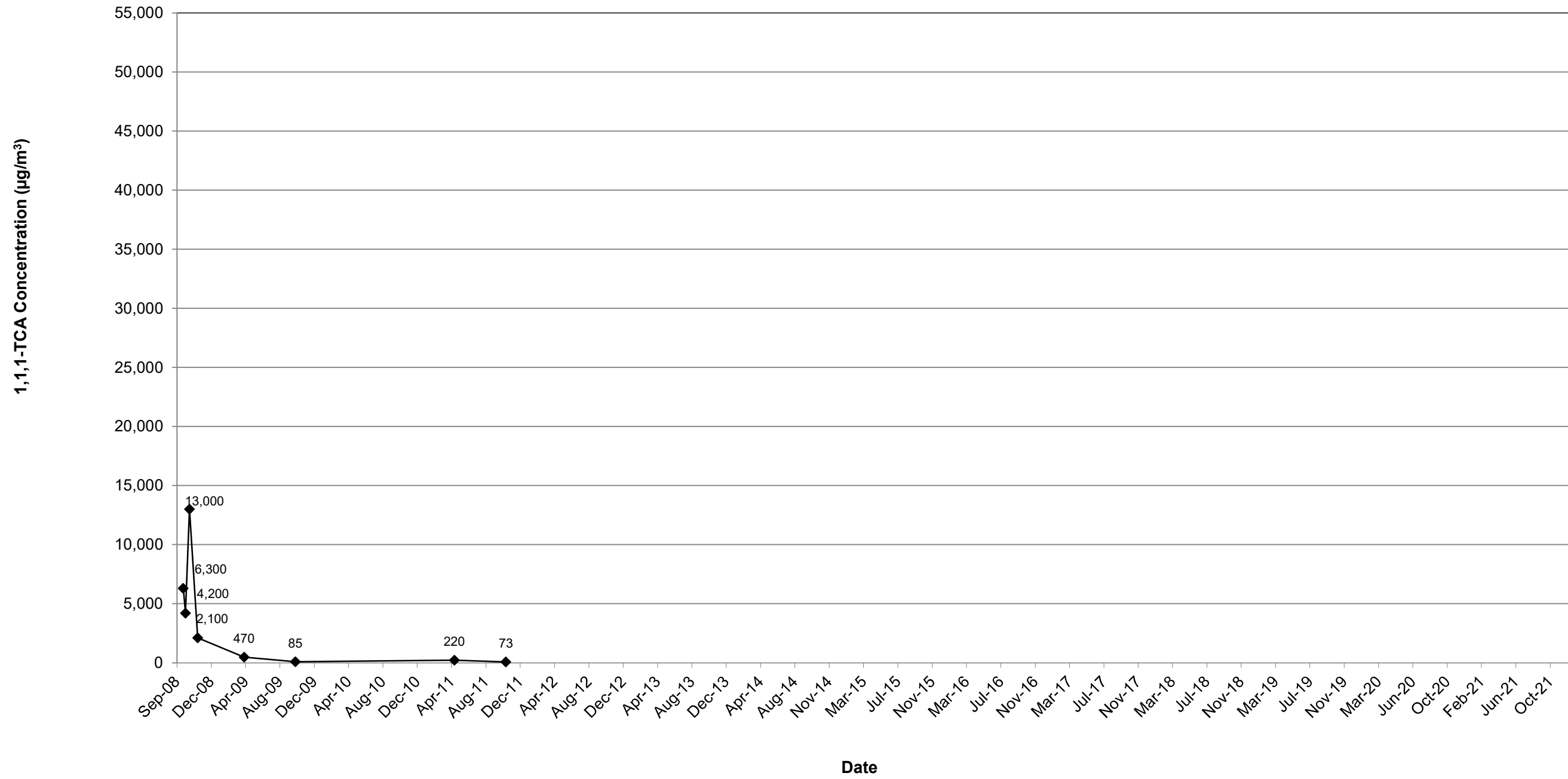


Figure 4.16
1,1,1-TCA Concentration Over Time
(SVE-16)
New Richmond Landfill (#2492)
New Richmond, Wisconsin



Tables

Table 2.1

**Groundwater Elevation Summary
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Monitoring Well	Top of Casing Elevation	Groundwater Elevation	
		May 2022	November 2022
MW-1	1044.71	904.49	902.89
MW-1A	1044.00	-	903.40
MW-1B	1044.86	-	903.46
MW-2R	1058.23	-	947.24
MW-2A	1058.62	-	907.73
MW-2B	1058.59	-	907.76
MW-3	1019.14	-	918.67
MW-4	1072.50	-	916.66
MW-5	1022.91	-	921.76
MW-6**	1042.48	-	-
MW-8	1049.91	-	912.67
MW-8A	1049.67	-	912.64
MW-9	1026.90	-	908.16
MW-9A	1026.03	-	907.07
MW-10	1029.08	885.58	885.18
MW-10A	1028.94	885.78	885.42
MW-10B	1028.79	-	884.95
MW-11A	868.67	-	862.01
MW-12	880.06	-	-
MW-12A	879.67	-	-
MW-13	1033.70	-	910.83
MW-13A	1033.57	-	911.13
MW-14	1028.94	-	906.55
MW-14A	1027.84	-	906.40
MW-15	880.76	-	-
MW-15A	879.52	-	861.22
MW-16	1039.90	901.02	900.61
MW-16A	1040.08	901.05	900.61
MW-17	907.23	871.43	871.04
MW-17A	907.44	871.31	869.70
MW-18	897.73	865.93	865.23
MW-19***	-	-	NA
MW-19A***	-	-	NA
Apple River*	870.68	-	860.42

Notes:

All elevations in feet above mean sea level (AMSL)

* - Measured from bridge on County Road C

** - Cover is stuck on well, repairs needed

*** - TOC not surveyed. Value is feet below TOC

Table 2.2

**Groundwater Monitoring Summary
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Monitoring Well	May-22	Nov-22
MW1	V	V
MW1A	-	-
MW1B	-	-
MW2R	-	V
MW2A	-	-
MW2B	-	-
MW3	-	-
MW4	-	-
MW5	-	-
MW6	-	V*
MW8	-	-
MW8A	-	-
MW9	-	V
MW9A	-	-
MW10	V	V
MW10A	V	V
MW10B	-	-
MW11A	-	V
MW12	-	-
MW12A	-	-
MW13	-	V
MW13A	-	-
MW14	-	V
MW14A	-	-
MW15	-	-
MW15A	-	V
MW16	V	V
MW16A	V	V
MW17	V	V
MW17A	V	V
MW18	V	V
MW19	-	V
MW19A	-	V

Notes:

V - Sample collected for VOCs

* - Sample not collected due to broken casing

**Enforcement Standard and Preventative Action Limit Exceedences
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Sample Identification	Date	ES PAL Dup	1,1-Dichloroethene	Chloroform (Trichloromethane)	Tetrachloroethene
				7	6	5
				0.7	0.6	0.5
				µg/L	µg/L	µg/L
2055 Cty Rd C	W-220527-KJ-12	05/27/2022		0.48 J	< 2.0	< 1.0
2055 Cty Rd. C	W-221108-TS-02	11/08/2022		0.80 J	< 1.0	< 1.0
2056 Cty Rd C	W-220526-KJ-07	05/26/2022		< 1.0	< 2.0	< 1.0
MW1	W-220526-KJ-04	05/26/2022		0.93 J	< 2.0	< 1.0
MW-1	W-221109-TS-18	11/09/2022		0.88 J	1.4	< 1.0
MW-2R	W-221109-TS-19	11/09/2022		0.60 J	1.7	< 1.0
MW-9	W-221108-TS-01	11/08/2022		0.72 J	0.70 J	1.1
MW10	W-220527-KJ-10	05/27/2022		< 1.0	< 2.0	< 1.0
MW-10	W-221109-TS-15	11/09/2022		< 1.0	< 1.0	< 1.0
MW10A	W-220527-KJ-09	05/27/2022		1.7	< 2.0	1.3
MW-10A	W-221109-TS-14	11/09/2022		1.7	< 1.0	1.3
MW-11A	W-221108-TS-04	11/08/2022		< 1.0	< 1.0	< 1.0
MW-13	W-221109-TS-17	11/09/2022		< 1.0	< 1.0	< 1.0
MW-14	W-221108-TS-09	11/08/2022		< 1.0	< 1.0	< 1.0
MW-15A	W-221108-TS-05	11/08/2022		< 1.0	< 1.0	< 1.0
MW16	W-220526-KJ-03	05/26/2022		2.4	< 2.0	1.2
MW-16	W-221109-TS-16	11/09/2022		2.2	0.61 J	1.2
MW16A	W-220526-KJ-01	05/26/2022		< 1.0	< 2.0	< 1.0
MW16A	W-220526-KJ-02	05/26/2022	D	< 1.0	< 2.0	< 1.0
MW17	W-220526-KJ-05	05/26/2022		1.7	< 2.0	1.0
MW-17	W-221109-TS-12	11/09/2022		1.5	< 1.0	0.95 J
MW-17	W-221109-TS-13	11/09/2022	D	1.5	< 1.0	0.94 J
MW17A	W-220526-KJ-06	05/26/2022		0.78 J	< 2.0	0.64 J
MW-17A	W-221109-TS-10	11/09/2022		< 1.0	< 1.0	< 1.0
MW18	W-220527-KJ-11	05/27/2022		3.2	< 2.0	< 1.0
MW-18	W-221108-TS-03	11/08/2022		3.9	< 1.0	< 1.0
MW-19	W-221108-TS-07	11/08/2022		< 1.0	< 1.0	< 1.0
MW-19	W-221108-TS-08	11/08/2022	D	< 1.0	< 1.0	< 1.0
MW-19A	W-221108-TS-06	11/08/2022		< 1.0	< 1.0	< 1.0

Notes:

All results are in ug/L

Enforcement Standard (ES) and Preventative Action Limit (PAL) as found in Wisconsin Administrative Code Chapter NR 140 (February 2017).

D - Duplicate

< - Not detected at the associated reporting limit.

J - Estimated concentration

Bold Lettering - Exceeds PAL

Grey Background Exceeds ES

Table 3.2

VOC Results Within the Plume Boundary
New Richmond Landfill (#2492)
New Richmond, Wisconsin

				1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Chloroethane	Chloroform (Trichloromethane)	cis-1,2-Dichloroethene	Tetrachloroethene	Toluene	Trichloroethene
			ES	200	850	7	400	6	70	5	800	5
			PAL	40	85	0.7	80	0.6	7	0.5	160	0.5
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Location	Sample Identification	Date	Dup									
2055 Cty Rd C	W-220527-KJ-12	05/27/2022		< 1.0	0.81 J	0.48 J	< 1.0	< 2.0	< 1.0	< 1.0	< 0.50	< 0.50
2055 Cty Rd. C	W-221108-TS-02	11/08/2022		< 1.0	1.1	0.80 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2056 Cty Rd C	W-220526-KJ-07	05/26/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	0.48 J	< 0.50
MW1	W-220526-KJ-04	05/26/2022		3.3	10	0.93 J	< 1.0	< 2.0	< 1.0	< 1.0	< 0.50	0.20 J
MW-1	W-221109-TS-18	11/09/2022		3.4	9.2	0.88 J	< 1.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0
MW-2R	W-221109-TS-19	11/09/2022		1.4	2.8	0.60 J	< 1.0	1.7	< 1.0	< 1.0	< 1.0	< 1.0
MW-9	W-221108-TS-01	11/08/2022		4.0	4.0	0.72 J	< 1.0	0.70 J	< 1.0	1.1	< 1.0	< 1.0
MW10	W-220527-KJ-10	05/27/2022		2.6	1.2	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 0.50	< 0.50
MW-10	W-221109-TS-15	11/09/2022		1.1	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW10A	W-220527-KJ-09	05/27/2022		8.1	10	1.7	< 1.0	< 2.0	0.73 J	1.3	< 0.50	0.24 J
MW-10A	W-221109-TS-14	11/09/2022		6.6	8.9	1.7	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 1.0
MW-11A	W-221108-TS-04	11/08/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-13	W-221109-TS-17	11/09/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-14	W-221108-TS-09	11/08/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-15A	W-221108-TS-05	11/08/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW16	W-220526-KJ-03	05/26/2022		9.3	9.0	2.4	< 1.0	< 2.0	0.72 J	1.2	< 0.50	0.18 J
MW-16	W-221109-TS-16	11/09/2022		8.8	9.8	2.2	< 1.0	0.61 J	0.84 J	1.2	< 1.0	< 1.0
MW16A	W-220526-KJ-01	05/26/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 0.50	< 0.50
MW16A	W-220526-KJ-02	05/26/2022	D	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 0.50	< 0.50
MW17	W-220526-KJ-05	05/26/2022		6.3	8.1	1.7	0.55 J	< 2.0	0.51 J	1.0	< 0.50	0.17 J
MW-17	W-221109-TS-12	11/09/2022		5.2	7.5	1.5	0.46 J	< 1.0	< 1.0	0.95 J	< 1.0	< 1.0
MW-17	W-221109-TS-13	11/09/2022	D	5.2	7.3	1.5	0.42 J	< 1.0	< 1.0	0.94 J	< 1.0	< 1.0
MW17A	W-220526-KJ-06	05/26/2022		3.5	4.7	0.78 J	< 1.0	< 2.0	< 1.0	0.64 J	< 0.50	< 0.50
MW-17A	W-221109-TS-10	11/09/2022		1.1	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW18	W-220527-KJ-11	05/27/2022		10	3.7	3.2	< 1.0	< 2.0	< 1.0	< 1.0	0.20 J	< 0.50
MW-18	W-221108-TS-03	11/08/2022		14	4.5	3.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-19	W-221108-TS-07	11/08/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-19	W-221108-TS-08	11/08/2022	D	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MW-19A	W-221108-TS-06	11/08/2022		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

All results are in ug/L

Enforcement Standard (ES) and Preventative Action Limit (PAL) as found in Wisconsin Administrative Code Chapter NR 140 (February 2017).

D - Duplicate

< - Not detected at the associated reporting limit.

J - Estimated concentration

Bold Lettering - Exceeds PAL

Exceeds ES

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
Stack	1/31/2022	0.1	14.4	0.4	35	567	310-450	753
Stack	2/28/2022	0.1	18.8	0.3	42	543	310-450	2,152
Stack	3/28/2022	0.0	13.1	0.1	36	537	310-450	3,470
Stack	4/28/2022	0.0	16.2	1.9	46	478	310-450	3,523
Stack	5/26/2022	0.0	16.6	4.7	54	498	310-450	808
Stack	6/23/2022	0.0	18.9	2.6	68	475	310-450	145
Stack	7/26/2022	0.0	18.7	1.6	68	521	310-450	738
Stack	8/23/2022	0.0	17.0	1.6	70	492	310-450	1,288
Stack	9/29/2022	0.0	18.4	-	68	529	310-450	392
Stack	10/27/2022	0.0	18.3	-	58	516	310-450	1,841
Stack	12/6/2022	0.2	15.0	1.7	45	562	310-450	6,137
SVE-1	4/28/2022	0.0	19.4	-13.1	46	0	-	461
SVE-1	10/27/2022	0.0	18.0	-6.7	58	0	-	429
SVE-2	4/28/2022	0.0	16.9	-10.4	46	0	-	70
SVE-2	10/27/2022	0.0	19.2	-8.5	58	0	-	14.1
SVE-3	4/28/2022	0.0	20.2	-9.2	46	0	-	109
SVE-3	10/27/2022	0.0	15.6	-7.8	58	0	-	10.3

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
SVE-4	1/31/2022	0.0	14.1	-11.3	35	61	40-50	62
SVE-4	2/28/2022	0.0	17.7	-9.8	42	31	40-50	1,603
SVE-4	3/28/2022	0.0	14.5	-12.0	36	0	40-50	84
SVE-4	4/28/2022	0.0	17.4	-12.6	46	42	40-50	160
SVE-4	5/26/2022	0.0	16.7	-8.9	54	0	40-50	7
SVE-4	6/23/2022	0.0	18.9	-11.8	68	14	40-50	9
SVE-4	7/26/2022	0.0	18.4	-11.2	68	0	40-50	37
SVE-4	8/23/2022	0.0	17.5	-10.4	74	0	40-50	6.6
SVE-4	9/29/2022	0.0	17.1	-10.0	68	30	40-50	516
SVE-4	10/27/2022	0.0	17.4	-8.8	58	37	40-50	3,077
SVE-4	12/6/2022	0.0	15.3	-9.8	45	45	40-50	1,641
SVE-5	4/28/2022	0.0	18.3	-12.6	46	0	-	439
SVE-5	10/27/2022	0.0	20.4	-10.0	58	0	-	92
SVE-6	1/31/2022	0.0	15.6	-10.7	35	92	40-50	322
SVE-6	2/28/2022	0.0	18.5	-10.0	42	0	40-50	19
SVE-6	3/28/2022	0.0	15.4	-11.7	36	98	40-50	22
SVE-6	4/28/2022	0.0	17.4	-13.1	46	0	40-50	275
SVE-6	5/26/2022	0.0	16.9	-8.8	54	0	40-50	14
SVE-6	6/23/2022	0.0	18.8	-11.9	68	71	40-50	6
SVE-6	7/26/2022	0.0	17.9	-11.1	68	43	40-50	392
SVE-6	8/23/2022	0.0	17.2	-10.5	74	74	40-50	249
SVE-6	9/29/2022	0.0	18.2	-10.0	68	77	40-50	62
SVE-6	10/27/2022	0.0	17.7	-8.5	58	0	40-50	316
SVE-6	12/6/2022	0.0	16.6	-9.8	45	42	40-50	140

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
SVE-7	1/31/2022	0.0	14.0	-11.4	35	57	40-50	146
SVE-7	2/28/2022	0.0	17.1	-10.1	42	15	40-50	894
SVE-7	3/28/2022	0.0	14.4	-11.4	36	0	40-50	486
SVE-7	4/28/2022	0.0	16.1	-13.1	46	48	40-50	692
SVE-7	5/26/2022	0.0	16.1	-11.7	54	44	40-50	10
SVE-7	6/23/2022	0.0	18.3	-11.8	68	0	40-50	47
SVE-7	7/26/2022	0.0	17.8	-11.1	68	33	40-50	20
SVE-7	8/23/2022	0.0	17.0	-9.7	74	33	40-50	149
SVE-7	9/29/2022	0.0	18.2	-10.0	68	33	40-50	85
SVE-7	10/27/2022	0.0	18.0	-8.7	58	0	40-50	442
SVE-7	12/6/2022	0.0	16.5	-9.9	45	38	40-50	223
SVE-8	4/28/2022	1.0	13.5	-12.6	46	0	-	NA ¹
SVE-8	10/27/2022	0.0	18.0	-8.3	58	0	-	4,385
SVE-9	4/28/2022	0.0	18.6	-11.6	46	0	-	3,721
SVE-9	10/27/2022	0.0	20.0	-7.8	58	0	-	18
SVE-10	4/28/2022	0.0	13.3	-10.6	46	0	-	1,410
SVE-10	10/27/2022	0.0	17.8	-8.8	58	0	-	1,267
SVE-11	4/28/2022	1.5	16.0	-13.0	46	0	-	NA ¹
SVE-11	10/27/2022	0.7	18.1	-8.4	58	0	-	18,985

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
SVE-12	1/31/2022	0.0	15.9	-11.0	35	128	40-50	476
SVE-12	2/28/2022	0.0	18.9	-9.6	42	74	40-50	201
SVE-12	3/28/2022	0.0	14.1	-11.7	36	0	40-50	194
SVE-12	4/28/2022	0.0	17.8	-11.7	46	0	40-50	1,810
SVE-12	5/26/2022	0.0	16.9	-11.6	54	96	40-50	40
SVE-12	6/23/2022	0.0	19.0	-11.3	68	69	40-50	19
SVE-12	7/26/2022	0.0	18.6	-10.9	68	99	40-50	157
SVE-12	8/23/2022	0.0	17.9	-9.9	74	43	40-50	300
SVE-12	9/29/2022	0.0	18.8	-9.4	68	55	40-50	619
SVE-12	10/27/2022	0.0	18.5	-8.4	58	74	40-50	1,073
SVE-12	12/6/2022	0.0	17.3	-9.2	45	84	40-50	1,141
SVE-13	1/31/2022	0.0	13.9	-11.4	35	39	40-50	188
SVE-13	2/28/2022	0.0	15.7	-10.0	42	0	40-50	137
SVE-13	3/28/2022	0.0	16.1	-11.7	36	0	40-50	886
SVE-13	4/28/2022	0.0	16.3	-13.0	46	0	40-50	120
SVE-13	5/26/2022	0.0	16.0	-12.3	54	0	40-50	7
SVE-13	6/23/2022	0.0	17.3	-11.1	68	39	40-50	29
SVE-13	7/26/2022	0.0	16.3	-10.7	68	114	40-50	242
SVE-13	8/23/2022	0.0	14.8	-10.2	74	36	40-50	119
SVE-13	9/29/2022	0.0	15.7	-10.0	68	33	40-50	51
SVE-13	10/27/2022	0.0	16.1	-8.8	58	46	40-50	165
SVE-13	12/6/2022	0.0	15.4	-9.8	45	15	40-50	157

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-14	1/31/2022	0.0	13.4	-11.4	35	0	40-50	63
SVE-14	2/28/2022	0.0	17.7	-10.0	42	15	40-50	751
SVE-14	3/28/2022	0.0	12.7	-12.3	36	32	40-50	343
SVE-14	4/28/2022	0.0	13.3	-12.5	46	0	40-50	4,385
SVE-14	5/26/2022	0.0	13.2	-12.2	54	34	40-50	26
SVE-14	6/23/2022	0.0	15.3	-11.2	68	0	40-50	9
SVE-14	7/26/2022	0.0	14.9	-11.3	68	0	40-50	59
SVE-14	8/23/2022	0.0	14.3	-10.5	74	0	40-50	315
SVE-14	9/29/2022	0.0	14.7	-9.8	68	0	40-50	876
SVE-14	10/27/2022	0.0	13.7	-9.6	58	130	40-50	1,259
SVE-14	12/6/2022	0.0	14.9	-9.8	45	38	40-50	279
SVE-15	4/28/2022	0.0	19.9	-12.5	46	0	-	3,734
SVE-15	10/27/2022	0.0	20.1	-8.8	58	0	-	133
SVE-16	4/28/2022	0.0	20.9	-12.0	46	0	-	0
SVE-16	10/27/2022	0.0	20.1	-9.6	58	0	-	1
SVE-17	4/28/2022	0.0	20.2	-11.6	46	0	-	9
SVE-17	10/27/2022	0.0	20.2	-8.7	58	0	-	374
SVE-18	4/28/2022	0.0	15.7	-7.7	46	0	-	0
SVE-18	10/27/2022	0.0	14.5	-6.6	58	0	-	47
SVE-19	4/28/2022	0.0	20.9	-11.2	46	0	-	2
SVE-19	10/27/2022	0.0	20.0	-8.8	58	0	-	26
LFG-1	1/31/2022	1.7	4.7	-11.5	50	4	5-10	1,056
LFG-1	2/28/2022	0.6	17.6	-5.1	50	10	5-10	4,591
LFG-1	3/28/2022	0.7	6.9	-5.5	46	11	5-10	NA ¹
LFG-1	4/28/2022	0.6	15.3	-8.2	47	8	5-10	12,376
LFG-1	5/26/2022	0.0	11.7	-7.4	53	6	5-10	2,920
LFG-1	6/23/2022	0.0	15.1	-3.0	74	5	5-10	858

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
LFG-1	7/26/2022	0.4	14.1	-11.4	76	3	5-10	4,572
LFG-1	8/23/2022	0.4	13.4	-4.0	81	0	5-10	12,279
LFG-1	9/29/2022	0.8	14.5	-3.9	69	8	5-10	1,023
LFG-1	10/27/2022	0.5	15.4	-3.4	59	12	5-10	13,271
LFG-1	12/6/2022	2.8	3.3	-6.4	44	15	5-10	NA ¹
LFG-2	1/31/2022	0.0	12.8	-3.6	31	0	5-10	155
LFG-2	2/28/2022	0.1	17.6	-3.2	48	5	5-10	2,615
LFG-2	3/28/2022	0.0	11.1	-3.0	44	10	5-10	2,920
LFG-2	4/28/2022	0.0	17.4	-4.1	46	0	5-10	2,367
LFG-2	5/26/2022	0.0	12.0	-11.6	53	5	5-10	35
LFG-2	6/23/2022	0.0	18.2	-5.0	70	0	5-10	44
LFG-2	7/26/2022	0.0	17.6	-11.3	72	5	5-10	919
LFG-2	8/23/2022	0.0	16.1	-4.0	80	13	5-10	1,718
LFG-2	9/29/2022	0.0	17.2	-10.0	70	11	5-10	1,902
LFG-2	10/27/2022	0.0	17.8	-2.8	59	7	5-10	1,679
LFG-2	12/6/2022	0.2	5.8	-3.0	42	6	5-10	NA ¹

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
LFG-3	1/31/2022	0.9	10.7	-6.3	35	3	5-10	2,009
LFG-3	2/28/2022	0.2	18.2	-10.1	43	18	5-10	2,970
LFG-3	3/28/2022	0.5	11.9	-11.2	44	5	5-10	NA ¹
LFG-3	4/28/2022	0.0	17.2	-12.7	46	5	5-10	1,820
LFG-3	5/26/2022	0.0	15.1	-11.8	52	24	5-10	86
LFG-3	6/23/2022	0.0	17.7	-10.1	73	2	5-10	352
LFG-3	7/26/2022	0.1	17.2	-11.2	73	0	5-10	3,782
LFG-3	8/23/2022	0.0	16.7	-10.4	78	6	5-10	4,693
LFG-3	9/29/2022	0.2	18.1	-9.9	64	2	5-10	950
LFG-3	10/27/2022	0.0	18.0	-8.8	58	2	5-10	3,608
LFG-3	12/6/2022	0.9	11.9	-9.6	45	24	5-10	NA ¹
LFG-4	1/31/2022	0.5	9.9	-10.8	42	39	15-20	4,508
LFG-4	2/28/2022	0.0	19.2	-8.4	45	27	15-20	1,494
LFG-4	3/28/2022	0.2	11.2	-10.1	44	16	15-20	NA ¹
LFG-4	4/28/2022	0.0	18.6	-7.8	45	20	15-20	2,840
LFG-4	5/26/2022	0.0	14.4	-11.4	52	19	15-20	98
LFG-4	6/23/2022	0.0	18.7	-5.4	70	18	15-20	132
LFG-4	7/26/2022	0.0	18.5	-11.2	72	18	15-20	1,490
LFG-4	8/23/2022	0.0	17.5	-4.8	79	15	15-20	1,597
LFG-4	9/29/2022	0.0	18.7	-4.9	69	18	15-20	334
LFG-4	10/27/2022	0.0	19.0	-3.7	60	19	15-20	1,464
LFG-4	12/6/2022	0.6	9.9	-3.8	51	18	15-20	NA ¹

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
LFG-5	1/31/2022	0.3	6.0	-0.3	52	0	5-10	175
LFG-5	2/28/2022	0.3	18.0	-8.9	47	10	5-10	4,203
LFG-5	3/28/2022	1.1	12.2	-10.1	44	8	5-10	NA ¹
LFG-5	4/28/2022	0.0	19.2	-12.5	42	6	5-10	2,262
LFG-5	5/26/2022	0.0	14.5	-11.1	52	0	5-10	185
LFG-5	6/23/2022	0.0	19.1	-10.4	70	6	5-10	57
LFG-5	7/26/2022	0.0	18.9	-11.1	71	9	5-10	689
LFG-5	8/23/2022	0.0	13.1	-9.7	74	6	5-10	1,382
LFG-5	9/29/2022	0.0	19.5	-9.0	70	8	5-10	347
LFG-5	10/27/2022	0.0	19.0	-8.4	60	7	5-10	2,080
LFG-5	12/6/2022	0.7	8.8	-8.7	48	10	5-10	NA ¹
LFG-6	1/31/2022	0.3	8.6	-11.1	50	20	15-20	1,811
LFG-6	2/28/2022	0.0	18.2	-3.9	52	15	15-20	1,903
LFG-6	3/28/2022	0.0	10.0	-5.8	50	19	15-20	NA ¹
LFG-6	4/28/2022	0.0	17.8	-6.8	48	20	15-20	3,699
LFG-6	5/26/2022	0.0	15.2	-6.1	53	15	15-20	1,082
LFG-6	6/23/2022	0.0	18.4	-5.2	68	18	15-20	110
LFG-6	7/26/2022	0.0	18.0	-9.1	70	33	15-20	1,066
LFG-6	8/23/2022	0.0	15.8	-1.3	82	19	15-20	2,172
LFG-6	9/29/2022	0.0	17.5	-3.8	70	21	15-20	516
LFG-6	10/27/2022	0.0	18.0	-8.5	64	18	15-20	2,203
LFG-6	12/6/2022	0.3	9.5	-3.5	57	20	15-20	NA ¹

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration
		Gas (%)						by FID (ppm)
LFG-7	1/31/2022	1.1	8.4	-5.4	37	24	5-10	272
LFG-7	2/28/2022	0.4	15.5	-4.2	48	20	5-10	4,630
LFG-7	3/28/2022	1.1	11.9	-10.8	44	37	5-10	NA ¹
LFG-7	4/28/2022	0.0	15.0	-12.8	42	0	5-10	2,163
LFG-7	5/26/2022	0.0	11.8	-11.7	53	0	5-10	NA ¹
LFG-7	6/23/2022	0.0	16.3	-11.3	75	0	5-10	12
LFG-7	7/26/2022	0.0	16.0	-10.6	69	0	5-10	1,192
LFG-7	8/23/2022	0.0	15.1	-10.6	72	0	5-10	2,162
LFG-7	9/29/2022	0.0	15.2	-10.0	64	0	5-10	171
LFG-7	10/27/2022	0.0	16.5	-8.8	58	10	5-10	350
LFG-7	12/6/2022	0.9	10.2	-9.7	42	2	5-10	NA ¹
LFG-8	1/31/2022	9.0	2.0	-11.7	38	19	15-20	882
LFG-8	2/28/2022	3.3	9.4	-10.3	50	0	15-20	1,250
LFG-8	3/28/2022	5.3	2.7	-10.6	46	5	15-20	NA ¹
LFG-8	4/28/2022	7.8	2.4	-11.4	44	26	15-20	NA ¹
LFG-8	5/26/2022	10.2	0.7	-10.2	55	16	15-20	NA ¹
LFG-8	6/23/2022	0.5	12.4	-11.4	82	7	15-20	NA ¹
LFG-8	7/26/2022	1.2	11.6	-10.9	70	0	15-20	NA ¹
LFG-8	8/23/2022	1.5	11.1	-10.9	80	0	15-20	NA ¹
LFG-8	9/29/2022	3.8	10.1	-10.2	64	0	15-20	5
LFG-8	10/27/2022	3.1	11.7	-8.7	58	13	15-20	NA ¹
LFG-8	12/6/2022	11.3	1.4	-10.1	42	34	15-20	NA ¹

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
LFG-9	1/31/2022	0.0	11.9	0.0	40	0	5-10	0
LFG-9	2/28/2022	0.0	16.1	-9.7	48	0	5-10	48
LFG-9	3/28/2022	0.0	13.3	-0.2	43	11	5-10	11
LFG-9	4/28/2022	0.0	14.6	-0.2	44	13	5-10	37
LFG-9	5/26/2022	0.0	16.4	-11.7	50	5	5-10	6
LFG-9	6/23/2022	0.0	17.0	-0.2	64	10	5-10	7
LFG-9	7/26/2022	0.0	16.0	-0.2	68	3	5-10	0
LFG-9	8/23/2022	0.0	15.1	-0.2	70	7	5-10	3
LFG-9	9/29/2022	0.0	15.6	-0.4	62	6	5-10	7
LFG-9	10/27/2022	0.0	16.7	-8.8	57	6	5-10	7
LFG-9	12/6/2022	0.0	17.3	-0.4	45	13	5-10	0
GP-01	3/28/2022	0.0	20.1	-0.1	-	-	-	-
GP-01	5/26/2022	0.0	19.6	0.0	-	-	-	-
GP-01	8/23/2022	0.0	19.2	0.0	-	-	-	-
GP-01	12/6/2022	0.0	19.5	-0.2	-	-	-	-
GP-1A	3/28/2022	0.0	20.5	-0.1	-	-	-	-
GP-1A	5/26/2022	0.0	20.3	0.0	-	-	-	-
GP-1A	8/23/2022	0.0	20.2	0.0	-	-	-	-
GP-1A	12/6/2022	0.0	19.9	-0.2	-	-	-	-
GP-02	3/28/2022	0.0	18.8	0.0	-	-	-	-
GP-02	5/26/2022	0.0	18.6	-0.2	-	-	-	-
GP-02	8/23/2022	0.0	19.0	0.0	-	-	-	-
GP-02	12/6/2022	0.0	18.5	-0.2	-	-	-	-
GP-2A	3/28/2022	0.0	19.0	0.0	-	-	-	-
GP-2A	5/26/2022	0.0	18.9	0.0	-	-	-	-
GP-2A	8/23/2022	0.0	19.2	0.0	-	-	-	-
GP-2A	12/6/2022	0.0	18.4	-0.2	-	-	-	-
GP-2B	3/28/2022	0.0	18.8	-0.6	-	-	-	-

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
GP-2B	5/26/2022	0.0	20.1	-0.2	-	-	-	-
GP-2B	8/23/2022	0.0	19.8	-0.2	-	-	-	-
GP-2B	12/6/2022	0.0	19.3	-0.4	-	-	-	-
GP-03	3/28/2022	0.0	20.1	0.0	-	-	-	-
GP-03	5/26/2022	0.0	20.2	-0.7	-	-	-	-
GP-03	8/23/2022	0.0	17.3	0.0	-	-	-	-
GP-03	12/6/2022	0.0	19.7	-0.2	-	-	-	-
GP-3A	3/28/2022	0.0	17.3	0.0	-	-	-	-
GP-3A	5/26/2022	0.0	17.3	-0.6	-	-	-	-
GP-3A	8/23/2022	0.0	18.9	0.0	-	-	-	-
GP-3A	12/6/2022	0.0	16.9	-0.2	-	-	-	-
GP-4A	3/28/2022	0.0	20.4	-0.2	-	-	-	-
GP-4A	5/26/2022	0.0	20.4	0.0	-	-	-	-
GP-4A	8/23/2022	0.0	20.7	-0.4	-	-	-	-
GP-4A	12/6/2022	0.0	19.8	-0.1	-	-	-	-

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
GP-8A	3/28/2022	0.0	19.8	-0.6	-	-	-	-
GP-8A	5/26/2022	0.0	20.1	-0.4	-	-	-	-
GP-8A	8/23/2022	0.0	19.7	-0.6	-	-	-	-
GP-8A	12/6/2022	0.0	19.5	-0.6	-	-	-	-
GP-8B	3/28/2022	0.0	19.2	-0.7	-	-	-	-
GP-8B	5/26/2022	0.0	19.5	-0.6	-	-	-	-
GP-8B	8/23/2022	0.0	19.4	-0.7	-	-	-	-
GP-8B	12/6/2022	0.0	18.9	-0.7	-	-	-	-
GP-09	3/28/2022	0.0	19.8	-2.7	-	-	-	-
GP-09	5/26/2022	0.0	19.8	-0.6	-	-	-	-
GP-09	8/23/2022	0.0	19.6	-0.6	-	-	-	-
GP-09	12/6/2022	0.0	0.5	-19.8	-	-	-	-
GP-9A	3/28/2022	0.0	19.4	0.0	-	-	-	-
GP-9A	5/26/2022	0.0	19.8	-0.6	-	-	-	-
GP-9A	8/23/2022	0.0	19.4	-0.4	-	-	-	-
GP-9A	12/6/2022	0.0	19.4	-0.2	-	-	-	-
GP-10	3/28/2022	0.0	18.9	0.0	-	-	-	-
GP-10	5/26/2022	0.0	20.2	-0.2	-	-	-	-
GP-10	8/23/2022	0.0	19.7	-0.1	-	-	-	-
GP-10	12/6/2022	0.0	19.5	-0.2	-	-	-	-

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
GP-10A	3/28/2022	0.0	20.2	0.0	-	-	-	-
GP-10A	5/26/2022	0.0	20.1	-0.3	-	-	-	-
GP-10A	8/23/2022	0.0	19.6	-0.1	-	-	-	-
GP-10A	12/6/2022	0.0	19.6	-0.2	-	-	-	-
GP-11	3/28/2022	0.0	18.9	0.0	-	-	-	-
GP-11	5/26/2022	0.0	16.1	-0.1	-	-	-	-
GP-11	8/23/2022	0.0	17.7	-0.1	-	-	-	-
GP-11	12/6/2022	0.0	19.3	-0.2	-	-	-	-
GP-11A	3/28/2022	0.0	19.7	0.0	-	-	-	-
GP-11A	5/26/2022	0.0	18.8	-0.1	-	-	-	-
GP-11A	8/23/2022	0.0	17.5	-0.1	-	-	-	-
GP-11A	12/6/2022	0.0	18.3	NA ²	-	-	-	-
GP-12	3/28/2022	0.0	19.5	0.0	-	-	-	-
GP-12	5/26/2022	0.0	19.7	-0.1	-	-	-	-
GP-12	8/23/2022	0.0	19.8	0.0	-	-	-	-
GP-12	12/6/2022	0.0	19.9	-0.3	-	-	-	-

Table 4.1

**SVE/LFG Gas Extraction System Summary
(January - December 2022)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible Gas (%)	Oxygen (%)	Pressure (in H₂O)	Temperature (°F)	Flow rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
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Notes:

NA - Not applicable

¹ No reading could be obtained; FID flamed out because of low oxygen level.

² Air flow is heard through the pipe, but no flow measurement could be determined.

³ Values could not be determined due to equipment error.

With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and operating only SVE wells SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14.

These wells are monitored on a monthly basis. All other SVE wells will be monitored on a semi-annual basis (April and October) and will be "turned on" on an as needed basis. Extraction from the LFG wells was also modified in order to focus gas extraction in the vicinity of the GP-2 nest.

Table 4.2

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	Blower Discharge 09/23/08	Blower Discharge 09/25/08	Blower Discharge 10/01/08	Blower Discharge 10/07/08	Blower Discharge 10/15/08	Blower Discharge 10/30/08	Blower Discharge 11/13/08	Blower Discharge 04/24/09	Blower Discharge 07/23/09	Blower Discharge 10/20/09	Blower Discharge 01/29/10	Blower Discharge 04/22/10	Blower Discharge 07/23/10	Blower Discharge ¹ 07/23/10	Blower Discharge 10/22/10	Blower Discharge 01/24/11
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	17,000	28,000	27,000	29,000	18,000	15,000	11,000	5,700	2,000	380	1,300	1,473	1,400	1,700	1,000	1,500
1,1,2,2-Tetrachloroethane	< 510	< 650	< 470	< 310	< 140	< 150	< 68	< 25	< 27	< 2.7	< 5.5	< 27.46	< 14	< 14	< 14	< 14
1,1,2-Trichloroethane	< 400	< 510	< 380	< 250	< 110	< 120	< 54	22	< 22	< 2.2	11	< 21.82	< 11	< 11	< 11	< 11
1,1-Dichloroethane	51,000	59,000	42,000	32,000	20,000	16,000	8,600	3,900	1,100	220.0	920	850	790	950	680	940
1,1-Dichloroethene	3,300	3,900	4,700	3,800	1,900	1,700	1,400	560	180.0	29.00	180.0	150.7	140	160	110	190
1,2,4-Trichlorobenzene	< 2700	< 3500	< 2600	< 1700	< 760	< 820	< 370	< 130	< 150	< 15	< 30	< 148.43	< 74	< 74	< 74	< 74
1,2,4-Trimethylbenzene	< 360	< 460	< 340	< 220	< 100	130	< 49	24	20	2	16.0	< 19.66	< 9.8	< 9.8	17.0	< 9.8
1,2-Dibromoethane (Ethylene dibromide)	< 570	< 720	< 530	< 350	< 160	< 170	< 76	< 28	< 31	< 3.1	< 6.1	< 30.73	< 15	< 15	< 15	< 15
1,2-Dichlorobenzene	< 440	< 570	< 410	< 270	< 120	< 130	< 60	< 22	< 24	< 2.4	5.9	< 24.05	< 12	< 12	< 12	< 12
1,2-Dichloroethane	< 300	< 380	< 280	190	< 83	< 90	< 40	19	< 16	< 1.6	4.9	< 16.19	< 8.1	< 8.1	< 8.1	< 8.1
1,2-Dichloropropane	< 340	< 440	< 320	210	140	150	66	37	< 18	2.80	19.0	< 18.49	< 9.2	14.0	< 9.2	< 9.2
1,2-Dichlorotetrafluoroethane (CFC 114)	< 510	< 660	< 480	< 320	< 140	< 150	< 69	29	< 28	4	31	< 27.96	21	17	69	27
1,3,5-Trimethylbenzene	< 360	< 460	< 340	< 220	< 100	< 110	< 49	26	< 20	3	28.0	< 19.66	< 9.8	18.0	17.0	< 9.8
1,3-Butadiene	< 330	< 420	< 300	< 200	< 91	< 98	< 44	< 16	< 18	< 1.8	< 3.5	< 17.7	< 8.8	< 8.8	< 8.8	< 8.8
1,3-Dichlorobenzene	< 440	< 570	< 410	< 270	< 120	< 130	< 60	< 22	< 24	< 2.4	< 4.8	< 24.05	< 12	< 12	< 12	< 12
1,4-Dichlorobenzene	< 440	< 570	< 410	< 270	< 120	< 130	< 60	32	27	6	43.0	< 24.05	18.0	46.0	24.0	16.0
2-Butanone (Methyl ethyl ketone) (MEK)	2,600	4,700	3,500	2,600	3,200	3,400	1,700	790	250	43.00	360.0	79.6	81.0	160.0	< 29	33.0
2-Hexanone	< 750	< 960	< 700	< 460	< 210	< 230	< 100	44	< 41	< 4.1	15	< 40.97	< 20	< 20	< 20	< 20
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 750	1,400	1,200	950	1,200	1,700	830	560	240	29	380.0	114.7	100.0	240.0	37.0	52.0
Acetone	< 4400	< 5600	< 4100	< 2700	3,200	3,700	1,900	1,300	430	170	480.0	< 237.55	< 120	240.0	130.0	< 120
Acetonitrile	< 620	< 790	< 580	< 380	< 170	< 190	< 83	< 31	< 34	< 3.4	17.0	< 33.58	< 17	< 17	< 17	< 17
Acrolein	< 680	< 860	< 630	< 420	< 190	< 200	< 91	< 33	< 37	< 3.7	< 7.3	< 36.69	< 18	< 18	< 18	< 18
Acrylonitrile	< 1600	< 2000	< 1500	< 980	< 450	< 480	< 220	< 79	< 87	< 8.7	< 17	< 86.81	< 43	< 43	< 43	< 43
Allyl chloride (3-Chloropropene)	< 230	< 290	< 220	< 140	< 64	< 69	< 31	< 11	< 13	< 1.3	< 2.5	< 12.52	< 6.3	< 6.3	< 6.3	< 6.3
alpha-Methylstyrene	< 710	< 910	< 660	< 440	< 200	< 210	< 96	< 35	< 39	< 3.9	< 7.7	< -999	< 19	< 19	< 19	< 19
Benzene	780	750	460	300	160	130	50	16	< 13	1.6	6	< 12.78	< 6.4	< 6.4	8	< 6.4
Benzyl chloride	< 760	< 980	< 710	< 470	< 210	< 230	< 100	< 38	< 41	< 4.1	< 8.3	< 41.42	< 21	< 21	< 21	< 21
Bromodichloromethane	< 490	< 630	< 460	< 300	< 140	< 150	< 66	< 24	< 27	< 2.7	< 5.4	< 26.8	< 13	< 13	< 13	< 13
Bromoform	< 760	< 970	< 710	< 470	< 210	< 230	< 100	< 38	< 41	< 4.1	< 8.3	< 41.35	< 21	< 21	< 21	< 21
Bromomethane (Methyl bromide)	< 290	< 370	< 270	< 180	< 80	< 86	< 38	< 14	< 16	< 1.6	< 3.1	< 15.53	< 7.8	< 7.8	< 7.8	< 7.8
Butane	790	630	< 330	260	< 98	120	84	63	39	8	36	24	29	26	170	35
Carbon disulfide	< 570	< 730	< 540	< 350	270	370	260	65	< 31	< 3.1	17	< 31.14	< 16	< 16	22	< 16
Carbon tetrachloride	< 460	< 590	< 430	< 290	< 130	< 140	< 62	< 23	< 25	< 2.5	< 5.0	< 25.16	< 13	< 13	< 13	< 13
Chlorobenzene	420	< 430	< 320	< 210	< 95	< 100	< 46	< 17	< 18	< 1.8	8	< 18.41	< 9.2	< 9.2	< 9.2	< 9.2
Chlorodifluoromethane	3,400	2,600	1,200	670	200	130	81	27	17	3	10	< -999	12	11	71	17.0
Chloroethane	20,000	16,000	9,500	6,000	2,300	1,300	820	170	66	13.0	61	50	55.0	53	120	66
Chloroform (Trichloromethane)	< 360	< 460	< 340	< 220	140	170	110	66	26	5.2	27.0	27.8	25.0	36.0	18	36
Chloromethane (Methyl chloride)	< 380	< 490	< 360	< 230	< 110	< 110	< 51	< 19	< 21	3.3	5	< 20.65	< 10	< 10	< 10	< 10
cis-1,2-Dichloroethene	6,900	8,600	7,600	6,100	4,200	3,400	2,300	950	310	73.0	330	222	210	240	180	200
cis-1,3-Dichloropropene	< 330	< 430	< 310	< 210	< 93	< 100	< 45	< 17	< 18	< 1.8	< 3.6	< 18.15	< 9.1	< 9.1	< 9.1	< 9.1
Cyclohexane	4,400	2,900	1,500	980	460	430	300	140	64	14	85	45	51	53	82	48
Dibromochloromethane	< 630	< 800	< 590	< 390	< 180	< 190	< 84	< 31	< 34	< 3.4	< 6.8	< 34.07	< 17	< 17	< 17	< 17
Dibromomethane	< 1000	< 1300	< 980	< 640	< 290	< 310	< 140	< 52	< 57	< 5.7	< 11	< -999	< 28	< 28	< 28	< 28
Dichlorodifluoromethane (CFC-12)	2,800	2,300	1,700	1,700	650	700	1,200	300	180	28.0	57	109	120	110	840	280

Table 4.2

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	Blower Discharge 09/23/08	Blower Discharge 09/25/08	Blower Discharge 10/01/08	Blower Discharge 10/07/08	Blower Discharge 10/15/08	Blower Discharge 10/30/08	Blower Discharge 11/13/08	Blower Discharge 04/24/09	Blower Discharge 07/23/09	Blower Discharge 10/20/09	Blower Discharge 01/29/10	Blower Discharge 04/22/10	Blower Discharge 07/23/10	Blower Discharge ¹ 07/23/10	Blower Discharge 10/22/10	Blower Discharge 01/24/11
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 2200	< 2900	< 2100	< 1400	< 620	660	340	200	< 120	16.0	120.0	< 121.26	< 61	74.0	< 61	< 61
Ethylbenzene	6,000	5,200	1,900	1,100	1,100	1,000	370	180	82	12.0	82	< 17.37	30	30	160	22
Hexachlorobutadiene	< 3900	< 5000	< 3700	< 2400	< 1100	< 1200	< 530	< 190	< 210	< 21	< 43	< 213.3	< 110	< 110	< 110	< 110
Hexane	2,300	1,400	660	< 400	230	< 190	120	57	< 35	8.6	33	< 35.25	32	31	110	35
Isopropyl benzene (Cumene)	< 720	< 930	< 680	< 450	< 200	< 220	< 97	< 36	< 39	< 3.9	10	< 39.33	< 20	< 20	< 20	< 20
m&p-Xylenes	10,000	9,500	4,600	2,800	2,900	3,000	1,000	740	370	43.0	280	65	94	150	350	63
Methyl tert butyl ether (MTBE)	< 1300	< 1700	< 1200	< 820	< 370	< 400	< 180	< 66	< 72	< 7.2	< 14	< 72.11	< 36	< 36	< 36	< 36
Methylene chloride	7,100	6,700	5,800	4,900	3,100	2,500	1,900	460	160	12.0	64	52	37	41	35	46
Naphthalene	< 970	< 1200	< 900	< 590	< 270	< 290	< 130	< 48	< 52	< 5.2	< 10	< 52.42	< 26	< 26	< 26	< 26
N-Decane	< 2100	< 2700	< 2000	< 1300	< 600	< 640	< 290	150	< 120	20.0	150	< 116.39	< 58	130	100	< 58
N-Dodecane	< 2600	< 3300	< 2400	< 1600	< 720	< 770	< 350	< 130	< 140	< 14	< 28	< 139.34	< 70	< 70	< 70	< 70
N-Heptane	5,400	3,400	1,400	770	500	630	330	430	140	25.0	110	66	67	110	130	26
Nonane	2,300	2,100	< 900	< 590	360	570	180	170	81	15.0	120	< 52.46	43	100	120	47
N-Propylbenzene	< 720	< 930	< 680	< 450	< 200	< 220	< 97	< 36	< 39	< 3.9	< 7.9	< 39.33	< 20	< 20	< 20	< 20
N-Undecane	< 2400	< 3000	< 2200	< 1400	< 660	< 710	< 320	< 120	< 130	< 13	27	< 127.86	< 64	< 64	< 64	< 64
Octane	1,900	1,500	< 640	< 420	320	290	140	62	< 37	5.8	43	< 37.38	< 19	29	53	< 19
o-Xylene	2,400	2,400	890	560	870	940	290	170	94	12.0	90	19	30	63	68	23
Pentane	< 1100	< 1400	< 1000	< 670	< 300	< 330	< 150	80	< 59	7.0	36	< 59.02	< 30	< 30	93	< 30
Styrene	< 310	< 400	< 290	< 190	< 88	< 94	< 42	< 15	< 17	< 1.7	< 3.4	< 17.04	< 8.5	< 8.5	< 8.5	< 8.5
Tetrachloroethene	3,000	3,700	2,500	2,100	1,900	1,800	1,000	760	320	49.0	300	176	190	310	190	190
Toluene	24,000	25,000	21,000	14,000	10,000	7,900	3,300	780	270	38.0	160	45	110	230	340	52
trans-1,2-Dichloroethene	< 290	< 370	< 270	< 180	87	< 88	< 39	< 14	< 16	< 1.6	< 3.2	< 15.86	< 7.9	< 7.9	< 7.9	< 7.9
trans-1,3-Dichloropropene	< 330	< 430	< 310	< 210	< 93	< 100	< 45	< 17	< 18	< 1.8	< 3.6	< 18.15	< 9.1	< 9.1	< 9.1	< 9.1
Trichloroethene	690	630	590	490	360	390	240	170	66	16.0	71	41	46	68	51	48
Trichlorofluoromethane (CFC-11)	450	710	810	880	410	430	720	250	150	29.0	92.0	101.1	150.0	100.0	220.0	140.0
Trifluorotrichloroethane (Freon 113)	< 560	< 720	< 530	< 350	< 160	< 170	< 76	< 28	< 31	< 3.1	< 6.1	< 30.65	< 15	< 15	< 15	< 15
Vinyl acetate	< 1300	< 1700	< 1200	< 800	< 360	< 390	< 170	< 64	< 70	< 7.0	< 14	< 70.42	< 35	< 35	< 35	< 35
Vinyl chloride	16,000	12,000	5,000	2,900	730	500	290	62	34	9.4	40.0	21.5	35.0	34.0	160.0	44.0
Total VOCs	194,930	205,020	145,510	115,070	78,800	68,360	40,581	20,243	7,023	1,427	6,651	4,453	4,175	5,574	5,629	4,521

Table 4.2

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	Blower Discharge 04/29/11	Blower Discharge 07/22/11	Blower Discharge 10/26/11	Blower Discharge 01/26/12	Blower Discharge 04/27/12	Blower Discharge 07/25/12	Blower Discharge 10/30/12	Blower Discharge 11/21/12	Blower Discharge 12/21/12	Blower Discharge 01/03/13	Blower Discharge 04/26/13	Blower Discharge 07/25/13	Blower Discharge 10/23/13	Blower Discharge 01/10/14	Blower Discharge 05/13/14	Blower Discharge 05/28/14
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	940	870	650	760	790	940	350	330	400	420	15	300	200	290	1,000	440
1,1,2,2-Tetrachloroethane	< 14	< 2.7	< 14	< 14	< 14	< 14	< 2.7	< 14	< 14	< 14	< 1.4	< 14	< 14	< 5.5	< 25	< 7.0
1,1,2-Trichloroethane	< 11	4	< 11	< 11	< 11	< 11	< 2.2	< 11	< 11	< 11	< 1.1	< 11	< 11	< 4.4	< 20	< 5.5
1,1-Dichloroethane	550	450	370	350	370	550	190	220	330	290	12	180	120	200	1200	450
1,1-Dichloroethene	180	150	70	76	83	100	43	53	47	61	2.1	38	25	37	110	61
1,2,4-Trichlorobenzene	< 74	< 15	< 74	< 74	< 74	< 74	< 15	< 74	< 74	< 74	< 7.4	< 74	< 74	< 30	< 130	< 38
1,2,4-Trimethylbenzene	< 9.8	< 2.0	< 9.8	< 9.8	< 9.8	< 9.8	< 2.0	< 9.8	< 9.8	< 9.8	< 0.98	< 9.8	< 9.8	< 3.9	< 18	< 5.0
1,2-Dibromoethane (Ethylene dibromide)	< 15	< 3.1	< 15	< 15	< 15	< 15	< 3.1	< 15	< 15	< 15	< 1.5	< 15	< 15	< 6.1	< 28	< 7.8
1,2-Dichlorobenzene	< 12	< 2.4	< 12	< 12	< 12	< 12	< 2.4	< 12	< 12	< 12	< 1.2	< 12	< 12	< 4.8	< 22	< 6.1
1,2-Dichloroethane	< 8.1	1.9	< 8.1	< 8.1	< 8.1	< 8.1	< 1.6	< 8.1	< 8.1	< 8.1	< 0.81	< 8.1	< 8.1	< 3.2	< 15	< 4.1
1,2-Dichloropropane	< 9.2	4.9	< 9.2	< 9.2	< 9.2	< 9.2	< 1.8	< 9.2	< 9.2	< 9.2	< 0.92	< 9.2	< 9.2	< 3.7	< 17	< 4.7
1,2-Dichlorotetrafluoroethane (CFC 114)	16	17	< 14	64.0	< 14	58	16	19	170	19	< 1.4	< 14	19	20	110	19
1,3,5-Trimethylbenzene	< 9.8	< 2.0	< 9.8	< 9.8	< 9.8	< 9.8	< 2.0	< 9.8	< 9.8	< 9.8	< 0.98	< 9.8	< 9.8	< 3.9	< 18	< 5.0
1,3-Butadiene	< 8.8	< 1.8	< 8.8	< 8.8	< 8.8	< 8.8	< 1.8	< 8.8	< 8.8	< 8.8	< 0.88	< 8.8	< 8.8	< 3.5	< 16	< 4.5
1,3-Dichlorobenzene	< 12	< 2.4	< 12	< 12	< 12	< 12	< 2.4	< 12	< 12	< 12	< 1.2	< 12	< 12	< 4.8	< 22	< 6.1
1,4-Dichlorobenzene	< 12	< 2.4	14.0	< 12	< 12	< 12	4	< 12	< 12	13	< 1.2	< 12	< 12	5.5	< 22	< 6.1
2-Butanone (Methyl ethyl ketone) (MEK)	< 29	7.9	< 29	< 29	< 29	< 29	< 5.9	< 29	< 29	< 29	< 2.9	< 29	< 29	< 12	< 54	17
2-Hexanone	< 20	< 4.1	< 20	< 20	< 20	< 20	< 4.1	< 20	< 20	< 20	< 2.0	< 20	< 20	< 8.2	< 37	< 10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	33.0	110.0	50.0	22.0	< 20	< 20	< 4.1	< 20	< 20	< 20	< 2.0	< 20	< 20	< 8.2	< 37	< 10
Acetone	< 120	31.0	< 120	< 120	< 120	< 120	< 24	< 120	140	< 120	< 12	< 120	< 120	< 48	< 220	< 60
Acetonitrile	< 17	< 3.4	< 17	< 17	< 17	< 17	< 3.4	< 17	< 17	< 17	< 1.7	< 17	< 17	< 6.7	< 31	< 8.5
Acrolein	< 18	< 3.7	< 18	< 18	< 18	< 18	< 3.7	< 18	< 18	< 18	< 1.8	< 18	< 23	< 9.2	< 42	< 12
Acrylonitrile	< 43	< 8.7	< 43	< 43	< 43	< 43	< 8.7	< 43	< 43	< 43	< 4.3	< 43	< 43	< 17	< 79	< 22
Allyl chloride (3-Chloropropene)	< 6.3	< 1.3	< 6.3	< 6.3	< 6.3	< 6.3	< 1.3	< 6.3	< 6.3	< 6.3	< 0.63	< 6.3	< 6.3	< 2.5	< 11	< 3.2
alpha-Methylstyrene	< 19	< 3.9	< 19	< 19	< 19	< 19	< 3.9	< 19	< 19	< 19	< 1.9	< 19	< 19	< 7.7	< 35	< 9.8
Benzene	< 6.4	1.4	< 6.4	< 6.4	< 6.4	< 6.4	1.3	< 6.4	7	< 6.4	1.8	< 6.4	< 6.4	< 2.6	< 12	< 3.2
Benzyl chloride	< 21	< 4.1	< 21	< 21	< 21	< 21	< 4.1	< 21	< 21	< 21	< 2.1	< 21	< 21	< 8.3	< 38	< 11
Bromodichloromethane	< 13	< 2.7	< 13	< 13	< 13	< 13	< 2.7	< 13	< 13	< 13	< 1.3	< 13	< 13	< 5.4	< 24	< 6.8
Bromoform	< 21	< 4.1	< 21	< 21	< 21	< 21	< 4.1	< 21	< 21	< 21	< 2.1	< 21	< 21	< 8.3	< 38	< 11
Bromomethane (Methyl bromide)	< 7.8	< 1.6	< 7.8	< 7.8	< 7.8	< 7.8	< 1.6	< 7.8	< 7.8	< 7.8	< 0.78	< 7.8	< 7.8	< 3.1	< 14	< 3.9
Butane	29	14	16	58	16	66	9	< 9.5	170	23	62	< 9.5	14	34	250	26
Carbon disulfide	< 16	5.8	< 16	< 16	< 16	< 16	< 3.1	< 16	< 16	< 16	< 1.6	< 16	< 16	< 6.2	< 28	< 7.9
Carbon tetrachloride	< 13	< 2.5	< 13	< 13	< 13	< 13	< 2.5	< 13	< 13	< 13	< 1.3	< 13	< 13	< 5.0	< 23	< 6.4
Chlorobenzene	< 9.2	2.9	< 9.2	< 9.2	< 9.2	< 9.2	2.5	< 9.2	< 9.2	< 9.2	< 0.92	< 9.2	< 9.2	< 3.7	< 17	< 4.7
Chlorodifluoromethane	18	14	20.0	36.0	13.0	27.0	6.1	< 7.1	71	20.0	6	< 7.1	10 J	29	210	56
Chloroethane	45	38	25	39	42	63.0	15.0	19.0	91	44.0	2.2	9.6	18	25	190	41
Chloroform (Trichloromethane)	25	25	20.00	17.00	19.00	33	13	13	13.0	16	< 0.98	17	11	13	36	28
Chloromethane (Methyl chloride)	< 10	3.1	< 10	< 10	< 10	< 10	< 2.1	< 10	< 10	< 10	1.3	< 10	< 10	< 4.1	< 19	< 5.2
cis-1,2-Dichloroethene	94	54	39.0	61	64	130	25.0	37	54	58	< 0.79	36	13	24	130	66
cis-1,3-Dichloropropene	< 9.1	< 1.8	< 9.1	< 9.1	< 9.1	< 9.1	< 1.8	< 9.1	< 9.1	< 9.1	< 0.91	< 9.1	< 9.1	< 3.6	< 17	< 4.6
Cyclohexane	23.0	17.0	20.0	34	28	36.0	14.0	21.0	51.0	29.0	2.4	< 17	< 17	25	110	20
Dibromochloromethane	< 17	< 3.4	< 17	< 17	< 17	< 17	< 3.4	< 17	< 17	< 17	< 1.7	< 17	< 17	< 6.8	< 31	< 8.7
Dibromomethane	< 28	< 5.7	< 28	< 28	< 28	< 28	< 5.7	< 28	< 28	< 28	< 2.8	< 28	< 28	< 11	< 52	< 14
Dichlorodifluoromethane (CFC-12)	100	35	86	200	100	160	48.0	330.0	580	110	6.8	37	60	97	370	74

Table 4.2

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	Blower Discharge 04/29/11	Blower Discharge 07/22/11	Blower Discharge 10/26/11	Blower Discharge 01/26/12	Blower Discharge 04/27/12	Blower Discharge 07/25/12	Blower Discharge 10/30/12	Blower Discharge 11/21/12	Blower Discharge 12/21/12	Blower Discharge 01/03/13	Blower Discharge 04/26/13	Blower Discharge 07/25/13	Blower Discharge 10/23/13	Blower Discharge 01/10/14	Blower Discharge 05/13/14	Blower Discharge 05/28/14
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 61	32.0	< 61	< 61	< 61	< 61	< 12	< 61	< 61	< 61	< 6.1	< 61	< 61	< 24	< 110	< 31
Ethylbenzene	< 8.7	18.0	13.0	33	9.6	37	12	16	50	33	2	< 8.7	< 8.7	20	63	10
Hexachlorobutadiene	< 110	< 21	< 110	< 110	< 110	< 110	< 21	< 110	< 110	< 110	< 11	< 110	< 110	< 43	< 190	< 54
Hexane	< 18	12.0	< 18	30	< 18	32	9.4	< 18	51	23	11	< 18	< 18	22	88	14
Isopropyl benzene (Cumene)	< 20	< 3.9	< 20	< 20	< 20	< 20	< 3.9	< 20	< 20	< 20	< 2.0	< 20	< 20	< 7.9	< 36	< 10
m&p-Xylenes	27.0	48.0	25.0	57	16	75	21	23	70	74	5.7	< 8.7	< 8.7	31	88	27
Methyl tert butyl ether (MTBE)	< 36	< 7.2	< 36	< 36	< 36	< 36	< 7.2	< 36	< 36	< 36	< 3.6	< 36	< 36	< 14	< 66	< 18
Methylene chloride	34.0	28.0	22.0	< 17	18	21	9.7	23	< 17	< 17	75	< 17	< 17	< 6.9	< 32	9.6
Naphthalene	< 26	< 5.2	< 26	< 26	< 26	< 26	< 5.2	< 26	< 26	< 26	< 2.6	< 26	< 26	< 10	< 48	< 13
N-Decane	< 58	< 12	< 58	< 58	< 58	< 58	13	< 58	< 58	< 58	< 5.8	< 58	< 58	< 23	< 110	< 30
N-Dodecane	< 70	< 14	< 70	< 70	< 70	< 70	< 14	< 70	< 70	< 70	< 7.0	< 70	< 70	< 28	< 130	< 35
N-Heptane	< 20	5.4	< 20	25	31	28	6.5	< 20	63	21	2.9	< 20	< 20	14	180	11
Nonane	< 26	< 5.2	< 26	< 26	< 26	45	9.3	< 26	64	34	< 2.6	< 26	< 26	21	160	22
N-Propylbenzene	< 20	< 3.9	< 20	< 20	< 20	< 20	< 3.9	< 20	< 20	< 20	< 2.0	< 20	< 20	< 7.9	< 36	< 10
N-Undecane	< 64	< 13	< 64	< 64	< 64	< 64	< 13	< 64	< 64	< 64 J	< 6.4	< 64	< 64	< 26	< 120	< 32
Octane	< 19	4.1	< 19	< 19	< 19	< 19	< 3.7	< 19	31	< 19	< 1.9	< 19	< 19	9.1	53	< 9.5
o-Xylene	11.0	11.0	< 8.7	11	< 8.7	20	4.7	< 8.7	13	18	1.6	< 8.7	< 8.7	5.2	16	7.2
Pentane	41.0	16.0	< 30	38	< 30	< 30	6.1	< 30	79	< 30	37	< 30	< 30	16	110	< 15
Styrene	< 8.5	< 1.7	< 8.5	< 8.5	< 8.5	< 8.5	< 1.7	< 8.5	< 8.5	< 8.5	< 0.85	< 8.5	< 8.5	< 3.4	< 15	< 4.3
Tetrachloroethene	160.0	270.0	170.0	95	110	250	66	80	110	110	1.9	74	16	59	260	130
Toluene	17.0	11.0	< 7.5	27	16	36	2.6	< 7.5	34	17	12	< 7.5	< 7.5	3.7	43	14
trans-1,2-Dichloroethene	< 7.9	< 1.6	< 7.9	< 7.9	< 7.9	< 7.9	< 1.6	< 7.9	< 7.9	< 7.9	< 0.79	< 7.9	< 7.9	< 3.2	< 14	< 4.0
trans-1,3-Dichloropropene	< 9.1	< 1.8	< 9.1	< 9.1	< 9.1	< 9.1	< 1.8	< 9.1	< 9.1	< 9.1	< 0.91	< 9.1	< 9.1	< 3.6	< 17	< 4.6
Trichloroethene	30	23	17	12	13	27	25	< 11	15	14	< 1.1	< 11	< 11	8.3	40	20
Trichlorofluoromethane (CFC-11)	130.0	88.0	64.0	120.0	66.0	170.0	54.0	47.0	120.0	87.0	12.0	40.0	66.0	57	100	43
Trifluorotrichloroethane (Freon 113)	< 15	< 3.1	< 15	< 15	< 15	< 15	< 3.1	< 15	< 15	< 15	< 1.5	< 15	< 15	< 6.1	< 28	< 7.8
Vinyl acetate	< 35	< 7.0	< 35	< 35	< 35	< 35	< 7.0	< 35	< 35	< 35	< 3.5	< 35	< 35	< 14	< 64	< 18
Vinyl chloride	16.0	15.0	18.0	35.0	21.0	70.0	12.0	14.0	160.0	41.0	1.3	7.0	26.0	49	540	45
Total VOCs	3,145	2,633	2,369	2,821	2,149	3,116	1,102	1,245.0	2,983.5	2,202	337.6	1,454.3	1,296.3	1,356	6,571	1,960

Table 4.2

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

	Blower Discharge 07/31/14	Blower Discharge 10/24/14	Blower Discharge 01/21/15	Blower Discharge 04/17/15	Blower Discharge 07/31/15	Blower Discharge 10/22/15	Blower Discharge 03/22/16	Blower Discharge 04/22/16	Blower Discharge 07/27/16	Blower Discharge 10/26/16	Blower Discharge 02/14/17	Blower Discharge 04/05/17	Blower Discharge 07/24/17
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	320	240	300	220	210	180	260	170	320	320	380	310	370
1,1,2,2-Tetrachloroethane	< 3.4	< 1.4	< 1.4	< 1.4	< 3.4	< 5.5	< 1.4	< 3.6	< 2.7	< 5.5	< 1.4	< 2.7	< 5.5
1,1,2-Trichloroethane	< 3.8	2.4	1.2	< 1.1	< 2.7	< 4.4	1.6	< 2.9	< 2.2	< 4.4	< 1.1	< 2.2	< 4.4
1,1-Dichloroethane	310	180	170	160	110	120	190	120	230	280	230	260	280
1,1-Dichloroethene	40	41	35	30	22	28	22	15	26	24	30	23	44
1,2,4-Trichlorobenzene	< 19	< 7.4	< 7.4	< 7.4	< 19	< 30	< 7.4	< 20	< 15	< 30	< 7.4	< 15	< 30
1,2,4-Trimethylbenzene	< 2.5	1.1	< 0.98	< 0.98	< 2.5	< 3.9	< 0.98	< 2.6	< 2.0	< 3.9	< 0.98	< 2.0	< 3.9
1,2-Dibromoethane (Ethylene dibromide)	< 3.8	< 1.5	< 1.5	< 1.5	< 3.8	< 6.1	< 1.5	< 4.0	< 3.1	< 6.1	< 1.5	< 3.1	< 6.1
1,2-Dichlorobenzene	< 3.0	< 1.2	< 1.2	< 1.2	< 3	< 4.8	< 1.2	< 3.2	< 2.4	< 4.8	< 1.2	< 2.4	< 4.8
1,2-Dichloroethane	< 2.0	< 0.81	< 0.81	< 0.81	< 2	< 3.2	< 0.81	< 2.1	< 1.6	< 3.2	< 0.81	< 1.6	< 3.2
1,2-Dichloropropane	2.4	2.2	1.7	1.4	< 2.3	< 3.7	1.5	< 2.4	< 1.8	< 3.7	1.9	< 1.8	< 3.7
1,2-Dichlorotetrafluoroethane (CFC 114)	93	9.1	7.4	11	6.7	29	29	12	24	80	19	60	47
1,3,5-Trimethylbenzene	< 2.5	0.96	< 0.98	< 0.98	< 2.5	< 3.9	< 0.98	< 2.6	< 2.0	< 3.9	< 0.98	< 2.0	< 3.9
1,3-Butadiene	< 2.2	< 0.88	< 0.88	< 0.88	< 2.2	< 3.5	< 0.88	< 2.3	< 1.8	< 3.5	< 0.88	< 1.8	< 3.5
1,3-Dichlorobenzene	< 3	< 1.2	< 1.2	< 1.2	< 3	< 4.8	< 1.2	< 3.2	< 2.4	< 4.8	< 1.2	< 2.4	< 4.8
1,4-Dichlorobenzene	< 3	2.8	4.6	< 1.2	< 3	< 4.8	< 1.2	< 3.2	2.8	< 4.8	1.2	< 2.4	< 4.8
2-Butanone (Methyl ethyl ketone) (MEK)	9.8	< 2.9	< 2.9	17	< 7.4	< 12	10	< 7.8	< 5.9	< 12	4	7.8	< 12
2-Hexanone	< 5.1	< 2	< 2	< 2	< 5.1	< 8.2	< 2.0	< 5.4	< 4.1	< 8.2	< 2.0	< 4.1	< 8.2
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	5.11	< 2	< 2	< 2	< 5.1	< 8.2	4.6	6.4	< 4.1	24	< 2.0	< 4.1	< 8.2
Acetone	57	< 12	< 12	< 12	< 30	< 48	< 12	< 31	24	< 48	< 12	25	< 48
Acetonitrile	< 4.2	< 1.7	< 1.7	< 1.7	< 4.2	< 6.7	< 1.7	< 4.4	< 3.4	< 6.7	< 1.7	< 3.4	< 6.7
Acrolein	< 5.7	< 2.3	< 2.3	4.1	< 5.7	< 9.2	< 2.3	< 6.0	< 4.6	< 9.2	< 2.3	< 4.6	< 9.2
Acrylonitrile	< 11	< 4.3	< 4.3	< 4.3	< 11	< 17	< 4.3	< 11	< 8.7	< 17	< 4.3	< 8.7	< 17
Allyl chloride (3-Chloropropene)	< 1.6	< 0.63	< 0.63	< 0.63	< 1.6	< 2.5	< 0.63	< 1.6	< 1.3	< 2.5	< 0.63	< 1.3	< 2.5
alpha-Methylstyrene	< 4.8	< 1.9	< 1.9	< 1.9	< 4.8	< 7.7	< 1.9	< 5.1	< 3.9	< 7.7	< 1.9	< 3.9	< 7.7
Benzene	2.7	1.1	0.99	1	< 1.6	< 2.6	1.2	< 1.7	1.6	4.9	1.6	3.8	< 2.6
Benzyl chloride	< 5.2	< 2.1	< 2.1	< 2.1	< 5.2	< 8.3	< 2.1	< 5.5	< 4.1	< 8.3	< 2.1	< 4.1	< 8.3
Bromodichloromethane	< 3.4	< 1.3	< 1.3	< 1.3	< 3.4	< 5.4	< 1.3	< 3.5	< 2.7	< 5.4	< 1.3	< 2.7	< 5.4
Bromoform	< 5.2	< 2.1	< 2.1	< 2.1	< 5.2	< 8.3	< 2.1	< 5.4	< 4.1	< 8.3	< 2.1	< 4.1	< 8.3
Bromomethane (Methyl bromide)	< 1.9	< 0.78	< 0.78	< 0.78	< 1.9	< 5.4	< 0.78	< 2.0	< 1.6	< 3.1	< 0.78	< 1.6	< 3.1
Butane	43	7.6	4.9	11	4.9	6.9	33	12	32	110	13	100	24
Carbon disulfide	< 3.9	< 1.6	< 1.6	< 1.6	< 3.9	< 6.2	< 1.6	< 4.1	< 3.1	< 6.2	< 1.6	< 3.1	< 6.2
Carbon tetrachloride	< 3.1	< 1.3	< 1.3	< 1.3	< 3.1	< 5.0	< 1.3	< 3.3	< 2.5	< 5.0	< 1.3	< 2.5	< 5.0
Chlorobenzene	2.8	1.9	1.5	< 0.92	< 2.3	< 3.7	< 0.92	< 2.4	2.8	4.6	1.1	2.4	5
Chlorodifluoromethane	50	5.6	5.5	3.4	2.4	3.8	18	11	22	62	14	44	30
Chloroethane	56	23	15	9.6	11	11	11	11	25	59	17	53	38
Chloroform (Trichloromethane)	22	23	20	17	14	14	25	15	25	22	32	17	44
Chloromethane (Methyl chloride)	< 2.6	2.2	< 1	1.3	< 2.6	< 4.1	< 1.0	< 2.7	< 2.1	< 4.1	< 1.0	< 2.1	< 4.1
cis-1,2-Dichloroethene	34	30	12	9.4	9.5	11	32	15	22	47	26	33	60
cis-1,3-Dichloropropene	< 2.3	< 0.91	< 0.91	< 0.91	< 2.3	< 3.6	< 0.91	< 2.4	< 1.8	< 3.6	< 0.91	< 1.8	< 3.6
Cyclohexane	31	13	10	8.8	< 4.3	< 6.9	12	5.6	14	31	11	23	11
Dibromochloromethane	< 4.3	< 1.7	< 1.7	< 1.7	< 4.3	< 6.8	< 1.7	< 4.5	< 3.4	< 6.8	< 1.7	< 3.4	< 6.8
Dibromomethane	< 7.1	< 2.8	< 2.8	< 2.8	< 7.1	< 11	< 2.8	< 7.5	< 5.7	< 11	< 2.8	< 5.7	< 11
Dichlorodifluoromethane (CFC-12)	49	37	41	54	30	45	76	42	78	190	53	180	90

Table 4.2

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	Blower Discharge 07/31/14	Blower Discharge 10/24/14	Blower Discharge 01/21/15	Blower Discharge 04/17/15	Blower Discharge 07/31/15	Blower Discharge 10/22/15	Blower Discharge 03/22/16	Blower Discharge 04/22/16	Blower Discharge 07/27/16	Blower Discharge 10/26/16	Blower Discharge 02/14/17	Blower Discharge 04/05/17	Blower Discharge 07/24/17
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 15	6.8	< 6.1	< 6.1	< 15	< 24	< 6.1	< 16	< 12	< 24	< 6.1	< 12	< 24
Ethylbenzene	11	9.8	5.5	6.2	4.1	< 3.5	2.7	< 2.3	3.6	7.6	1.5	3.4	3.6
Hexachlorobutadiene	< 27	< 11	< 11	< 11	< 27	< 43	< 11	< 28	< 21	< 43	< 11	< 21	< 43
Hexane	40	7.9	4.6	5	< 4.4	< 7.0	7.6	< 4.6	11	31	8.3	21	10
Isopropyl benzene (Cumene)	< 4.9	2	< 2	< 2	< 4.9	< 7.9	< 2.0	< 5.2	< 3.9	< 7.9	< 2.0	< 3.9	< 7.9
m&p-Xylenes	17	10	7.7	7.5	5.3	< 3.5	2.9	< 2.3	4.6	11	1.9	4.7	3.6
Methyl tert butyl ether (MTBE)	< 9	< 3.8	< 3.6	< 3.6	< 9	< 14	< 3.6	< 9.5	< 7.2	< 14	< 3.6	< 7.2	< 14
Methylene chloride	11	5.8	4.7	2.9	4.4	7.1	2.6	< 4.6	< 3.5	31	< 1.7	< 3.5	8.8
Naphthalene	< 6.6	< 2.6	< 2.6	< 2.6	< 6.6	< 10	6.5	< 15	< 12	< 23	< 5.8	< 12	< 23
N-Decane	< 15	12	14	11	< 15	< 23	< 7.0	< 18	< 14	< 28	< 7.0	< 14	< 28
N-Dodecane	< 17	< 7	< 7	< 7	< 17	< 28	3.4	< 5.4	< 4.1	13	4.8	9.9	< 8.2
N-Heptane	19	4.7	5.1	15	< 5.1	< 8.2	< 2.0	< 5.2	< 3.9	< 7.9	< 2.0	< 3.9	< 7.9
Nonane	12	11	12	11	< 6.6	< 10	< 6.4	< 17	< 13	< 26	< 6.4	< 13	< 26
N-Propylbenzene	< 4.9	< 2	< 2	< 2	< 4.9	< 7.9	< 2.6	< 6.9	< 5.2	< 10	< 2.6	< 5.2	< 10
N-Undecane	< 16	< 6.4	< 6.4	< 6.4	< 16	< 26	3.7	< 6.9	< 5.2	12	6.5	10	< 10
Octane	8.5	2.9	3.7	4.5	< 4.7	< 7.5	1.1	< 2.3	< 1.7	< 3.5	< 0.87	< 1.7	< 3.5
o-Xylene	3.6	3.9	2.7	1.6	< 2.2	< 3.5	< 1.9	< 4.9	< 3.7	< 7.5	2.9	3.7	< 7.5
Pentane	65	4.6	< 3	6	< 7.4	< 12	15	< 7.8	12	42	10	39	< 12
Styrene	< 2.1	< 0.85	< 0.85	< 0.85	< 2.1	< 3.4	< 0.85	< 2.2	< 1.7	< 3.4	< 0.85	< 1.7	< 3.4
Tetrachloroethene	140	84	81	56	55	70	95	47	89	110	95	120	130
Toluene	10	2	0.97	2.3	3.9	< 3.0	1.3	< 2.0	< 1.5	4.7	< 0.75	< 1.5	< 3.0
trans-1,2-Dichloroethene	< 2	< 0.79	< 0.79	< 0.79	< 2	< 3.2	< 0.79	< 2.1	< 1.6	< 3.2	< 0.79	< 1.6	< 3.2
trans-1,3-Dichloropropene	< 2.3	< 0.91	< 0.91	< 0.91	< 2.3	< 3.6	< 0.91	< 2.4	< 1.8	< 3.6	< 0.91	< 1.8	< 3.6
Trichloroethene	22	9.4	6.9	6.1	4.6	5.9	9.2	5.9	9.8	13	6.7	8.6	14
Trichlorofluoromethane (CFC-11)	110	43	43	53	42	42	77	100	140	130	54	110	100
Trifluorotrchloroethane (Freon 113)	< 3.8	< 1.5	< 1.5	< 1.5	< 3.8	< 6.1	< 1.5	< 4.0	< 3.1	< 6.1	< 1.5	< 3.1	< 6.1
Vinyl acetate	< 8.8	< 3.5	< 3.5	< 3.5	< 8.8	< 14	< 3.5	< 9.3	< 7.0	< 14	< 3.5	< 7.0	< 14
Vinyl chloride	74	29	19	11	8.8	19	40	22	42	130	34	150	53
Total VOCs	1,798	922	898	812	717	867	1,049	787	1,277	2,032	1,119	1,730	1,626

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	Blower Discharge 10/30/17	Blower Discharge 01/24/18	Blower Discharge 05/22/18	Blower Discharge 07/31/18	Blower Discharge 11/16/18	Blower Discharge 01/23/19	Blower Discharge 04/26/19	Blower Discharge 08/29/19	Blower Discharge 10/31/19	Blower Discharge 04/16/20	Blower Discharge 06/23/20	Blower Discharge 08/17/20	Blower Discharge 11/05/20	Blower Discharge 02/19/21	Blower Discharge 04/22/21
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	330	100	260	400	510	340	340	250	430	350	180	250	260	35	300
1,1,2,2-Tetrachloroethane	< 14	< 14	< 14	< 6.9	< 14	< 14	< 14	< 14	< 14	< 14	< 14	< 14	< 14	< 14	< 1.4
1,1,2-Trichloroethane	< 11	< 11	< 11	< 5.5	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 1.1
1,1-Dichloroethane	280	58	250	280	450	260	230	170	350	280	120	180	190	22	240
1,1-Dichloroethene	33	< 7.9	30	48	54	38	38	33	66	54	26	28	33	< 7.9	46
1,2,4-Trichlorobenzene	< 74	< 74	< 74	< 37	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 7.4
1,2,4-Trimethylbenzene	< 9.8	< 9.8	< 9.8	< 4.9	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 0.98
1,2-Dibromoethane (Ethylene dibromide)	< 15	< 15	< 15	< 7.7	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 1.5
1,2-Dichlorobenzene	< 12	< 12	< 12	< 6.0	< 24	< 24	< 24	< 24	< 24	< 24	< 24	< 24	< 24	< 24	< 2.4
1,2-Dichloroethane	< 8.1	< 8.1	< 8.1	< 4.0	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 0.81
1,2-Dichloropropane	< 9.2	< 9.2	< 9.2	< 4.6	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	2.2
1,2-Dichlorotetrafluoroethane (CFC 114)	62	76	28	23	60	33	39	15	25	17	< 14	19	36	24	12
1,3,5-Trimethylbenzene	< 9.8	< 9.8	< 9.8	< 4.9	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 0.98
1,3-Butadiene	< 8.8	< 8.8	< 8.8	< 4.4	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 0.88
1,3-Dichlorobenzene	< 12	< 12	< 12	< 6.0	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 1.2
1,4-Dichlorobenzene	< 12	< 12	< 12	< 6.0	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 1.2
2-Butanone (Methyl ethyl ketone) (MEK)	< 29	31	< 29	< 15	< 29	< 29	< 29	< 29	< 29	< 29	< 29	< 29	< 29	< 29	< 2.9
2-Hexanone	< 20	< 20	< 20	< 10	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 1.6
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 20	< 20	< 20	< 10	< 41	< 41	< 41	< 41	< 41	< 41	< 41	< 41	< 41	< 41	< 4.1
Acetone	< 120	170	< 120	< 59	< 180	< 180	< 180	< 180	< 180	< 180	< 180	< 180	< 180	< 180	< 18
Acetonitrile	< 17	< 17	< 17	< 8.4	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 1.7
Acrolein	< 23	< 23	< 23	< 11	< 23	< 23	< 23	< 23	< 23	< 23	< 23	< 23	< 23	< 23	< 2.3
Acrylonitrile	< 43	< 43	< 43	< 22	< 43	< 43	< 43	< 43	< 43	< 43	< 43	< 43	< 43	< 43	< 4.3
Allyl chloride (3-Chloropropene)	< 6.3	< 6.3	< 6.3	< 3.1	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 0.63
alpha-Methylstyrene	< 19	< 19	< 19	< 9.7	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 1.9
Benzene	< 6.4	< 6.4	< 6.4	3.3	6.3	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	1.8
Benzyl chloride	< 21	< 21	< 21	< 10	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 2.1
Bromodichloromethane	< 13	< 13	< 13	< 6.7	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 1.3
Bromoform	< 21	< 21	< 21	< 10	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 2.1
Bromomethane (Methyl bromide)	< 7.8	< 7.8	< 7.8	< 3.9	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 0.78
Butane	69	70	27	23	75	49	28	< 24	< 24	< 24	< 24	< 24	< 24	< 24	13
Carbon disulfide	< 16	< 16	< 16	< 7.8	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 1.2
Carbon tetrachloride	< 13	< 13	< 13	< 6.3	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 13	< 1.3
Chlorobenzene	< 9.2	< 9.2	< 9.2	< 4.6	13	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	3.2
Chlorodifluoromethane	49	22	21	21	59	29	35	10	19	15 J	< 7.1	9.3	22	8.3	12
Chloroethane	48	6.5	61	56	100	58	44	18	34	41	17	21	31	6.7	33
Chloroform (Trichloromethane)	33	< 9.8	30	42	48	38	40	35	66	51	29	36	33	< 9.8	44
Chloromethane (Methyl chloride)	< 10	< 10	< 10	< 5.2	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 2.1
cis-1,2-Dichloroethene	35	< 7.9	14	14	32	18	21	20	39	35	13	22	25	< 7.9	12
cis-1,3-Dichloropropene	< 9.1	< 9.1	< 9.1	< 4.5	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 18	< 1.8
Cyclohexane	23	< 17	24	17	34	< 14	15	< 14	< 14	< 14	< 14	< 14	18	< 14	7.4
Dibromochloromethane	< 17	< 17	< 17	< 8.5	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 17	< 1.7
Dibromomethane	< 28	< 28	< 28	< 14	< 28	< 28	< 28	< 28	< 28	< 28	< 28	< 28	< 28	< 28	< 2.8
Dichlorodifluoromethane (CFC-12)	280	150	160	89	240	130	150	60	94	59	33	68	37	34	31

SVE/LFG System VOC Results (µg/m³)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

	Blower Discharge 10/30/17	Blower Discharge 01/24/18	Blower Discharge 05/22/18	Blower Discharge 07/31/18	Blower Discharge 11/16/18	Blower Discharge 01/23/19	Blower Discharge 04/26/19	Blower Discharge 08/29/19	Blower Discharge 10/31/19	Blower Discharge 04/16/20	Blower Discharge 06/23/20	Blower Discharge 08/17/20	Blower Discharge 11/05/20	Blower Discharge 02/19/21	Blower Discharge 04/22/21
Parameter	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
Ethyl ether	< 61	< 61	< 61	< 30	< 61	< 61	< 61	< 61	< 61	< 61	< 61	< 61	< 61	< 61	< 6.1
Ethylbenzene	< 8.7	< 8.7	< 8.7	< 4.3	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 0.87
Hexachlorobutadiene	< 110	< 110	< 110	< 53	< 110	< 110	< 110	< 110	< 110	< 110	< 110	< 110	< 110	< 110	< 11
Hexane	27	< 18	19	14	38	17	16	< 14	< 14	< 14	< 14	< 14	20	< 14	4.0
Isopropyl benzene (Cumene)	< 20	< 20	< 20	< 9.8	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 2.0
m&p-Xylenes	9.1	< 8.7	< 8.7	< 4.3	9.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	13	< 8.7	2.4
Methyl tert butyl ether (MTBE)	< 36	< 36	< 36	< 18	< 36	< 36	< 36	< 36	< 36	< 36	< 36	< 36	< 36	< 36	< 3.6
Methylene chloride	< 17	< 17	< 17	10	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	7.4
Naphthalene	< 58	< 58	< 58	< 29	< 58	< 58	< 58	< 58	< 58	< 58	< 58	< 58	< 58	< 58	< 5.8
N-Decane	< 70	< 70	< 70	35J	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 70	< 7.0
N-Dodecane	< 20	< 20	22	11	28	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	5.2
N-Heptane	< 20	< 20	< 20	< 9.8	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 2.0
Nonane	< 64	< 64	< 64	< 32	< 64	< 64	< 64	< 64	< 64	< 64	< 64	< 64	< 64	< 64	< 6.4
N-Propylbenzene	< 26	< 26	< 26	< 13	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 2.1
N-Undecane	< 26	< 26	< 26	< 13	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	< 21	2.3
Octane	< 8.7	< 8.7	< 8.7	< 4.3	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 0.87
o-Xylene	< 19	< 19	< 19	< 9.3	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 19	< 1.9
Pentane	< 30	< 30	< 30	< 15	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 74	< 7.4
Styrene	< 8.5	< 8.5	< 8.5	< 4.3	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 0.85
Tetrachloroethene	120	34	95	110	150	94	90	97	150	93	62	67	92	20	100
Toluene	< 7.5	< 7.5	< 7.5	< 3.8	< 38	< 38	< 38	< 38	< 38	< 38	< 38	< 38	< 38	< 38	< 3.8
trans-1,2-Dichloroethene	< 7.9	< 7.9	< 7.9	< 4.0	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 0.79
trans-1,3-Dichloropropene	< 9.1	< 9.1	< 9.1	< 4.5	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 0.91
Trichloroethene	13	< 11	12	11	15	< 11	< 11	< 11	13	< 11	< 11	< 11	< 11	< 11	10
Trichlorofluoromethane (CFC-11)	140	51	120	78	140	100	86	90	110	62	47	68	95	26	82
Trifluorotrchloroethane (Freon 113)	< 15	< 15	< 15	< 7.7	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 15	< 1.5
Vinyl acetate	< 35	< 35	< 35	< 18	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 35	< 3.5
Vinyl chloride	84	16	54	55	160	73	71	17	67	45	< 10	16	32	< 10	38
Total VOCs	2,306	1,421	1,892	1,613	2,969	2,057	2,016	1,614	2,256	1,901	1,341	1,583	1,717	992	1,080

Table 4.2

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	Blower Discharge 08/12/21	Blower Discharge 4/28/2022	Blower Discharge 10/27/2022	SVE-1 04/27/12	SVE-2 04/22/10	SVE-2 04/26/13	SVE-2 10/23/13	SVE-3 04/27/12	SVE-3 10/30/12	SVE-3 04/26/13	SVE-3 10/23/13	SVE-3 10/24/14	SVE-3 10/30/17	SVE-4 04/22/10	SVE-4 10/22/10	SVE-4 10/30/12
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	230	250	190	44.0	546	670	210	2100	2100	1200	1300	430	160	1,582	1,300	600
1,1,2,2-Tetrachloroethane	< 1.4	< 4.7	< 2.8	< 14	< 13.73	< 14	< 14	< 14	< 14	< 14	< 14	< 1.4	< 14	< 13.73	< 14	< 14
1,1,2-Trichloroethane	< 1.1	< 3.8	< 2.3	< 11	< 10.91	< 11	< 11	< 11	< 11	< 11	< 11	< 1.5	< 11	< 10.91	< 11	< 11
1,1-Dichloroethane	140	130	110	35.0	567	580	220	690	650	450	340	150	91	809	800	410
1,1-Dichloroethene	30	33	27	< 7.9	83.3	50	18	610.0	520.0	310	260	95	12	178.4	150.0	85.0
1,2,4-Trichlorobenzene	< 7.4	< 26	< 15	< 74	< 74.21	< 74	< 74	< 74	< 74	< 74	< 74	< 7.4	< 74	< 74.21	< 74	< 74
1,2,4-Trimethylbenzene	< 0.98	< 3.4	2.9	< 9.8	< 9.83	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 0.98	< 9.8	< 9.83	< 9.8	< 9.8
1,2-Dibromoethane (Ethylene dibromide)	< 1.5	< 5.3	< 3.2	< 15	< 15.37	< 15	< 15	< 15	< 15	< 15	< 15	< 1.5	< 15	< 15.37	< 15	< 15
1,2-Dichlorobenzene	< 2.4	< 8.3	< 5.0	< 12	< 12.02	< 12	< 12	< 12	< 12	< 12	< 12	< 1.2	< 12	< 12.02	< 12	< 12
1,2-Dichloroethane	< 0.81	< 2.8	< 1.7	< 8.1	< 8.09	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 8.1	< 0.81	< 8.1	< 8.09	< 8.1	< 8.1
1,2-Dichloropropane	1.2	< 3.2	< 1.9	< 9.2	< 9.24	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	0.97	< 9.2	< 9.24	< 9.2	< 9.2
1,2-Dichlorotetrafluoroethane (CFC 114)	12	26	16	< 14	26	82	< 14	< 14	< 14	< 14	< 14	3.1	94	15	37	23
1,3,5-Trimethylbenzene	< 0.98	< 6.8	< 4.1	< 9.8	< 9.83	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 9.8	< 0.98	< 9.8	< 9.83	< 9.8	< 9.8
1,3-Butadiene	< 0.88	< 3.0	< 1.8	< 8.8	< 8.85	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 8.8	< 0.88	< 8.8	< 8.85	< 8.8	< 8.8
1,3-Dichlorobenzene	< 1.2	< 4.1	< 2.5	< 12	< 12.02	< 12	< 12	< 12	< 12	< 12	< 12	< 1.2	< 12	< 12.02	< 12	< 12
1,4-Dichlorobenzene	< 1.2	< 4.1	< 2.5	< 12	< 12.02	< 12	< 12	< 12	< 12	< 12	< 12	< 1.2	< 12	< 12.02	< 12	< 12
2-Butanone (Methyl ethyl ketone) (MEK)	12	< 10	< 6.1	< 29	< 29.49	< 29	< 29	< 29	< 29	< 29	< 29	< 2.9	< 29	< 29.49	< 29	< 29
2-Hexanone	< 1.6	< 7.1	< 4.2	< 20	< 20.48	< 20	< 20	< 20	< 20	< 20	< 20	< 2	< 20	< 20.48	< 20	< 20
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 4.1	< 14	< 8.5	< 20	< 20.48	< 20	< 20	< 20	< 20	< 20	< 20	< 2	< 20	< 20.48	< 20	< 20
Acetone	23	< 61	< 37	< 120	< 118.77	< 120	< 120	< 120	< 120	< 120	< 120	< 12	< 120	< 118.77	< 120	< 120
Acetonitrile	< 1.7	< 5.8	< 3.5	< 17	< 16.79	< 17	< 17	< 17	< 17	< 17	< 17	< 1.7	< 17	< 16.79	< 17	< 17
Acrolein	< 2.3	< 7.9	< 4.7	< 18	< 18.34	< 18	< 23	< 18	< 18	< 18	< 23	< 2.3	< 23	< 18.34	< 18	< 18
Acrylonitrile	< 4.3	< 15	< 9.0	< 43	< 43.4	< 43	< 43	< 43	< 43	< 43	< 43	< 4.3	< 43	< 43.4	< 43	< 43
Allyl chloride (3-Chloropropene)	< 0.63	< 2.2	< 1.3	< 6.3	< 6.26	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 6.3	< 0.63	< 6.3	< 6.26	< 6.3	< 6.3
alpha-Methylstyrene	< 1.9	< 6.7	< 4.0	< 19	< -999	< 19	< 19	< 19	< 19	< 19	< 19	< 1.9	< 19	< -999	< 19	< 19
Benzene	0.87	4	3	< 6.4	< 6.39	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 6.4	< 0.64	< 6.4	< 6.39	< 6.4	< 6.4
Benzyl chloride	< 2.1	< 7.1	< 4.3	< 21	< 20.71	< 21	< 21	< 21	< 21	< 21	< 21	< 2.1	< 21	< 20.71	< 21	< 21
Bromodichloromethane	< 1.3	< 4.6	< 2.8	< 13	< 13.4	< 13	< 13	< 13	< 13	< 13	< 13	< 1.3	< 13	< 13.4	< 13	< 13
Bromoform	< 2.1	< 7.1	< 4.3	< 21	< 20.67	< 21	< 21	< 21	< 21	< 21	< 21	< 2.1	< 21	< 20.67	< 21	< 21
Bromomethane (Methyl bromide)	< 0.78	< 2.7	< 1.6	< 7.8	< 7.77	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 7.8	< 0.78	< 7.8	< 7.77	< 7.8	< 7.8
Butane	24	18	9.6	< 9.5	22.8	40	10	< 9.5	< 9.5	< 9.5	< 9.5	1.2	< 9.5	18.8	67.0	26.0
Carbon disulfide	< 1.2	< 4.3	< 2.6	< 16	< 15.57	< 16	< 16	< 16	< 16	< 16	< 16	< 1.6	< 16	< 15.57	< 16	< 16
Carbon tetrachloride	1.3	9.3	< 2.6	< 13	< 12.58	< 13	< 13	< 13	< 13	< 13	< 13	< 1.3	< 13	< 12.58	< 13	< 13
Chlorobenzene	< 0.92	< 3.2	< 1.9	< 9.2	< 9.21	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 9.2	< 0.92	< 9.2	< 9.21	< 9.2	< 9.2
Chlorodifluoromethane	8.4	24	12	< 7.1	7.1	27	< 7.1	< 7.1	< 7.1	< 7.1	< 7.1	3	< 7.1	< -999	28.0	9.3
Chloroethane	10	23	15	8.5	60.7	34	12	27.0	22.0	12	9.7	11	< 5.3	55.4	140.0	72.0
Chloroform (Trichloromethane)	26	38	22	< 9.8	< 9.77	< 9.8	< 9.8	37.0	43.0	31	31	15	< 9.8	12.7	14.0	12.0
Chloromethane (Methyl chloride)	< 2.1	< 7.1	< 4.3	< 10	< 10.33	< 10	< 10	< 10	< 10	< 10	< 10	< 1	< 10	< 10.33	15.0	< 10
cis-1,2-Dichloroethene	4.0	5.6	11.0	< 7.9	28.2	13	< 7.9	22.0	22.0	14	< 7.9	14	< 7.9	43.6	74	57
cis-1,3-Dichloropropene	< 1.8	< 6.3	< 3.8	< 9.1	< 9.08	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 0.91	< 9.1	< 9.08	< 9.1	< 9.1
Cyclohexane	4.4	11	7	< 17	< 17.21	46	< 17	< 17	< 17	< 17	< 17	1.8	< 17	62.0	94.0	31.0
Dibromochloromethane	< 1.7	< 5.9	< 3.5	< 17	< 17.04	< 17	< 17	< 17	< 17	< 17	< 17	< 1.7	< 17	< 17.04	< 17	< 17
Dibromomethane	< 2.8	< 9.8	< 5.9	< 28	< 28	< 28	< 28	< 28	< 28	< 28	< 28	< 2.8	< 28	< -999	< 28	< 28
Dichlorodifluoromethane (CFC-12)	53	71	54	< 9.9	203	220	60	86.0	72	47	50	290	320	41	110	39

SVE/LFG System VOC Results (µg/m³)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

	Blower Discharge 08/12/21	Blower Discharge 4/28/2022	Blower Discharge 10/27/2022	SVE-1 04/27/12	SVE-2 04/22/10	SVE-2 04/26/13	SVE-2 10/23/13	SVE-3 04/27/12	SVE-3 10/30/12	SVE-3 04/26/13	SVE-3 10/23/13	SVE-3 10/24/14	SVE-3 10/30/17	SVE-4 04/22/10	SVE-4 10/22/10	SVE-4 10/30/12
Parameter	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
Ethyl ether	< 6.1	< 21	< 13	< 61	< 60.63	< 61	< 61	< 61	< 61	< 61	< 61	< 6.1	< 61	< 60.63	< 61	< 61
Ethylbenzene	2.3	3.3	4.4	< 8.7	< 8.68	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 0.87	< 8.7	< 8.68	< 8.7	< 8.7
Hexachlorobutadiene	< 11	< 37	< 22	< 110	< 106.65	< 110	< 110	< 110	< 110	< 110	< 110	< 11	< 110	< 106.65	< 110	< 110
Hexane	4.9	7.9	5	< 18	< 17.62	24	< 18	< 18	< 18	< 18	< 18	< 1.8	< 18	25	570	33
Isopropyl benzene (Cumene)	< 2.0	< 6.8	< 4.1	< 20	< 19.66	< 20	< 20	< 20	< 20	< 20	< 20	< 2	< 20	< 19.66	< 20	< 20
m&p-Xylenes	2.1	8.3	7.7	< 8.7	< 8.68	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 0.87	< 8.7	< 8.68	< 8.7	< 8.7
Methyl tert butyl ether (MTBE)	< 3.6	< 12	< 7.5	< 36	< 36.05	< 36	< 36	< 36	< 36	< 36	< 36	< 3.6	< 36	< 36.05	< 36	< 36
Methylene chloride	< 3.5	28	< 7.2	< 17	32	< 17	< 17	17	21	< 17	< 17	5.9	< 17	28	23	< 17
Naphthalene	< 5.8	< 20	< 12	< 26	< 26.21	< 26	< 26	< 26	< 26	< 26	< 26	< 2.6	< 58	< 26.21	< 26	< 26
N-Decane	< 7.0	< 24	< 14	< 58	< 58.2	< 58	< 58	< 58	< 58	< 58	< 58	< 5.8	< 70	< 58.2	< 58	< 58
N-Dodecane	2.8	11	3.9	< 70	< 69.67	< 70	< 70	< 70	< 70	< 70	< 70	< 7.0	< 20	< 69.67	< 70	< 70
N-Heptane	< 2.0	< 6.8	< 4.1	< 20	< 20.49	22	< 20	< 20	< 20	< 20	< 20	< 2	< 20	< 20.49	34	< 20
Nonane	< 6.4	< 22	< 13	< 26	< 26.23	< 26	< 26	< 26	< 26	< 26	< 26	< 2.6	< 64	< 26.23	< 26	< 26
N-Propylbenzene	< 2.1	< 7.2	< 4.3	< 20	< 19.66	< 20	< 20	< 20	< 20	< 20	< 20	< 2	< 26	< 19.66	< 20	< 20
N-Undecane	< 2.1	< 7.2	< 4.3	< 64	< 63.93	< 64	< 64	< 64	< 64	< 64	< 64	< 6.4	< 26	< 63.93	< 64	< 64
Octane	< 0.87	< 3.0	2.4	< 19	< 18.69	< 19	< 19	< 19	< 19	< 19	< 19	< 1.9	< 8.7	< 18.69	< 19	< 19
o-Xylene	< 1.9	< 6.4	< 3.9	< 8.7	< 8.68	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 8.7	< 0.87	< 19	< 8.68	< 8.7	< 8.7
Pentane	7.5	< 25	< 15	< 30	< 29.51	30	< 30	< 30	< 30	< 30	< 30	< 3	< 30	< 29.51	55	< 30
Styrene	< 0.85	< 2.9	< 1.8	< 8.5	< 8.52	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 8.5	< 0.85	< 8.5	< 8.52	< 8.5	< 8.5
Tetrachloroethene	91	87	48	< 14	18	16	< 14	20	22	25	20	24	< 14	66	49	90
Toluene	< 3.8	< 13	< 7.8	< 7.5	< 7.53	< 7.5	< 7.5	< 7.5	< 7.5	< 7.5	< 7.5	< 0.75	< 7.5	< 7.53	< 7.5	< 7.5
trans-1,2-Dichloroethene	< 0.79	< 2.7	< 1.6	< 7.9	< 7.93	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 7.9	< 0.79	< 7.9	< 7.93	< 7.9	< 7.9
trans-1,3-Dichloropropene	< 0.91	< 3.1	< 1.9	< 9.1	< 9.08	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 9.1	< 0.91	< 9.1	< 9.08	< 9.1	< 9.1
Trichloroethene	6.4	6.3	4.9	< 11	< 10.75	< 11	< 11	< 11	< 11	< 11	< 11	5.4	< 11	16	19	12
Trichlorofluoromethane (CFC-11)	120	67	63	18.0	84.3	45	59	40	42	24	27	72	12	106.8	41	31
Trifluorotrchloroethane (Freon 113)	< 1.5	< 5.3	< 3.2	< 15	< 15.33	< 15	< 15	< 15	< 15	< 15	< 15	< 1.5	< 15	< 15.33	< 15	< 15
Vinyl acetate	< 3.5	< 12	< 7.3	< 35	< 35.21	< 35	< 35	< 35	< 35	< 35	< 35	< 3.5	< 35	< 35.21	< 35	< 35
Vinyl chloride	8.6	20	13	< 5.1	11.5	21.0	< 5.1	< 5.1	< 5.1	< 5.1	< 5.1	1.1	< 5.1	12.8	120	27
Total VOCs	885	1,132	785	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4.2

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-4 04/26/13	SVE-4 10/23/13	SVE-4 10/24/14	SVE-4 10/22/15	SVE-4 10/26/16	SVE-4 10/30/17	SVE-4 11/16/18	SVE-4 10/31/19	SVE-4 11/05/20	SVE-4 10/21/21	SVE-4 10/27/2022	SVE-5 04/22/10	SVE-5 10/30/12	SVE-5 04/26/13	SVE-5 10/23/13	SVE-5 10/24/14
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	440	320	370	250	380	180	530	210	130	92	110	5,074	1,800	1300	960	420
1,1,2,2-Tetrachloroethane	< 5.5	< 14	< 1.4	< 2.7	< 6.9	< 14	< 14	< 14	< 14	< 1.4	< 5.2	< 51.49	< 14	< 27	< 14	< 1.4
1,1,2-Trichloroethane	< 4.4	< 11	1.3	< 2.2	< 5.5	< 11	< 11	< 11	< 11	< 1.1	< 4.1	< 40.92	< 11	< 22	< 11	< 1.5
1,1-Dichloroethane	320	220	330	200	420	250	530	240	210	130	130	2,590	1,200	1800	540	240
1,1-Dichloroethene	70	34	55	34	41	22	73	42	21	18	19	634.4	330.0	350	200	110
1,2,4-Trichlorobenzene	< 30	< 74	< 7.4	< 15	< 37	< 74	< 74	< 74	< 74	< 7.4	< 28	< 274.59	< 74	< 150	< 74	< 7.4
1,2,4-Trimethylbenzene	< 3.9	< 9.8	< 0.98	< 2.0	< 4.9	< 9.8	< 9.8	< 9.8	< 9.8	< 0.98	< 3.7	< 36.87	< 9.8	< 20	< 9.8	< 0.98
1,2-Dibromoethane (Ethylene dibromide)	< 6.1	< 15	< 1.5	< 3.1	< 7.7	< 15	< 15	< 15	< 15	< 1.5	< 5.8	< 57.63	< 15	< 31	< 15	< 1.5
1,2-Dichlorobenzene	< 4.8	< 12	< 1.2	< 2.4	< 6.0	< 12	< 24	< 24	< 24	< 2.4	< 9.1	< 45.09	< 12	< 24	< 12	< 1.2
1,2-Dichloroethane	< 3.2	< 8.1	1.2	< 1.6	< 4.0	< 8.1	< 8.1	< 8.1	< 8.1	1.0	< 3.1	< 30.36	< 8.1	< 16	< 8.1	0.83
1,2-Dichloropropane	< 3.7	< 9.2	2.1	< 1.8	< 4.6	< 9.2	< 9.2	< 9.2	< 9.2	1.0	< 3.5	< 34.66	< 9.2	< 18	< 9.2	2.4
1,2-Dichlorotetrafluoroethane (CFC 114)	16	26	10	7.6	74	92	63	44	56	49	23	< 52.43	25.0	< 28	< 14	< 1.4
1,3,5-Trimethylbenzene	< 3.9	< 9.8	< 0.98	< 2.0	< 4.9	< 9.8	< 9.8	< 9.8	< 9.8	< 0.98	< 7.4	< 36.87	< 9.8	< 20	< 9.8	< 0.98
1,3-Butadiene	< 3.5	< 8.8	< 0.88	< 1.8	< 4.4	< 8.8	< 8.8	< 8.8	< 8.8	< 0.88	< 3.3	< 33.18	< 8.8	< 18	< 8.8	< 0.88
1,3-Dichlorobenzene	< 4.8	< 12	< 1.2	< 2.4	< 6.0	< 12	< 12	< 12	< 12	< 1.2	< 4.5	< 45.09	< 12	< 24	< 12	< 1.2
1,4-Dichlorobenzene	< 4.8	< 12	< 1.2	< 2.4	< 6.0	< 12	< 12	< 12	< 12	< 1.2	< 4.5	< 45.09	< 12	< 24	< 12	< 1.2
2-Butanone (Methyl ethyl ketone) (MEK)	< 12	< 29	< 2.9	< 5.9	< 15	< 29	< 29	< 29	< 29	4.4	< 11	< 109.12	< 29	< 59	< 29	5.3
2-Hexanone	< 8.2	< 20	< 2	< 4.1	< 10	< 20	< 16	< 16	< 16	< 1.6	< 7.7	< 77.83	< 20	< 41	< 20	< 2
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 8.2	< 20	< 2	< 4.1	< 10	< 20	< 41	< 41	< 41	< 4.1	< 15	< 77.83	< 20	< 41	< 20	2.4
Acetone	< 48	< 120	< 12	< 24	< 59	< 120	< 180	< 180	< 180	< 18	< 67	< 451.34	< 120	< 240	< 120	23
Acetonitrile	< 6.7	< 17	< 1.7	< 3.4	< 8.4	< 17	< 17	< 17	< 17	< 1.7	< 6.3	< 62.12	< 17	< 34	< 17	< 1.7
Acrolein	< 7.3	< 23	< 2.3	< 4.6	< 11	< 23	< 23	< 23	< 23	< 2.3	< 8.7	< 68.79	< 18	< 37	< 23	< 2.3
Acrylonitrile	< 17	< 43	< 4.3	< 8.7	< 22	< 43	< 43	< 43	< 43	< 4.3	< 16	< 162.76	< 43	< 87	< 43	< 4.3
Allyl chloride (3-Chloropropene)	< 2.5	< 6.3	< 0.63	< 1.3	< 3.1	< 6.3	< 6.3	< 6.3	< 6.3	< 0.63	< 2.4	< 23.47	< 6.3	< 13	< 6.3	< 0.63
alpha-Methylstyrene	< 7.7	< 19	< 1.9	< 3.9	< 9.7	< 19	< 19	< 19	< 19	< 1.9	< 7.3	< -999	< 19	< 39	< 19	< 1.9
Benzene	< 2.6	< 6.4	0.69	< 1.3	< 3.2	< 6.4	8.20	< 6.4	< 6.4	2.70	3.20	< 23.96	< 6.4	< 13	< 6.4	< 0.64
Benzyl chloride	< 8.3	< 21	< 2.1	< 4.1	< 10	< 21	< 21	< 21	< 21	< 2.1	< 7.8	< 77.66	< 21	< 41	< 21	< 2.1
Bromodichloromethane	< 5.4	< 13	< 1.3	< 2.7	< 6.7	< 13	< 13	< 13	< 13	< 1.3	< 5.1	< 50.25	< 13	< 27	< 13	< 1.3
Bromoform	< 8.3	< 21	< 2.1	< 4.1	< 10	< 21	< 21	< 21	< 21	< 2.1	< 7.8	< 77.52	< 21	< 41	< 21	< 2.1
Bromomethane (Methyl bromide)	< 3.1	< 7.8	< 0.78	< 1.6	< 3.9	< 7.8	< 7.8	< 7.8	< 7.8	< 0.78	< 2.9	< 29.12	< 7.8	< 16	< 7.8	< 0.78
Butane	21	20	6.8	3	67	66	75	24	28	36	20	< 35.66	< 9.5	< 19	< 9.5	3.2
Carbon disulfide	< 6.2	< 16	< 1.6	< 3.1	< 7.8	< 16	< 12	< 12	< 12	< 1.2	< 4.7	< 59.17	< 16	36	< 16	< 1.6
Carbon tetrachloride	< 5.0	< 13	< 1.3	< 2.5	< 6.3	< 13	< 13	< 13	< 13	< 1.3	< 4.8	< 47.18	< 13	< 25	< 13	< 1.3
Chlorobenzene	< 3.7	< 9.2	< 0.92	< 1.8	< 4.6	< 9.2	< 9.2	< 9.2	< 9.2	< 0.92	< 3.5	< 34.53	< 9.2	< 18	< 9.2	< 0.92
Chlorodifluoromethane	7.4	16 J	4.1	2.4	45	47	70	26	21	39	15	< -999	< 7.1	16	< 7.1	2
Chloroethane	63	42	32	9.9	150	110	310	170	130	190	77	343.0	250.0	1300	84	26
Chloroform (Trichloromethane)	11	< 9.8	12	8.3	18	< 9.8	36	12	< 9.8	5.0	6.7	42	60	54	46	29
Chloromethane (Methyl chloride)	4.9	< 10	1.8	< 2.1	< 5.2	< 10	< 21	< 21	< 21	< 2.1	< 7.8	< 39.24	23.0	55	15	2.5
cis-1,2-Dichloroethene	11	39	95	20	87	66	38	120	98	58	83	107.1	56.0	94	15	10
cis-1,3-Dichloropropene	< 3.6	< 9.1	< 0.91	< 1.8	< 4.5	< 9.1	< 18	< 18	< 18	< 1.8	< 6.9	< 34.04	< 9.1	< 18	< 9.1	< 0.91
Cyclohexane	40	< 17	14	< 3.4	26	24	40	14	< 14	11	6.1	< 65.4	< 17	< 34	< 17	< 1.7
Dibromochloromethane	< 6.8	< 17	< 1.7	< 3.4	< 8.5	< 17	< 17	< 17	< 17	< 1.7	< 6.4	< 63.89	< 17	< 34	< 17	< 1.7
Dibromomethane	< 11	< 28	< 2.8	< 5.7	< 14	< 28	< 28	< 28	< 28	< 2.8	< 11	< -999	< 28	< 57	< 28	< 2.8
Dichlorodifluoromethane (CFC-12)	53	71	17	22	99	110	110	51	25	100	25	84.1	59.0	52	51	13

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-4 04/26/13	SVE-4 10/23/13	SVE-4 10/24/14	SVE-4 10/22/15	SVE-4 10/26/16	SVE-4 10/30/17	SVE-4 11/16/18	SVE-4 10/31/19	SVE-4 11/05/20	SVE-4 10/21/21	SVE-4 10/27/2022	SVE-5 04/22/10	SVE-5 10/30/12	SVE-5 04/26/13	SVE-5 10/23/13	SVE-5 10/24/14
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 24	< 61	6.9	< 12	< 30	< 61	< 61	< 61	< 61	< 6.1	< 23	< 227.36	< 61	< 120	< 61	10
Ethylbenzene	< 3.5	< 8.7	< 0.87	< 1.7	< 4.3	< 8.7	< 8.7	< 8.7	< 8.7	< 0.87	< 3.3	< 32.57	< 8.7	< 17	< 8.7	< 0.87
Hexachlorobutadiene	< 43	< 110	< 11	< 21	< 53	< 110	< 110	< 110	< 110	< 11	< 40	< 394.61	< 110	< 210	< 110	< 11
Hexane	55	< 18	6.1	< 3.5	53	53	94	27	45	22	10	< 66.97	< 18	< 35	< 18	< 1.8
Isopropyl benzene (Cumene)	< 7.9	< 20	< 2	< 3.9	< 9.8	< 20	< 20	< 20	< 20	< 2.0	< 7.4	< 73.74	< 20	< 39	< 20	< 2
m&p-Xylenes	< 3.5	< 8.7	< 0.87	< 1.7	< 4.3	< 8.7	< 8.7	< 8.7	< 8.7	1.3	< 3.3	< 32.57	< 8.7	< 17	< 8.7	< 0.87
Methyl tert butyl ether (MTBE)	< 14	< 36	< 3.6	< 7.2	< 18	< 36	< 36	< 36	< 36	< 3.6	< 14	< 133.4	< 36	< 72	< 36	< 3.6
Methylene chloride	< 6.9	< 17	7.9	3.7	40	24	< 35	< 35	< 35	< 3.5	< 13	240	120.0	150	32	9.8
Naphthalene	< 10	< 26	< 2.6	< 5.2	< 29	< 58	< 58	< 58	< 58	< 5.8	< 22	< 99.6	< 26	< 52	< 26	< 2.6
N-Decane	< 23	< 58	< 5.8	< 12	< 35	< 70	< 70	< 70	< 70	< 7.0	< 26	< 215.33	< 58	< 120	< 58	< 5.8
N-Dodecane	< 28	< 70	< 7	< 14	< 10	< 20	19	< 16	< 16	1.6	< 6.2	< 257.77	< 70	< 140	< 70	< 7
N-Heptane	21	< 20	< 2	< 4.1	< 9.8	< 20	< 20	< 20	< 20	< 2.0	< 7.4	< 77.87	< 20	< 41	< 20	< 2
Nonane	< 10	< 26	< 2.6	< 5.2	< 32	< 64	< 64	< 64	< 64	< 6.4	< 24	< 99.67	< 26	< 52	< 26	< 2.6
N-Propylbenzene	< 7.9	< 20	< 2	< 3.9	< 13	< 26	< 21	< 21	< 21	< 2.1	< 7.9	< 73.74	< 20	< 39	< 20	< 2
N-Undecane	< 26	< 64	< 6.4	< 13	< 13	< 26	< 21	< 21	< 21	< 2.1	< 7.9	< 236.54	< 64	< 130	< 64	< 6.4
Octane	< 7.5	< 19	< 1.9	< 3.7	< 4.3	< 8.7	< 8.7	< 8.7	< 8.7	< 0.87	< 3.3	< 70.08	< 19	< 37	< 19	< 1.9
o-Xylene	< 3.5	< 8.7	< 0.87	< 1.7	< 9.3	< 19	< 19	< 19	< 19	< 1.9	< 7.1	< 32.57	< 8.7	< 17	< 8.7	< 0.87
Pentane	13	< 30	4.3	< 5.9	26	< 30	< 74	< 74	< 74	15	< 28	< 109.18	< 30	< 59	< 30	< 3
Styrene	< 3.4	< 8.5	< 0.85	< 1.7	< 4.3	< 8.5	< 8.5	< 8.5	< 8.5	< 0.85	< 3.2	< 31.95	< 8.5	< 17	< 8.5	< 0.85
Tetrachloroethene	28	50	85	82	67	26	75	32	30	6.7	18	< 50.87	52.0	77	16	32
Toluene	< 3.0	< 7.5	< 0.75	< 1.5	< 3.8	< 7.5	< 38	< 38	< 38	< 3.8	< 14	< 28.22	< 7.5	25	< 7.5	< 0.75
trans-1,2-Dichloroethene	< 3.2	< 7.9	< 0.79	< 1.6	< 4.0	< 7.9	< 7.9	< 7.9	< 7.9	< 0.79	< 3.0	< 29.74	< 7.9	< 16	< 7.9	< 0.79
trans-1,3-Dichloropropene	< 3.6	< 9.1	< 0.91	< 1.8	< 4.5	< 9.1	< 9.1	< 9.1	< 9.1	< 0.91	< 3.4	< 34.04	< 9.1	< 18	< 9.1	< 0.91
Trichloroethene	6	< 11	10	6.4	13	< 11	12	< 11	< 11	4.6	4.1	< 40.3	12	< 21	< 11	4
Trichlorofluoromethane (CFC-11)	11	32	17	13	28	22	26	17	16	7.4	16	51.7	33	< 22	27	8.3
Trifluorotrchloroethane (Freon 113)	< 6.1	< 15	< 1.5	< 3.1	< 7.7	< 15	< 15	< 15	< 15	< 1.5	< 5.8	< 57.48	< 15	< 31	< 15	< 1.5
Vinyl acetate	< 14	< 35	< 3.5	< 7.0	< 18	< 35	< 35	< 35	< 35	< 3.5	< 13	< 130.28	< 35	< 70	< 35	< 3.5
Vinyl chloride	33	18	15	2.3	69	53	97	31	23	39	13	46	10	45	8.1	1.7
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-6 09/23/08	SVE-6 10/01/08	SVE-6 10/15/08	SVE-6 11/13/08	SVE-6 04/24/09	SVE-6 10/20/09	SVE-6 04/29/11	SVE-6 10/26/11	SVE-6 10/30/12	SVE-6 10/22/15	SVE-6 10/26/16	SVE-6 10/30/17	SVE-6 11/16/18	SVE-6 11/05/20	SVE-6 10/21/21	SVE-6 10/27/2022
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	37,000	40,000	46,000	21,000	9,000	130	1,300	830	200	580	700	1100	940	850	630	590
1,1,2,2-Tetrachloroethane	< 1200	< 550	< 440	< 96	< 88	< 1.4	< 14	< 14	< 2.7	< 4.6	< 9.2	< 14 U	< 14	< 14	< 1.4	< 11
1,1,2-Trichloroethane	< 960	< 440	< 350	< 76	< 70	< 1.1	< 11	< 11	< 2.2	< 3.6	< 7.3	< 11 U	< 11	< 11	< 1.1	< 8.7
1,1-Dichloroethane	90,000	65,000	49,000	15,000	3,500	58.0	550	330	100.0	200	600	680	330	540	360	320
1,1-Dichloroethene	4,400	7,700	5,100	3,100	830	19	250	120	36	130	68	160	160	150	140	130
1,2,4-Trichlorobenzene	< 6500	< 3000	< 2400	< 520	< 470	< 7.4	< 74	< 74	< 15	< 25	< 49	< 74 U	< 74	< 74	< 7.4	< 59
1,2,4-Trimethylbenzene	< 860	< 390	< 310	< 69	< 63	< 0.98	< 9.8	< 9.8	< 2.0	< 3.3	< 6.6	< 9.8 U	< 9.8	< 9.8	< 0.98	< 7.9
1,2-Dibromoethane (Ethylene dibromide)	< 1300	< 610	< 490	< 110	< 98	< 1.5	< 15	< 15	< 3.1	< 5.1	< 10	< 15 U	< 15	< 15	< 1.5	< 12
1,2-Dichlorobenzene	< 1100	< 480	< 380	< 84	< 77	< 1.2	< 12	< 12	< 2.4	< 4.0	< 8.0	< 12 U	< 24	< 24	< 2.4	< 19
1,2-Dichloroethane	< 710	< 320	< 260	69	< 52	< 0.81	< 8.1	< 8.1	< 1.6	< 2.7	< 5.4	< 8.1 U	< 8.1	< 8.1	< 0.81	< 6.5
1,2-Dichloropropane	< 810	< 370	< 300	130	< 59	< 0.92	< 9.2	< 9.2	< 1.8	< 3.1	< 6.2	< 9.2 U	< 9.2	< 9.2	< 0.92	< 7.4
1,2-Dichlorotetrafluoroethane (CFC 114)	< 1200	< 560	< 450	< 98	< 89	3.8	< 14	< 14	< 2.8	6.2	110	51	31	29	8.5	< 11
1,3,5-Trimethylbenzene	< 860	< 390	< 310	< 69	< 63	< 0.98	< 9.8	< 9.8	< 2.0	< 3.3	< 6.6	< 9.8 U	< 9.8	< 9.8	< 0.98	< 16
1,3-Butadiene	< 780	< 350	< 280	< 62	< 57	< 0.88	< 8.8	< 8.8	< 1.8	< 2.9	< 5.9	< 8.8 U	< 8.8	< 8.8	< 0.88	< 7.1
1,3-Dichlorobenzene	< 1100	< 480	< 380	< 84	< 77	< 1.2	< 12	< 12	< 2.4	< 4.0	< 8.0	< 12 U	< 12	< 12	< 1.2	< 9.6
1,4-Dichlorobenzene	< 1100	< 480	< 380	< 84	< 77	< 1.2	< 12	< 12	< 2.4	< 4.0	< 8.0	< 12 U	< 12	< 12	< 1.2	< 9.6
2-Butanone (Methyl ethyl ketone) (MEK)	< 2600	2,500	5,400	4,700	3,800	7	< 29	< 29	< 5.9	< 9.8	< 20	< 29 U	< 29	< 29	3.4	< 24
2-Hexanone	< 1800	< 820	< 660	< 140	< 130	< 2.0	< 20	< 20	< 4.1	< 6.8	< 14	< 20 U	< 16	< 16	< 1.6	< 16
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 1800	< 820	1,500	3,000	480	< 2.0	< 20	< 20	< 4.1	< 6.8	< 14	< 20 U	< 41	< 41	< 4.1	< 33
Acetone	< 10000	< 4700	11,000	8,100	14,000	35	< 120	< 120	< 24	< 40	< 79	< 120 U	< 180	< 180	< 18	< 140
Acetonitrile	< 1500	< 670	< 540	< 120	< 110	2.30	< 17	< 17	< 3.4	< 5.6	< 11	< 17 U	< 17	< 17	< 1.7	< 13
Acrolein	< 1600	< 730	< 590	< 130	< 120	< 1.8	< 18	< 18	< 3.7	< 7.6	< 15	< 23 U	< 23	< 23	< 2.3	< 18
Acrylonitrile	< 3800	< 1700	< 1400	< 300	< 280	< 4.3	< 43	< 43	< 8.7	< 14	< 29	< 43 U	< 43	< 43	< 4.3	< 35
Allyl chloride (3-Chloropropene)	< 550	< 250	< 200	< 44	< 40	< 0.63	< 6.3	< 6.3	< 1.3	< 2.1	< 4.2	< 6.3 U	< 6.3	< 6.3	< 0.63	< 5.0
alpha-Methylstyrene	< 1700	< 770	< 620	< 140	< 120	< 1.9	< 19	< 19	< 3.9	< 6.4	< 13	< 19 U	< 19	< 19	< 1.9	< 15
Benzene	660	310	250	68	< 41	< 0.64	< 6.4	< 6.4	< 1.3	< 2.1	< 4.3	< 6.4 U	< 6.4	< 6.4	1.0	< 5.1
Benzyl chloride	< 1800	< 830	< 660	< 140	< 130	< 2.1	< 21	< 21	< 4.1	< 6.9	< 14	< 21 U	< 21	< 21	< 2.1	< 17
Bromodichloromethane	< 1200	< 530	< 430	< 94	< 86	< 1.3	< 13	< 13	< 2.7	< 4.5	< 8.9	< 13 U	< 13	< 13	< 1.3	< 11
Bromoform	< 1800	< 820	< 660	< 140	< 130	< 2.1	< 21	< 21	< 4.1	< 6.9	< 14	< 21 U	< 21	< 21	< 2.1	< 17
Bromomethane (Methyl bromide)	< 680	< 310	< 250	< 54	< 50	< 0.78	< 7.8	< 7.8	< 1.6	< 2.6	< 5.2	< 7.8 U	< 7.8	< 7.8	< 0.78	< 6.2
Butane	970	< 380	< 300	< 67	< 61	5	23	11	4	< 3.2	24	< 9.5 U	< 24	< 24	2.4	< 19
Carbon disulfide	< 1400	< 620	< 500	250	< 100	< 1.6	< 16	< 16	< 3.1	< 5.2	< 10	< 16 U	< 12	< 12	< 1.2	< 10
Carbon tetrachloride	< 1100	< 500	< 400	< 88	< 81	< 1.3	< 13	< 13	< 2.5	< 4.2	< 8.4	< 13 U	< 13	< 13	< 1.3	< 10
Chlorobenzene	1,200	< 370	< 290	< 64	< 59	< 0.92	< 9.2	< 9.2	< 1.8	< 3.1	< 6.1	< 9.2 U	< 9.2	< 9.2	< 0.92	< 7.4
Chlorodifluoromethane	5,200	1,400	320	150	< 45	2	< 7.1	9	< 1.4	< 2.4	33	11	12	< 7.1	2.2	< 5.7
Chloroethane	68,000	29,000	6,700	1,100	140	3	17	6	2	2.5	< 3.5	7.8	< 5.3	22	8.5	28.0
Chloroform (Trichloromethane)	< 860	< 390	< 310	240	87	2	31	21	9	41	23	37	38	37	27	41
Chloromethane (Methyl chloride)	< 910	< 410	< 330	< 72	< 66	1	< 10	< 10	< 2.1	< 3.4	< 6.9	< 10 U	< 21	< 21	< 2.1	< 17
cis-1,2-Dichloroethene	9,000	8,100	6,700	2,700	390	2.8	28.0	16.0	5	11	< 5.3	9	< 7.9	8	9.8	8.3
cis-1,3-Dichloropropene	< 800	< 360	< 290	< 64	< 58	< 0.91	< 9.1	< 9.1	< 1.8	< 3.0	< 6.1	< 9.1 U	< 18	< 18	< 1.8	< 15
Cyclohexane	3,800	1,100	< 550	140	< 110	< 1.7	< 17	< 17	< 3.4	< 5.7	< 11	< 17 U	< 14	< 14	2.6	< 11
Dibromochloromethane	< 1500	< 680	< 550	< 120	< 110	< 1.7	< 17	< 17	< 3.4	< 5.7	< 11	< 17 U	< 17	< 17	< 1.7	< 14
Dibromomethane	< 2500	< 1100	< 910	< 200	< 180	< 2.8	< 28	< 28	< 5.7	< 9.5	< 19	< 28 U	< 28	< 28	< 2.8	< 23
Dichlorodifluoromethane (CFC-12)	4,000	2,600	1,900	3,300	660	21.0	70.0	46.0	16.0	84	380	140	67	25	37	120

Table 4.2

SVE/LFG System VOC Results (µg/m³)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

	SVE-6 09/23/08	SVE-6 10/01/08	SVE-6 10/15/08	SVE-6 11/13/08	SVE-6 04/24/09	SVE-6 10/20/09	SVE-6 04/29/11	SVE-6 10/26/11	SVE-6 10/30/12	SVE-6 10/22/15	SVE-6 10/26/16	SVE-6 10/30/17	SVE-6 11/16/18	SVE-6 11/05/20	SVE-6 10/21/21	SVE-6 10/27/2022
Parameter	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
Ethyl ether	< 5300	< 2400	< 1900	840	< 390	< 6.1	< 61	< 61	< 12	< 20	< 40	< 61 U	< 61	< 61	< 6.1	< 49
Ethylbenzene	7,000	460	1,200	770	290	< 0.87	< 8.7	< 8.7	< 1.7	< 2.9	< 5.8	< 8.7 U	< 8.7	< 8.7	< 0.87	< 6.9
Hexachlorobutadiene	< 9400	< 4300	< 3400	< 750	< 680	< 11	< 110	< 110	< 21	< 36	< 71	< 110 U	< 110	< 110	< 11	< 85
Hexane	1,600	< 700	< 560	< 120	< 110	3.4	< 18	< 18	< 3.5	< 5.9	< 12	< 18 U	< 14	< 14	2.2	< 11
Isopropyl benzene (Cumene)	< 1700	< 780	< 630	< 140	< 130	< 2.0	< 20	< 20	< 3.9	< 6.6	< 13	< 20 U	< 20	< 20	< 2.0	< 16
m&p-Xylenes	13,000	1,000	3,600	2,800	970	< 0.87	< 8.7	< 8.7	< 1.7	< 2.9	< 5.8	< 8.7 U	< 8.7	< 8.7	1.2	< 6.9
Methyl tert butyl ether (MTBE)	< 3200	< 1400	< 1200	< 250	< 230	< 3.6	< 36	< 36	< 7.2	< 12	< 24	< 36 U	< 36	< 36	< 3.6	< 29
Methylene chloride	15,000	14,000	13,000	6,900	970	7.7	68.0	27.0	13	7.8	44	< 17 U	< 35	< 35	< 3.5	< 28
Naphthalene	< 2300	< 1000	< 840	< 180	< 170	< 2.6	< 26	< 26	< 5.2	< 8.7	< 39	< 58 U	< 58	< 58	< 5.8	< 47
N-Decane	< 5100	< 2300	< 1900	< 410	< 370	< 5.8	< 58	< 58	< 12	< 19	< 46	< 70 U	< 70	< 70	< 7.0	< 56
N-Dodecane	< 6100	< 2800	< 2200	< 490	< 450	< 7.0	< 70	< 70	< 14	< 23	< 14	< 20 U	< 16	< 16	< 1.6	< 13
N-Heptane	9,500	970	< 660	160	170	< 2.0	< 20	< 20	< 4.1	< 6.8	< 13	< 20 U	< 20	< 20	< 2.0	< 16
Nonane	< 2300	< 1000	< 840	190	< 170	< 2.6	< 26	< 26	< 5.2	< 8.7	< 43	< 64 U	< 64	< 64	< 6.4	< 51
N-Propylbenzene	< 1700	< 780	< 630	< 140	< 130	< 2.0	< 20	< 20	< 3.9	< 6.6	< 17	< 26 U	< 21	< 21	< 2.1	< 17
N-Undecane	< 5600	< 2600	< 2000	< 450	< 410	< 6.4	< 64	< 64	< 13	< 21	< 17	< 26 U	< 21	< 21	< 2.1	< 17
Octane	1,700	< 750	< 600	140	< 120	< 1.9	< 19	< 19	< 3.7	< 6.2	< 5.8	< 8.7 U	< 8.7	< 8.7	< 0.87	< 6.9
o-Xylene	2,900	< 350	950	730	120	< 0.87	< 8.7	< 8.7	< 1.7	< 2.9	< 12	< 19 U	< 19	< 19	< 1.9	< 15
Pentane	< 2600	< 1200	< 940	< 210	< 190	3.7	42.0	< 30	< 5.9	< 9.8	< 20	< 30 U	< 74	< 74	< 7.4	< 59
Styrene	< 750	< 340	< 270	< 60	< 55	< 0.85	< 8.5	< 8.5	< 1.7	< 2.8	< 5.7	< 8.5 U	< 8.5	< 8.5	< 0.85	< 6.8
Tetrachloroethene	2,300	690	2,000	1,600	470	1.8	43.0	45.0	9	82	66	86	79	68	7.8	51
Toluene	44,000	11,000	17,000	6,800	2,400	3.5	< 7.5	< 7.5	5	< 2.5	< 5.0	< 7.5 U	< 38	< 38	< 3.8	< 30
trans-1,2-Dichloroethene	< 700	< 320	< 250	< 56	< 51	< 0.79	< 7.9	< 7.9	< 1.6	< 2.6	< 5.3	< 7.9 U	< 7.9	< 7.9	< 0.79	< 6.3
trans-1,3-Dichloropropene	< 800	< 360	< 290	< 64	< 58	< 0.91	< 9.1	< 9.1	< 1.8	< 3.0	< 6.1	< 9.1 U	< 9.1	< 9.1	< 0.91	< 7.3
Trichloroethene	< 940	< 430	430	240	< 69	1.1	15.0	< 11	4	10	10	13	13	11	5.0	9.8
Trichlorofluoromethane (CFC-11)	< 990	800	920	1,400	990	7.1	28.0	18.0	6	14	15	20	22	17	14	13
Trifluorotrichloroethane (Freon 113)	< 1300	< 610	< 490	< 110	< 98	< 1.5	< 15	< 15	< 3.1	< 5.1	< 10	< 15 U	< 15	< 15	< 1.5	< 12
Vinyl acetate	< 3100	< 1400	< 1100	< 250	< 230	< 3.5	< 35	< 35	< 7.0	< 21	< 23	< 35 U	< 35	< 35	< 3.5	< 28
Vinyl chloride	14,000	4,900	960	160	91	2.1	< 5.1	< 5.1	< 1.0	< 1.7	18	5.3	< 10	< 10	< 1.0	< 8.2
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**SVE/LFG System VOC Results (µg/m³)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Parameter	SVE-7 10/01/08	SVE-7 10/15/08	SVE-7 11/13/08	SVE-7 04/24/09	SVE-7 10/20/09	SVE-7 10/22/10	SVE-7 04/29/11	SVE-7 10/26/11	SVE-7 10/22/15	SVE-7 10/26/16	SVE-7 11/16/18	SVE-7 10/31/19	SVE-7 11/05/20	SVE-7 10/21/21	SVE-7 10/27/2022	SVE-8 04/22/10
	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1,1,1-Trichloroethane	38,000	17,000	10,000	3,400	1.90	400	250	160	260	270	520	470	380	330	280	19,642
1,1,2,2-Tetrachloroethane	< 840	< 430	< 74	< 14	< 1.4	< 3.4	< 2.7	< 14	< 5.5	< 6.9	< 14	< 14	< 14	< 1.4	< 6.9	< 274.6
1,1,2-Trichloroethane	< 670	< 340	98	16	< 1.1	< 2.7	< 2.2	< 11	< 4.4	< 5.5	< 11	< 11	< 11	< 1.1	< 5.5	< 218.24
1,1-Dichloroethane	100,000	37,000	12,000	2,900	1	210	130	90	180	360	930	920	660	480	250	9,714
1,1-Dichloroethene	6,300	2,000	1,300	460	< 0.79	41	39	23	41	34	76	84	66	52	44	555
1,2,4-Trichlorobenzene	< 4500	< 2300	< 400	< 74	< 7.4	< 19	< 15	< 74	< 30	< 37	< 74	< 74	< 74	< 7.4	< 37	< 1484.25
1,2,4-Trimethylbenzene	< 600	< 300	< 53	< 9.8	< 0.98	< 2.5	< 2.0	< 9.8	< 3.9	< 4.9	< 9.8	< 9.8	< 9.8	< 0.98	< 4.9	< 196.63
1,2-Dibromoethane (Ethylene dibromide)	< 940	< 480	< 83	< 15	< 1.5	< 3.8	< 3.1	< 15	< 6.1	< 7.7	< 15	< 15	< 15	< 1.5	< 7.7	< 307.34
1,2-Dichlorobenzene	< 740	< 370	< 65	< 12	< 1.2	< 3.0	< 2.4	< 12	< 4.8	< 6.0	< 24	< 24	< 24	< 2.4	< 12	< 240.49
1,2-Dichloroethane	< 500	< 250	73	26	< 0.81	< 2.0	< 1.6	< 8.1	< 3.2	< 4.0	< 8.1	< 8.1	< 8.1	< 0.81	< 4.0	< 161.9
1,2-Dichloropropane	< 570	< 290	97	24	< 0.92	< 2.3	< 1.8	< 9.2	< 3.7	< 4.6	< 9.2	< 9.2	< 9.2	< 0.92	< 4.6	< 184.85
1,2-Dichlorotetrafluoroethane (CFC 114)	< 860	< 430	< 75	< 14	< 1.4	< 3.5	< 2.8	< 14	15	64	73	35	32	18	22	< 279.62
1,3,5-Trimethylbenzene	< 600	< 300	< 53	< 9.8	< 0.98	< 2.5	< 2.0	< 9.8	< 3.9	< 4.9	< 9.8	< 9.8	< 9.8	< 0.98	< 9.8	< 196.63
1,3-Butadiene	< 540	< 270	< 48	< 8.8	< 0.88	< 2.2	< 1.8	< 8.8	< 3.5	< 4.4	< 8.8	< 8.8	< 8.8	< 0.88	< 4.4	< 179.19
1,3-Dichlorobenzene	< 740	< 370	< 65	< 12	< 1.2	< 3.0	< 2.4	< 12	< 4.8	< 6.0	< 12	< 12	< 12	< 1.2	< 6.0	< 240.49
1,4-Dichlorobenzene	< 740	< 370	< 65	< 12	< 1.2	< 3.0	< 2.4	< 12	< 4.8	< 6.0	< 12	< 12	< 12	< 1.2	< 6.0	< 240.49
2-Butanone (Methyl ethyl ketone) (MEK)	8,200	3,400	2,000	960	< 2.9	33	8	< 29	< 12	< 15	< 29	< 29	< 29	3.0	< 15	1,858
2-Hexanone	< 1300	< 630	< 110	< 20	< 2.0	< 4.9	< 4.1	< 20	< 8.2	< 10	< 16	< 16	< 16	< 1.6	< 10	< 409.65
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 1300	< 630	590	120	< 2.0	< 4.9	< 4.1	< 20	< 8.2	< 10	< 41	< 41	< 41	< 4.1	< 20	1,352
Acetone	8,800	4,400	1,900	1,100	< 12	86.00	54.00	< 120	48	< 59	< 180	< 180	< 180	< 18	< 89	3,563
Acetonitrile	< 1000	< 520	< 91	< 17	< 1.7	< 4.2	< 3.4	< 17	< 6.7	< 8.4	< 17	< 17	< 17	< 1.7	< 8.4	< 335.79
Acrolein	< 1100	< 570	< 99	< 18	< 1.8	< 4.6	< 3.7	< 18	< 9.2	< 11	< 23	< 23	< 23	< 2.3	< 11	< 366.85
Acrylonitrile	< 2700	< 1300	< 230	< 43	< 4.3	< 11	< 8.7	< 43	< 17	< 22	< 43	< 43	< 43	< 4.3	< 22	< 868.06
Allyl chloride (3-Chloropropene)	< 380	< 190	< 34	< 6.3	< 0.63	< 1.6	< 1.3	< 6.3	< 2.5	< 3.1	< 6.3	< 6.3	< 6.3	< 0.63	< 3.1	< 125.19
alpha-Methylstyrene	< 1200	< 600	< 100	< 19	< 1.9	< 4.8	< 3.9	< 19	< 7.7	< 9.7	< 19	< 19	< 19	< 1.9	< 9.7	< -999
Benzene	1,400	300	72	10	< 0.64	< 1.6	< 1.3	< 6.4	< 2.6	4.2	< 6.4	< 6.4	< 6.4	0.89	< 3.2	< 127.79
Benzyl chloride	< 1300	< 640	< 110	< 21	< 2.1	< 5.2	< 4.1	< 21	< 8.3	< 10	< 21	< 21	< 21	< 2.1	< 10	< 419.34
Bromodichloromethane	< 820	< 410	< 72	< 13	< 1.3	< 3.4	< 2.7	< 13	< 5.4	< 6.7	< 13	< 13	< 13	< 1.3	< 6.7	< 268.02
Bromoform	< 1300	< 640	< 110	< 21	< 2.1	< 5.2	< 4.1	< 21	< 8.3	< 10	< 21	< 21	< 21	< 2.1	< 10	< 413.46
Bromomethane (Methyl bromide)	< 480	< 240	< 42	< 7.8	< 0.78	< 1.9	< 1.6	< 7.8	< 3.1	< 3.9	< 7.8	< 7.8	< 7.8	< 0.78	< 3.9	< 155.32
Butane	< 580	< 290	< 51	27	2	18	3	< 9.5	17	110	100	55	28	9.7	< 12	< 192.54
Carbon disulfide	< 950	630	380	47	< 1.6	9	< 3.1	< 16	< 6.2	< 7.8	< 12	< 12	< 12	< 1.2	< 6.2	< 311.41
Carbon tetrachloride	< 770	< 390	< 68	< 13	< 1.3	< 3.1	< 2.5	< 13	< 5.0	< 6.3	< 13	< 13	< 13	< 1.3	< 6.3	< 251.65
Chlorobenzene	< 560	< 290	< 50	< 9.2	< 0.92	4	< 1.8	< 9.2	< 3.7	< 4.6	< 9.2	< 9.2	< 9.2	< 0.92	< 4.6	< 184.15
Chlorodifluoromethane	2,300	440	91	12	1	2.8	2.1	8.5	5.8	51	48	26	20	5.8	4.6	< -999
Chloroethane	23,000	4,700	1,300	240	< 0.53	16.0	2.5	< 5.3	24	37	61	35	54	33	9.8	422
Chloroform (Trichloromethane)	< 600	< 300	96	53	< 0.98	9.2	7.4	< 9.8	20	15	40	60	44	29	37	< 195.3
Chloromethane (Methyl chloride)	< 630	< 320	< 56	< 10	1	2.6	< 2.1	< 10	< 4.1	< 5.2	< 21	< 21	< 21	< 2.1	< 10	< 206.5
cis-1,2-Dichloroethene	23,000	7,700	2,400	260	< 0.79	17.0	8.0	< 7.9	30	110	140	66	50	17	7.8	436
cis-1,3-Dichloropropene	< 560	< 280	< 49	< 9.1	< 0.91	< 2.3	< 1.8	< 9.1	< 3.6	< 4.5	< 18	< 18	< 18	< 1.8	< 9.1	< 181.55
Cyclohexane	2,300	< 530	290	94	< 1.7	21.0	< 3.4	< 17	16	29	44	15	< 14	3.4	< 6.9	< 344.21
Dibromochloromethane	< 1000	< 530	< 92	< 17	< 1.7	< 4.3	< 3.4	< 17	< 6.8	< 8.5	< 17	< 17	< 17	< 1.7	< 8.5	< 340.74
Dibromomethane	< 1700	< 880	< 150	< 28	< 2.8	< 7.1	< 5.7	< 28	< 11	< 14	< 28	< 28	< 28	< 2.8	< 14	< -999
Dichlorodifluoromethane (CFC-12)	1,900	520	300	66	3.30	21	7	< 9.9	38	68	100	59	35	22	< 4.9	< 197.81

Table 4.2

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	SVE-7 10/01/08	SVE-7 10/15/08	SVE-7 11/13/08	SVE-7 04/24/09	SVE-7 10/20/09	SVE-7 10/22/10	SVE-7 04/29/11	SVE-7 10/26/11	SVE-7 10/22/15	SVE-7 10/26/16	SVE-7 11/16/18	SVE-7 10/31/19	SVE-7 11/05/20	SVE-7 10/21/21	SVE-7 10/27/2022	SVE-8 04/22/10
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 3700	< 1900	520	380	< 6.1	< 15	< 12	< 61	< 24	< 30	< 61	< 61	< 61	< 6.1	< 30	< 1212.6
Ethylbenzene	5,300	1,400	620	< 8.7	< 0.87	53.0	< 1.7	< 8.7	< 3.5	< 4.3	< 8.7	< 8.7	< 8.7	< 0.87	< 4.3	< 173.69
Hexachlorobutadiene	< 6500	< 3300	< 580	< 110	< 11	< 27	< 21	< 110	< 43	< 53	< 110	< 110	< 110	< 11	< 53	< 2133.01
Hexane	1,300	< 550	180	72	5	11.0	< 3.5	< 18	< 7.0	25	27	15	< 14	1.7	< 7.0	< 352.47
Isopropyl benzene (Cumene)	< 1200	< 610	< 110	< 20	< 2.0	< 4.9	< 3.9	< 20	< 7.9	< 9.8	< 20	< 20	< 20	< 2.0	< 9.8	< 398.18
m&p-Xylenes	12,000	3,300	1,700	13	< 0.87	82.0	< 1.7	< 8.7	< 3.5	< 4.3	< 8.7	< 8.7	< 8.7	1.0	< 4.3	< 173.69
Methyl tert butyl ether (MTBE)	< 2200	< 1100	< 190	< 36	< 3.6	< 9.0	< 7.2	< 36	< 14	< 18	< 36	< 36	< 36	< 3.6	< 18	< 721.06
Methylene chloride	12,000	6,600	3,600	370	< 1.7	6.2	4.6	< 17	9.6	20	< 35	< 35	< 35	< 3.5	< 17	556
Naphthalene	< 1600	< 810	< 140	< 26	< 2.6	< 6.3	< 5.2	< 26	< 10	< 29	< 58	< 58	< 58	< 5.8	< 29	< 524.21
N-Decane	< 3600	< 1800	< 310	< 58	< 5.8	< 15	< 12	< 58	< 23	< 35	< 70	< 70	< 70	< 7.0	< 35	< 1163.93
N-Dodecane	< 4300	< 2200	< 380	< 70	< 7.0	< 17	< 14	< 70	< 28	< 10	18.00	< 16	< 16	< 1.6	< 8.2	< 1393.37
N-Heptane	3,100	< 630	200	52	< 2.0	13.0	< 4.1	< 20	< 8.2	< 9.8	< 20	< 20	< 20	< 2.0	< 9.8	3,689
Nonane	< 1600	< 810	< 140	< 26	< 2.6	26.0	< 5.2	< 26	< 10	< 32	< 64	< 64	< 64	< 6.4	< 32	< 524.56
N-Propylbenzene	< 1200	< 610	< 110	< 20	< 2.0	< 4.9	< 3.9	< 20	< 7.9	< 13	< 21	< 21	< 21	< 2.1	< 10	< 398.18
N-Undecane	< 3900	< 2000	< 350	< 64	< 6.4	< 16	< 13	< 64	< 26	< 13	< 21	< 21	< 21	< 2.1	< 10	< 1278.61
Octane	< 1100	< 580	< 100	< 19	< 1.9	14.0	< 3.7	< 19	< 7.5	< 4.3	< 8.7	< 8.7	< 8.7	< 0.87	< 4.3	< 378.43
o-Xylene	1,800	680	420	< 8.7	< 0.87	14.0	< 1.7	< 8.7	< 3.5	< 9.3	< 19	< 19	< 19	< 1.9	< 9.3	< 173.69
Pentane	< 1800	< 910	< 160	< 30	< 3.0	16.0	< 5.9	< 30	< 12	41	< 74	< 74	< 74	< 7.4	< 37	< 590.18
Styrene	< 520	< 260	< 46	< 8.5	< 0.85	< 2.1	< 1.7	< 8.5	< 3.4	< 4.3	< 8.5	< 8.5	< 8.5	< 0.85	< 4.3	< 170.39
Tetrachloroethene	7,700	2,200	1,300	180	< 1.4	110	23	19	120	100	160	120	91	21	94	< 271.3
Toluene	84,000	20,000	5,900	250	< 0.75	23.0	< 1.5	< 7.5	< 3.0	< 3.8	< 38	< 38	< 38	< 3.8	< 19	1,091
trans-1,2-Dichloroethene	< 490	< 250	< 43	< 7.9	< 0.79	< 2.0	< 1.6	< 7.9	< 3.2	< 4.0	< 7.9	< 7.9	< 7.9	< 0.79	< 4.0	< 158.59
trans-1,3-Dichloropropene	< 560	< 280	< 49	< 9.1	< 0.91	< 2.3	< 1.8	< 9.1	< 3.6	< 4.5	< 9.1	< 9.1	< 9.1	< 0.91	< 4.5	< 181.55
Trichloroethene	1,900	360	160	35	< 1.1	16.0	6.3	< 11	14	18	34	21	13	8.1	10	< 214.95
Trichlorofluoromethane (CFC-11)	< 690	< 350	160	57	2	11	4	< 11	28	35	41	24	26	25	22	< 224.74
Trifluorotrichloroethane (Freon 113)	< 940	< 470	< 83	< 15	< 1.5	< 3.8	< 3.1	< 15	< 6.1	< 7.7	< 15	< 15	< 15	< 1.5	< 7.7	< 306.54
Vinyl acetate	< 2200	< 1100	< 190	< 35	< 3.5	< 8.8	< 7.0	< 35	< 14	< 18	< 35	< 35	< 35	< 3.5	< 18	< 704.21
Vinyl chloride	13,000	1,700	380	50	< 0.51	4	< 1.0	< 5.1	24	340	640	170	94	21	< 5.1	146
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	SVE-8 04/27/12	SVE-8 10/30/12	SVE-8 10/24/14	SVE-9 04/22/10	SVE-10 09/23/08	SVE-10 10/01/08	SVE-10 10/15/08	SVE-10 11/13/08	SVE-10 04/24/09	SVE-10 10/20/09	SVE-10 10/22/10	SVE-10 04/29/11	SVE-10 10/26/11	SVE-10 10/30/17	SVE-11 04/27/12	SVE-12 09/23/08
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	860	360	88	158	7,100	4,900	2,600	4,200	1,800	83	180	210	79	< 11	180	51,000
1,1,2,2-Tetrachloroethane	< 14	< 14	< 1.4	< 1.37	< 580	< 130	< 33	< 72	< 25	< 1.4	< 2.7	< 2.7	< 14	< 14	< 14	< 2500
1,1,2-Trichloroethane	< 11	< 11	< 1.5	< 1.09	< 460	< 100	< 26	< 57	< 20	< 1.1	< 2.2	3	< 11	< 11	< 11	< 2000
1,1-Dichloroethane	790	430	86	109.3	12,000	5,100	2,500	2,900	1,400	75.0	150.0	170.0	68.0	< 8.1	330	140,000
1,1-Dichloroethene	67	49	15	15	1,400	850	510	440	160	7	13	18	< 7.9	< 7.9	25	17,000
1,2,4-Trichlorobenzene	< 74	< 74	< 7.4	< 7.42	< 3100	< 700	< 180	< 390	< 130	< 7.4	< 15	< 15	< 74	< 74	< 74	< 14000
1,2,4-Trimethylbenzene	< 9.8	< 9.8	< 0.98	< 0.98	800	< 93	< 24	< 52	< 18	< 0.98	< 2.0	< 2.0	< 9.8	< 9.8	< 9.8	< 1800
1,2-Dibromoethane (Ethylene dibromide)	< 15	< 15	< 1.5	< 1.54	< 640	< 150	< 37	< 81	< 28	< 1.5	< 3.1	< 3.1	< 15	< 15	< 15	< 2800
1,2-Dichlorobenzene	< 12	< 12	< 1.2	< 1.2	< 500	< 110	< 29	< 63	< 22	< 1.2	< 2.4	< 2.4	< 12	< 12	< 12	< 2200
1,2-Dichloroethane	< 8.1	< 8.1	< 0.81	< 0.81	< 340	< 76	< 20	< 42	< 15	< 0.81	< 1.6	2	< 8.1	< 8.1	< 8.1	< 1500
1,2-Dichloropropane	< 9.2	< 9.2	< 0.92	1	< 390	90	< 22	< 48	< 17	1	4	< 1.8	< 9.2	< 9.2	< 9.2	< 1700
1,2-Dichlorotetrafluoroethane (CFC 114)	< 14	15	< 1.4	2.8	< 590	< 130	< 34	< 73	28	3.0	21.0	5.9	< 14	< 14	23.0	< 2600
1,3,5-Trimethylbenzene	< 9.8	< 9.8	< 0.98	< 0.98	460	< 93	< 24	< 52	< 18	< 0.98	< 2.0	< 2.0	< 9.8	< 9.8	< 9.8	< 1800
1,3-Butadiene	< 8.8	< 8.8	< 0.88	< 0.88	< 370	< 84	< 21	< 46	< 16	< 0.88	< 1.8	< 1.8	< 8.8	< 8.8	< 8.8	< 1600
1,3-Dichlorobenzene	< 12	< 12	< 1.2	< 1.2	< 500	< 110	< 29	< 63	< 22	< 1.2	< 2.4	< 2.4	< 12	< 12	< 12	< 2200
1,4-Dichlorobenzene	< 12	< 12	< 1.2	< 1.2	< 500	< 110	< 29	< 63	< 22	< 1.2	< 2.4	< 2.4	< 12	< 12	< 12	< 2200
2-Butanone (Methyl ethyl ketone) (MEK)	< 29	< 29	< 2.9	8.3	7,500	4,800	2,900	5,100	930	21.00	< 5.9	< 5.9	< 29	< 29	< 29	< 5400
2-Hexanone	< 20	< 20	< 2	< 2.05	< 860	< 190	< 50	< 110	< 37	< 2.0	< 4.1	< 4.1	< 20	< 20	< 20	< 3800
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	52	< 20	2	5.74	890	< 190	81	170	< 37	< 2.0	< 4.1	< 4.1	< 20	< 20	< 20	< 3800
Acetone	< 120	< 120	13 J	21.6	6,400	3,600	2,900	4,000	1,100	46	< 24	< 24	< 120	< 120	< 120	< 22000
Acetonitrile	< 17	< 17	< 1.7	< 1.68	< 700	< 160	< 41	< 88	< 31	2.30	< 3.4	< 3.4	< 17	< 17	< 17	< 3100
Acrolein	< 18	< 18	< 2.3	< 1.83	< 770	< 170	< 45	< 96	< 33	< 1.8	< 3.7	< 3.7	< 18	< 23	< 18	< 3400
Acrylonitrile	< 43	< 43	< 4.3	< 4.34	< 1800	< 410	< 110	< 230	< 79	< 4.3	< 8.7	< 8.7	< 43	< 43	< 43	< 8000
Allyl chloride (3-Chloropropene)	< 6.3	< 6.3	< 0.63	< 0.63	< 260	< 59	< 15	< 33	< 11	< 0.63	< 1.3	< 1.3	< 6.3	< 6.3	< 6.3	< 1200
alpha-Methylstyrene	< 19	< 19	< 1.9	< -999	< 810	< 180	< 47	< 100	< 35	< 1.9	< 3.9	< 3.9	< 19	< 19	< 19	< 3600
Benzene	< 6.4	< 6.4	< 0.64	< 0.64	1,300	250	39	44	14	1.2	5	< 1.3	< 6.4	< 6.4	8	1,300
Benzyl chloride	< 21	< 21	< 2.1	< 2.07	< 870	< 200	< 50	< 110	< 38	< 2.1	< 4.1	< 4.1	< 21	< 21	< 21	< 3800
Bromodichloromethane	< 13	< 13	< 1.3	< 1.34	< 560	< 130	< 33	< 70	< 24	< 1.3	< 2.7	< 2.7	< 13	< 13	< 13	< 2500
Bromoform	< 21	< 21	< 2.1	< 2.07	< 870	< 200	< 50	< 110	< 38	< 2.1	< 4.1	< 4.1	< 21	< 21	< 21	< 3800
Bromomethane (Methyl bromide)	< 7.8	< 7.8	< 0.78	< 0.78	< 330	< 73	< 19	< 41	< 14	< 0.78	< 1.6	< 1.6	< 7.8	< 7.8	< 7.8	< 1400
Butane	< 9.5	< 9.5	12	1.9	1,300	140	58	61	49	9	71	10	30	< 9.5	56	< 1800
Carbon disulfide	< 16	< 16	< 1.6	2.1	< 650	270	190	230	35	2.00	29.0	7.4	< 16	< 16	< 16	< 2900
Carbon tetrachloride	< 13	< 13	< 1.3	< 1.26	< 530	< 120	< 31	< 66	< 23	< 1.3	< 2.5	< 2.5	< 13	< 13	< 13	< 2300
Chlorobenzene	< 9.2	< 9.2	< 0.92	< 0.92	450	< 87	< 22	< 48	< 17	< 0.92	< 1.8	< 1.8	< 9.2	< 9.2	< 9.2	< 1700
Chlorodifluoromethane	< 7.1	< 7.1	3.2	-999.0	5,600	550	140	70	21	2.9	45.0	8.9	23.0	< 7.1	60	1,900
Chloroethane	130	89	6.9	2.0	3,000	800	390	180	56	6	14	7	6	< 5.3	250	4,800
Chloroform (Trichloromethane)	10	11	5.6	1.7	< 410	< 92	35	75	39	2	8.5	12.0	< 9.8	< 9.8	< 9.8	< 1800
Chloromethane (Methyl chloride)	< 10	< 10	1.7	1.1	< 430	< 97	< 25	< 54	< 19	1	6.30	< 2.1	< 10	< 10	< 10	< 1900
cis-1,2-Dichloroethene	46	16	3.5	14.3	26,000	8,000	2,600	3,700	890	26.0	68	91.0	22	< 7.9	24	23,000
cis-1,3-Dichloropropene	< 9.1	< 9.1	< 0.91	< 0.91	< 380	< 86	< 22	< 48	< 17	< 0.91	< 1.8	< 1.8	< 9.1	< 9.1	< 9.1	< 1700
Cyclohexane	< 17	< 17	< 1.7	2	9,300	750	160	220	110	11.0	81.0	17.0	31.0	< 17	100.0	3,500
Dibromochloromethane	< 17	< 17	< 1.7	< 1.7	< 720	< 160	< 41	< 89	< 31	< 1.7	< 3.4	< 3.4	< 17	< 17	< 17	< 3100
Dibromomethane	< 28	< 28	< 2.8	< -999	< 1200	< 270	< 69	< 150	< 52	< 2.8	< 5.7	< 5.7	< 28	< 28	< 28	< 5200
Dichlorodifluoromethane (CFC-12)	23	30	7.7	10.4	3,100	470	290	260	82	16.0	72	32.0	31	< 9.9	120.0	3,000

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	SVE-8 04/27/12	SVE-8 10/30/12	SVE-8 10/24/14	SVE-9 04/22/10	SVE-10 09/23/08	SVE-10 10/01/08	SVE-10 10/15/08	SVE-10 11/13/08	SVE-10 04/24/09	SVE-10 10/20/09	SVE-10 10/22/10	SVE-10 04/29/11	SVE-10 10/26/11	SVE-10 10/30/17	SVE-11 04/27/12	SVE-12 09/23/08
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 61	< 61	< 6.1	6.7	3,600	2,400	390	360	170	22.0	27.0	30.0	< 61	< 61	< 61	< 11000
Ethylbenzene	< 8.7	< 8.7	< 0.87	< 0.87	4,200	230	56	110	< 16	1.5	7	< 1.7	< 8.7	< 8.7	< 8.7	2,600
Hexachlorobutadiene	< 110	< 110	< 11	< 10.67	< 4500	< 1000	< 260	< 560	< 190	< 11	< 21	< 21	< 110	< 110	< 110	< 20000
Hexane	< 18	< 18	2.3	< 1.76	4,400	380	110	100	57	6.8	50	8	< 18	< 18	70	< 3200
Isopropyl benzene (Cumene)	< 20	< 20	< 2	< 1.97	< 830	< 190	< 48	< 100	< 36	< 2.0	< 3.9	< 3.9	< 20	< 20	< 20	< 3600
m&p-Xylenes	< 8.7	< 8.7	< 0.87	< 0.87	6,200	390	110	250	20	2.4	10	< 1.7	< 8.7	< 8.7	< 8.7	4,600
Methyl tert butyl ether (MTBE)	< 36	< 36	< 3.6	< 3.61	< 1500	< 340	< 88	< 190	< 66	< 3.6	< 7.2	< 7.2	< 36	< 36	< 36	< 6600
Methylene chloride	37	29	17	5.9	1,700	700	400	600	180	6.9	10	8	< 17	< 17	< 17	34,000
Naphthalene	< 26	< 26	< 2.6	< 2.62	< 1100	< 250	< 64	< 140	< 48	< 2.6	< 5.2	< 5.2	< 26	< 58	< 26	< 4800
N-Decane	< 58	< 58	< 5.8	< 5.82	< 2400	< 550	< 140	< 310	< 110	< 5.8	< 12	< 12	< 58	< 70	< 58	< 11000
N-Dodecane	< 70	< 70	< 7	< 6.97	< 2900	< 660	< 170	< 370	< 130	< 7.0	< 14	< 14	< 70	< 20	< 70	< 13000
N-Heptane	150.0	< 20	< 2	9.4	5,700	450	63	< 110	38	8.9	27	< 4.1	< 20	< 20	130	< 3800
Nonane	< 26	< 26	< 2.6	< 2.62	3,200	< 250	< 64	< 140	< 48	< 2.6	< 5.2	< 5.2	< 26	< 64	< 26	< 4800
N-Propylbenzene	< 20	< 20	< 2	< 1.97	< 830	< 190	< 48	< 100	< 36	< 2.0	< 3.9	< 3.9	< 20	< 26	< 20	< 3600
N-Undecane	< 64	< 64	< 6.4	< 6.39	< 2700	< 600	< 160	< 340	< 120	< 6.4	< 13	< 13	< 64	< 26	< 64	< 12000
Octane	< 19	< 19	< 1.9	< 1.87	3,600	180	< 45	< 98	< 34	< 1.9	7	< 3.7	< 19	< 8.7	< 19	< 3400
o-Xylene	< 8.7	< 8.7	< 0.87	< 0.87	1,700	< 82	34	92	< 16	< 0.87	2	< 1.7	< 8.7	< 19	< 8.7	< 1600
Pentane	< 30	< 30	2.9	< 2.95	< 1200	< 280	< 72	< 150	54	6.1	34	8	< 30	< 30	39	< 5400
Styrene	< 8.5	< 8.5	< 0.85	< 0.85	< 360	< 80	< 21	< 45	< 15	< 0.85	< 1.7	< 1.7	< 8.5	< 8.5	< 8.5	< 1600
Tetrachloroethene	22	28	8.5	6.1	5,700	1,400	540	1,400	170	5.3	39	89	29	< 14	< 14	7,200
Toluene	20.0	< 7.5	1.2	3.8	9,100	1,800	610	970	130	9.1	37	< 1.5	< 7.5	< 7.5	9	27,000
trans-1,2-Dichloroethene	< 7.9	< 7.9	< 0.79	< 0.79	370	100	47	< 42	< 14	< 0.79	< 1.6	< 1.6	< 7.9	< 7.9	< 7.9	< 1500
trans-1,3-Dichloropropene	< 9.1	< 9.1	< 0.91	< 0.91	< 380	< 86	< 22	< 48	< 17	< 0.91	< 1.8	< 1.8	< 9.1	< 9.1	< 9.1	< 1700
Trichloroethene	< 11	< 11	1.5	2.5	1,200	450	120	250	50	3.2	18	17	< 11	< 11	< 11	2,500
Trichlorofluoromethane (CFC-11)	< 11	< 11	4.7	6	< 470	220	190	200	85	20.0	76.0	38.0	25.0	< 11	25.0	< 2100
Trifluorotrchloroethane (Freon 113)	< 15	< 15	< 1.5	< 1.53	< 640	< 140	< 37	< 80	< 28	< 1.5	< 3.1	< 3.1	< 15	< 15	< 15	< 2800
Vinyl acetate	< 35	< 35	< 3.5	< 3.52	< 1500	< 330	< 85	< 180	< 64	< 3.5	< 7.0	< 7.0	< 35	< 35	< 35	< 6500
Vinyl chloride	19	7	0.52	< 0.51	25,000	2,700	660	310	95	11.0	77.0	7.7	21.0	< 5.1	220.0	8,700
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-12 10/01/08	SVE-12 10/15/08	SVE-12 11/13/08	SVE-12 04/24/09	SVE-12 10/20/09	SVE-12 10/22/10	SVE-12 04/29/11	SVE-12 10/26/11	SVE-12 10/30/12	SVE-12 10/23/13	SVE-12 10/24/14	SVE-12 10/22/15	SVE-12 10/26/16	SVE-12 11/16/18	SVE-12 10/31/19	SVE-12 11/05/20
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	42,000	53,000	29,000	9,600	95	1,200	1,600	1,100	410	72	130	99	130	580	490	470
1,1,2,2-Tetrachloroethane	< 990	< 830	< 320	< 95	< 1.4	< 14	< 27	< 14	< 14	< 14	< 1.4	< 5.5	< 9.2	< 14	< 14	< 14
1,1,2-Trichloroethane	< 790	< 660	< 250	< 75	< 1.1	< 11	< 22	< 11	< 11	< 11	< 1.5	< 4.4	< 7.3	< 11	< 11	< 11
1,1-Dichloroethane	130,000	100,000	35,000	15,000	160.0	1,500	1,900	1,200	400	76	150	96	140	350	340	310
1,1-Dichloroethene	9,400	6,200	4,300	1,100	17	200	330	160	60	13	26	18	21	88	120	100
1,2,4-Trichlorobenzene	< 5300	< 4500	< 1700	< 510	< 7.4	< 74	< 150	< 74	< 74	< 74	< 7.4	< 30	< 49	< 74	< 74	< 74
1,2,4-Trimethylbenzene	< 710	< 600	< 230	< 68	< 0.98	< 9.8	< 20	< 9.8	< 9.8	< 9.8	< 0.98	< 3.9	< 6.6	< 9.8	< 9.8	< 9.8
1,2-Dibromoethane (Ethylene dibromide)	< 1100	< 930	< 350	< 110	< 1.5	< 15	< 31	< 15	< 15	< 15	< 1.5	< 6.1	< 10	< 15	< 15	< 15
1,2-Dichlorobenzene	< 870	< 730	< 280	< 83	< 1.2	< 12	< 24	< 12	< 12	< 12	< 1.2	< 4.8	< 8.0	< 24	< 24	< 24
1,2-Dichloroethane	< 580	< 490	< 190	< 56	< 0.81	< 8.1	< 16	< 8.1	< 8.1	< 8.1	< 0.81	< 3.2	< 5.4	< 8.1	< 8.1	< 8.1
1,2-Dichloropropane	750	610	210	110	< 0.92	14	< 18	< 9.2	< 9.2	< 9.2	1.9	< 3.7	< 6.2	< 9.2	< 9.2	< 9.2
1,2-Dichlorotetrafluoroethane (CFC 114)	< 1000	< 850	< 320	< 97	3.7	37	< 28	< 14	< 14	17	7.2	< 5.6	16	35	< 14	< 14
1,3,5-Trimethylbenzene	< 710	< 600	< 230	< 68	< 0.98	< 9.8	< 20	< 9.8	< 9.8	< 9.8	< 0.98	< 3.9	< 6.6	< 9.8	< 9.8	< 9.8
1,3-Butadiene	< 640	< 540	< 200	< 61	< 0.88	< 8.8	< 18	< 8.8	< 8.8	< 8.8	< 0.88	< 3.5	< 5.9	< 8.8	< 8.8	< 8.8
1,3-Dichlorobenzene	< 870	< 730	< 280	< 83	< 1.2	< 12	< 24	< 12	< 12	< 12	< 1.2	< 4.8	< 8.0	< 12	< 12	< 12
1,4-Dichlorobenzene	< 870	< 730	< 280	< 83	< 1.2	< 12	< 24	< 12	< 12	< 12	< 1.2	< 4.8	< 8.0	< 12	< 12	< 12
2-Butanone (Methyl ethyl ketone) (MEK)	7,900	10,000	5,100	1,500	16	150	110	< 29	< 29	< 29	< 2.9	< 12	< 20	< 29	< 29	< 29
2-Hexanone	< 1500	< 1200	< 470	< 140	< 2.0	< 20	< 41	< 20	< 20	< 20	< 2	< 8.2	< 14	< 16	< 16	< 16
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 1500	3,800	1,600	770	2.2	47	74	< 20	< 20	< 20	< 2	< 8.2	< 14	< 41	< 41	< 41
Acetone	< 8600	8,700	5,500	2,400	63	230	< 240	< 120	< 120	< 120	14 J	< 48	< 79	< 180	< 180	< 180
Acetonitrile	< 1200	< 1000	< 390	< 120	2.70	< 17	< 34	< 17	< 17	< 17	< 1.7	< 6.7	< 11	< 17	< 17	< 17
Acrolein	< 1300	< 1100	< 420	< 130	< 1.8	< 18	< 37	< 18	< 18	< 23	< 2.3	< 9.2	< 15	< 23	< 23	< 23
Acrylonitrile	< 3100	< 2600	< 1000	< 300	< 4.3	< 43	< 87	< 43	< 43	< 43	< 4.3	< 17	< 29	< 43	< 43	< 43
Allyl chloride (3-Chloropropene)	< 450	< 380	< 140	< 43	< 0.63	< 6.3	< 13	< 6.3	< 6.3	< 6.3	< 0.63	< 2.5	< 4.2	< 6.3	< 6.3	< 6.3
alpha-Methylstyrene	< 1400	< 1200	< 440	< 130	< 1.9	< 19	< 39	< 19	< 19	< 19	< 1.9	< 7.7	< 13	< 19	< 19	< 19
Benzene	1,100	490	< 150	< 44	< 0.64	< 6.4	< 13	< 6.4	< 6.4	< 6.4	0.68	< 2.6	< 4.3	< 6.4	< 6.4	< 6.4
Benzyl chloride	< 1500	< 1300	< 480	< 140	< 2.1	< 21	< 41	< 21	< 21	< 21	< 2.1	< 8.3	< 14	< 21	< 21	< 21
Bromodichloromethane	< 960	< 810	< 310	< 93	< 1.3	< 13	< 27	< 13	< 13	< 13	< 1.3	< 5.4	< 8.9	< 13	< 13	< 13
Bromoform	< 1500	< 1300	< 480	< 140	< 2.1	< 21	< 41	< 21	< 21	< 21	< 2.1	< 8.3	< 14	< 21	< 21	< 21
Bromomethane (Methyl bromide)	< 560	< 470	< 180	< 54	< 0.78	< 7.8	< 16	< 7.8	< 7.8	< 7.8	< 0.78	< 3.1	< 5.2	< 7.8	< 7.8	< 7.8
Butane	< 680	< 580	< 220	72	4	67	23	10	< 9.5	< 9.5	4.5	3.8	24	45	< 24	< 24
Carbon disulfide	< 1100	< 940	810	340	4	91	64	27	< 16	< 16	< 1.6	< 6.2	< 10	< 12	< 12	< 12
Carbon tetrachloride	< 910	< 760	< 290	< 87	< 1.3	< 13	< 25	< 13	< 13	< 13	< 1.3	< 5.0	< 8.4	< 13	< 13	< 13
Chlorobenzene	< 660	< 560	< 210	< 64	< 0.92	< 9.2	< 18	< 9.2	< 9.2	< 9.2	< 0.92	< 3.7	< 6.1	< 9.2	< 9.2	< 9.2
Chlorodifluoromethane	740	< 430	< 160	< 49	2.9	60	40	8	< 7.1	< 7.1	3.5	< 2.8	14	32	7.4	< 7.1
Chloroethane	3,000	1,400	360	160	6	67	65	11	11	11	10	7.3	37	43	13	< 5.3
Chloroform (Trichloromethane)	< 700	< 590	360	160	2	46	82	72	32	< 9.8	22	24	26	110	130	120
Chloromethane (Methyl chloride)	< 740	< 630	< 240	< 71	2	34.0	35.0	14.0	< 10	< 10	2.5	< 4.1	< 6.9	< 21	< 21	< 21
cis-1,2-Dichloroethene	26,000	17,000	4,500	4,900	67	1,100	900	120	67	9	14	19	26	36	13	12
cis-1,3-Dichloropropene	< 650	< 550	< 210	< 63	< 0.91	< 9.1	< 18	< 9.1	< 9.1	< 9.1	< 0.91	< 3.6	< 6.1	< 18	< 18	< 18
Cyclohexane	1,400	< 1000	< 400	260	2.60	61	44	< 17	< 17	< 17	3.7	< 6.9	19	27	< 14	< 14
Dibromochloromethane	< 1200	< 1000	< 390	< 120	< 1.7	< 17	< 34	< 17	< 17	< 17	< 1.7	< 6.8	< 11	< 17	< 17	< 17
Dibromomethane	< 2000	< 1700	< 650	< 200	< 2.8	< 28	< 57	< 28	< 28	< 28	< 2.8	< 11	< 19	< 28	< 28	< 28
Dichlorodifluoromethane (CFC-12)	2,300	1,700	1,100	1,400	32.0	410	140	90	49	30	26	23	42	95	65	45

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-12 10/01/08	SVE-12 10/15/08	SVE-12 11/13/08	SVE-12 04/24/09	SVE-12 10/20/09	SVE-12 10/22/10	SVE-12 04/29/11	SVE-12 10/26/11	SVE-12 10/30/12	SVE-12 10/23/13	SVE-12 10/24/14	SVE-12 10/22/15	SVE-12 10/26/16	SVE-12 11/16/18	SVE-12 10/31/19	SVE-12 11/05/20
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 4400	< 3700	< 1400	510	9	84.0	< 120	< 61	< 61	< 61	< 6.1	< 24	< 40	< 61	< 61	< 61
Ethylbenzene	1,600	1,200	< 200	< 60	< 0.87	12	< 17	< 8.7	< 8.7	< 8.7	5.6	< 3.5	< 5.8	< 8.7	< 8.7	< 8.7
Hexachlorobutadiene	< 7700	< 6500	< 2500	< 740	< 11	< 110	< 210	< 110	< 110	< 110	< 11	< 43	< 71	< 110	< 110	< 110
Hexane	< 1300	< 1100	< 410	< 120	1.8	30	< 35	< 18	< 18	< 18	1.8	< 7.0	< 12	18	< 14	< 14
Isopropyl benzene (Cumene)	< 1400	< 1200	< 450	< 140	< 2.0	< 20	< 39	< 20	< 20	< 20	< 2	< 7.9	< 13	< 20	< 20	< 20
m&p-Xylenes	4,100	3,000	260	65	< 0.87	42	32	< 8.7	< 8.7	< 8.7	3	< 3.5	< 5.8	< 8.7	< 8.7	< 8.7
Methyl tert butyl ether (MTBE)	< 2600	< 2200	< 830	< 250	< 3.6	< 36	< 72	< 36	< 36	< 36	< 3.6	< 14	< 24	< 36	< 36	< 36
Methylene chloride	20,000	13,000	5,500	1,300	8.9	120	150	68	22	< 17	4	7.7	28	< 35	< 35	< 35
Naphthalene	< 1900	< 1600	< 600	< 180	< 2.6	< 26	< 52	< 26	< 26	< 26	< 2.6	< 10	< 39	< 58	< 58	< 58
N-Decane	< 4200	< 3500	< 1300	< 400	< 5.8	< 58	< 120	< 58	< 58	< 58	< 5.8	< 23	< 46	< 70	< 70	< 70
N-Dodecane	< 5000	< 4200	< 1600	< 480	< 7.0	< 70	< 140	< 70	< 70	< 70	< 7	< 28	17	25	< 16	< 16
N-Heptane	< 1500	< 1200	< 470	320	5.9	50	< 41	< 20	< 20	< 20	3.6	< 8.2	< 13	< 20	< 20	< 20
Nonane	< 1900	< 1600	< 600	< 180	< 2.6	< 26	< 52	< 26	< 26	< 26	4.4	< 10	< 43	< 64	< 64	< 64
N-Propylbenzene	< 1400	< 1200	< 450	< 140	< 2.0	< 20	< 39	< 20	< 20	< 20	< 2	< 7.9	< 17	< 21	< 21	< 21
N-Undecane	< 4600	< 3900	< 1500	< 440	< 6.4	< 64	< 130	< 64	< 64	< 64	< 6.4	< 26	< 17	< 21	< 21	< 21
Octane	< 1300	< 1100	< 430	< 130	< 1.9	< 19	< 37	< 19	< 19	< 19	1.9	< 7.5	< 5.8	< 8.7	< 8.7	< 8.7
o-Xylene	970	860	< 200	< 60	< 0.87	9	< 17	< 8.7	< 8.7	< 8.7	1.4	< 3.5	< 12	< 19	< 19	< 19
Pentane	< 2100	< 1800	< 680	< 200	3.0	46	< 59	< 30	< 30	< 30	< 3	< 12	< 20	< 74	< 74	< 74
Styrene	< 610	< 520	< 200	< 59	< 0.85	< 8.5	< 17	< 8.5	< 8.5	< 8.5	< 0.85	< 3.4	< 5.7	< 8.5	< 8.5	< 8.5
Tetrachloroethene	5,900	5,900	1,300	530	2.2	68	130	33	15	< 14	11	10	13	50	28	29
Toluene	20,000	10,000	1,300	320	2.4	490	55	< 7.5	< 7.5	< 7.5	2.2	< 3.0	< 5.0	< 38	< 38	< 38
trans-1,2-Dichloroethene	< 570	< 480	< 180	< 55	< 0.79	10	< 16	< 7.9	< 7.9	< 7.9	< 0.79	< 3.2	< 5.3	< 7.9	< 7.9	< 7.9
trans-1,3-Dichloropropene	< 650	< 550	< 210	< 63	< 0.91	< 9.1	< 18	< 9.1	< 9.1	< 9.1	< 0.91	< 3.6	< 6.1	< 9.1	< 9.1	< 9.1
Trichloroethene	2,000	1,300	280	930	5.6	140	130	< 11	< 11	< 11	2.8	< 4.3	< 7.2	11.00	< 11	< 11
Trichlorofluoromethane (CFC-11)	960	1,100	660	510	12	76.0	59.0	30.0	19.0	11.0	6.7	6.0	15	21	16	20
Trifluorotrchloroethane (Freon 113)	< 1100	< 930	< 350	< 110	< 1.5	< 15	< 31	< 15	< 15	< 15	< 1.5	< 6.1	< 10	< 15	< 15	< 15
Vinyl acetate	< 2500	< 2100	< 810	< 240	< 3.5	< 35	< 70	< 35	< 35	< 35	< 3.5	< 14	< 23	< 35	< 35	< 35
Vinyl chloride	2,600	660	< 120	46	3	62	32	< 5.1	18	100	76	82	340	700	270	68
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-12 10/27/2022	SVE-13 04/27/12	SVE-13 10/31/19	SVE-14 04/27/12	SVE-14 10/22/15	SVE-14 10/26/16	SVE-14 10/30/17	SVE-14 11/16/18	SVE-14 10/31/19	SVE-14 11/05/20	SVE-14 10/21/21	SVE-14 10/27/2022	SVE-15 04/27/12	SVE-15 04/26/13	SVE-16 09/23/08	SVE-16 10/01/08	SVE-16 10/15/08
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	330	130	550	160	63	130	180	200	220	140	140	140	330	20	6,300	4,200	13,000
1,1,2,2-Tetrachloroethane	< 6.9	< 14	14 U	< 14	< 5.5	< 3.4	< 14	< 14 U	< 14	< 14	< 1.4	< 4.6	< 14	< 1.4	< 82	< 82	< 83
1,1,2-Trichloroethane	< 5.5	< 11	11 U	< 11	< 4.4	< 2.7	< 11	< 11 U	< 11	< 11	< 1.1	< 3.6	< 11	< 1.1	81	< 65	< 66
1,1-Dichloroethane	190	130	550	100	31	59	56	53	51	33	41	28	320	14	8,800	4,500	5,800
1,1-Dichloroethene	82	< 7.9	8.5	22	7.8	15	22	22	36	23	19	19	60	< 0.79	1,100	550	2,400
1,2,4-Trichlorobenzene	< 37	< 74	74 U	< 74	< 30	< 19	< 74	< 74 U	< 74	< 74	< 7.4	< 25	< 74	< 7.4	< 450	< 440	< 450
1,2,4-Trimethylbenzene	< 4.9	< 9.8	9.8 U	< 9.8	< 3.9	< 2.5	< 9.8	< 9.8 U	< 9.8	< 9.8	< 0.98	< 3.3	< 9.8	< 0.98	120	< 59	< 60
1,2-Dibromoethane (Ethylene dibromide)	< 7.7	< 15	15 U	< 15	< 6.1	< 3.8	< 15	< 15 U	< 15	< 15	< 1.5	< 5.1	< 15	< 1.5	< 92	< 92	< 93
1,2-Dichlorobenzene	< 12	< 12	24 U	< 12	< 4.8	< 3.0	< 12	< 24 U	< 24	< 24	< 2.4	< 8.0	< 12	< 1.2	< 72	< 72	< 73
1,2-Dichloroethane	< 4.0	< 8.1	8.1 U	< 8.1	< 3.2	< 2.0	< 8.1	< 8.1 U	< 8.1	< 8.1	< 0.81	< 2.7	< 8.1	< 0.81	< 49	< 48	< 49
1,2-Dichloropropane	< 4.6	< 9.2	9.2 U	< 9.2	< 3.7	< 2.3	< 9.2	< 9.2 U	< 9.2	< 9.2	< 0.92	< 3.1	< 9.2	< 0.92	100	< 55	< 56
1,2-Dichlorotetrafluoroethane (CFC 114)	8.1	< 14	14 U	28	250	35	54	54	30	30	140	18	< 14	< 1.4	290	< 84	< 85
1,3,5-Trimethylbenzene	< 9.8	< 9.8	9.8 U	< 9.8	< 3.9	< 2.5	< 9.8	< 9.8 U	< 9.8	< 9.8	< 0.98	< 6.6	< 9.8	< 0.98	130	< 59	< 60
1,3-Butadiene	< 4.4	< 8.8	8.8 U	< 8.8	< 3.5	< 2.2	< 8.8	< 8.8 U	< 8.8	< 8.8	< 0.88	< 2.9	< 8.8	< 0.88	< 53	< 53	< 54
1,3-Dichlorobenzene	< 6.0	< 12	12 U	< 12	< 4.8	< 3.0	< 12	< 12 U	< 12	< 12	< 1.2	< 4.0	< 12	< 1.2	< 72	< 72	< 73
1,4-Dichlorobenzene	< 6.0	< 12	12 U	< 12	< 4.8	< 3.0	< 12	< 12 U	< 12	< 12	< 1.2	< 4.0	< 12	< 1.2	< 72	< 72	< 73
2-Butanone (Methyl ethyl ketone) (MEK)	< 15	< 29	29 U	< 29	< 12	< 7.4	< 29	< 29 U	< 29	< 29	< 2.9	< 9.8	< 29	< 2.9	1,500	510	< 180
2-Hexanone	< 10	< 20	16 U	< 20	< 8.2	< 5.1	< 20	< 16 U	< 16	< 16	< 1.6	< 6.8	< 20	< 2.0	< 120	< 120	< 120
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 20	< 20	41 U	< 20	< 8.2	6.8	< 20	< 41 U	< 41	< 41	< 4.1	< 14	< 20	< 2.0	230	< 120	< 120
Acetone	< 89	< 120	180 U	< 120	< 48	< 30	< 120	< 180 U	< 180	< 180	< 18	< 59	< 120	< 12	1,100	< 710	< 720
Acetonitrile	< 8.4	< 17	17 U	< 17	< 6.7	< 4.2	< 17	< 17 U	< 17	< 17	< 1.7	< 5.6	< 17	< 1.7	< 100	< 100	< 100
Acrolein	< 11	< 18	23 U	< 18	< 9.2	< 5.7	< 23	< 23 U	< 23	< 23	< 2.3	< 7.6	< 18	< 1.8	< 110	< 110	< 110
Acrylonitrile	< 22	< 43	43 U	< 43	< 17	< 11	< 43	< 43 U	< 43	< 43	< 4.3	< 14	< 43	< 4.3	< 260	< 260	< 260
Allyl chloride (3-Chloropropene)	< 3.1	< 6.3	6.3 U	< 6.3	< 2.5	< 1.6	< 6.3	< 6.3 U	< 6.3	< 6.3	< 0.63	< 2.1	< 6.3	< 0.63	< 38	< 37	< 38
alpha-Methylstyrene	< 9.7	< 19	19 U	< 19	< 7.7	< 4.8	< 19	< 19 U	< 19	< 19	< 1.9	< 6.4	< 19	< 1.9	< 120	< 120	< 120
Benzene	< 3.2	< 6.4	6.4 U	< 6.4	2.6	11	7	8.9	< 6.4	< 6.4	2.2	< 2.1	< 6.4	< 0.64	350	62	< 39
Benzyl chloride	< 10	< 21	21 U	< 21	< 8.3	< 5.2	< 21	< 21 U	< 21	< 21	< 2.1	< 6.9	< 21	< 2.1	< 120	< 120	< 130
Bromodichloromethane	< 6.7	< 13	13 U	< 13	< 5.4	< 3.4	< 13	< 13 U	< 13	< 13	< 1.3	< 4.5	< 13	< 1.3	< 80	< 80	< 81
Bromoform	< 10	< 21	21 U	< 21	< 8.3	< 5.2	< 21	< 21 U	< 21	< 21	< 2.1	< 6.9	< 21	< 2.1	< 120	< 120	< 130
Bromomethane (Methyl bromide)	< 3.9	< 7.8	7.8 U	< 7.8	< 3.1	< 1.9	< 7.8	< 7.8 U	< 7.8	< 7.8	< 0.78	< 2.6	< 7.8	< 0.78	< 47	< 46	< 47
Butane	< 12	< 9.5	24 U	37	12	130	88	120	28	25	23	12	< 9.5	2	1,200	260	< 58
Carbon disulfide	< 6.2	< 16	12 U	< 16	< 6.2	< 3.9	< 16	< 12 U	< 12	< 12	< 1.2	< 4.2	< 16	< 1.6	< 93	98	< 95
Carbon tetrachloride	< 6.3	< 13	13 U	< 13	< 5.0	< 3.1	< 13	< 13 U	< 13	< 13	< 1.3	< 4.2	< 13	< 1.3	< 75	< 75	< 77
Chlorobenzene	< 4.6	< 9.2	9.2 U	< 9.2	6.1	11	< 9.2	12	< 9.2	< 9.2	< 0.92	< 3.1	< 9.2	< 0.92	300	< 55	< 56
Chlorodifluoromethane	< 3.5	< 7.1	8.1	23	9.4	110	82	130	39	43	32	13	< 7.1	0.83	3,900	510	< 43
Chloroethane	4	9	6.6	9	7.8	53	54	110	14	8.4	6.1	< 1.8	< 5.3	< 0.53	1,900	230	40
Chloroform (Trichloromethane)	92	< 9.8	9.8 U	24	32	68	83	110	140	81	66	73	17	1.1	160	100	240
Chloromethane (Methyl chloride)	< 10	< 10	21 U	< 10	< 4.1	< 2.6	< 10	< 21 U	< 21	< 21	< 2.1	< 6.9	< 10	< 1.0	< 62	< 62	< 63
cis-1,2-Dichloroethene	6.2	< 7.9	7.9 U	< 7.9	< 3.2	4.8	< 7.9	< 7.9 U	< 7.9	< 7.9	2.7	< 2.6	21	< 0.79	340	150	57
cis-1,3-Dichloropropene	< 9.1	< 9.1	18 U	< 9.1	< 3.6	< 2.3	< 9.1	< 18 U	< 18	< 18	< 1.8	< 6.1	< 9.1	< 0.91	< 54	< 54	< 55
Cyclohexane	< 6.9	< 17	24	26	14	38	< 17	36	< 14	< 14	4.2	< 4.6	< 17	< 1.7	1,400	140	< 100
Dibromochloromethane	< 8.5	< 17	17 U	< 17	< 6.8	< 4.3	< 17	< 17 U	< 17	< 17	< 1.7	< 5.7	< 17	< 1.7	< 100	< 100	< 100
Dibromomethane	< 14	< 28	28 U	< 28	< 11	< 7.1	< 28	< 28 U	< 28	< 28	< 2.8	< 9.5	< 28	< 2.8	< 170	< 170	< 170
Dichlorodifluoromethane (CFC-12)	43	15	27	130	150	160	670	470	170	63	160	280	50	2.5	1,600	860	1,000

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-12 10/27/2022	SVE-13 04/27/12	SVE-13 10/31/19	SVE-14 04/27/12	SVE-14 10/22/15	SVE-14 10/26/16	SVE-14 10/30/17	SVE-14 11/16/18	SVE-14 10/31/19	SVE-14 11/05/20	SVE-14 10/21/21	SVE-14 10/27/2022	SVE-15 04/27/12	SVE-15 04/26/13	SVE-16 09/23/08	SVE-16 10/01/08	SVE-16 10/15/08
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	< 30	< 61	61 U	< 61	< 24	< 15	< 61	< 61 U	< 61	< 61	< 6.1	< 20	< 61	< 6.1	600	< 360	< 370
Ethylbenzene	< 4.3	< 8.7	8.7 U	< 8.7	< 3.5	< 2.2	< 8.7	< 8.7 U	< 8.7	< 8.7	< 0.87	< 2.9	< 8.7	< 0.87	2,500	180	< 53
Hexachlorobutadiene	< 53	< 110	110 U	< 110	< 43	< 27	< 110	< 110 U	< 110	< 110	< 11	< 36	< 110	< 11	< 640	< 640	< 650
Hexane	< 7.0	< 18	14 U	38	< 7.0	9.8	< 18	31	< 14	< 14	1.8	< 4.7	< 18	< 1.8	1,800	170	< 110
Isopropyl benzene (Cumene)	< 9.8	< 20	20 U	< 20	< 7.9	< 4.9	< 20	< 20 U	< 20	< 20	< 2.0	< 6.6	< 20	< 2.0	170	< 120	< 120
m&p-Xylenes	< 4.3	< 8.7	8.7 U	< 8.7	< 3.5	< 2.2	< 8.7	< 8.7 U	< 8.7	< 8.7	0.95	< 2.9	< 8.7	< 0.87	1,900	320	< 53
Methyl tert butyl ether (MTBE)	< 18	< 36	36 U	< 36	< 14	< 9.0	< 36	< 36 U	< 36	< 36	< 3.6	< 12	< 36	< 3.6	< 220	< 220	< 220
Methylene chloride	< 17	< 17	35 U	18	< 6.9	21	< 17	41	< 35	< 35	< 3.5	< 12	< 17	< 1.7	430	150	130
Naphthalene	< 29	< 26	58 U	< 26	< 10	< 15	< 58	< 58 U	< 58	< 58	< 5.8	< 19	< 26	< 2.6	< 160	< 160	< 160
N-Decane	< 35	< 58	70 U	< 58	< 23	< 17	< 70	< 70 U	< 70	< 70	< 7.0	< 23	< 58	< 5.8	370	< 350	< 350
N-Dodecane	< 8.2	< 70	16 U	< 70	< 28	< 5.1	< 20	19	< 16	< 16	< 1.6	< 5.5	< 70	< 7.0	< 420	< 420	< 420
N-Heptane	< 9.8	< 20	20 U	< 20	< 8.2	< 4.9	< 20	< 20 U	< 20	< 20	< 2.0	< 6.6	< 20	< 2.0	1,300	< 120	< 120
Nonane	< 32	< 26	64 U	< 26	< 10	< 16	< 64	< 64 U	< 64	< 64	< 6.4	< 21	< 26	< 2.6	1,000	< 160	< 160
N-Propylbenzene	< 10	< 20	21 U	< 20	< 7.9	< 6.6	< 26	< 21 U	< 21	< 21	< 2.1	< 7.0	< 20	< 2.0	< 120	< 120	< 120
N-Undecane	< 10	< 64	21 U	< 64	< 26	< 6.6	< 26	< 21 U	< 21	< 21	< 2.1	< 7.0	< 64	< 6.4	< 380	< 380	< 390
Octane	< 4.3	< 19	8.7 U	< 19	< 7.5	< 2.2	< 8.7	< 8.7 U	< 8.7	< 8.7	< 0.87	< 2.9	< 19	< 1.9	780	< 110	< 110
o-Xylene	< 9.3	< 8.7	19 U	< 8.7	< 3.5	< 4.7	< 19	< 19 U	< 19	< 19	< 1.9	< 6.2	< 8.7	< 0.87	380	56	< 53
Pentane	< 37	< 30	74 U	32	< 12	45	31	< 74 U	< 74	< 74	10	< 25	< 30	< 3.0	590	< 180	< 180
Styrene	< 4.3	< 8.5	8.5 U	< 8.5	< 3.4	< 2.1	< 8.5	< 8.5 U	< 8.5	< 8.5	< 0.85	< 2.8	< 8.5	< 0.85	< 51	< 51	< 52
Tetrachloroethene	20	< 14	14 U	< 14	13	23	22	28	37	16	12	32	< 14	6.1	730	200	500
Toluene	< 19	< 7.5	38 U	< 7.5	< 3.0	< 1.9	< 7.5	< 38 U	< 38	< 38	< 3.8	< 13	< 7.5	< 0.75	1,800	620	< 46
trans-1,2-Dichloroethene	< 4.0	< 7.9	7.9 U	< 7.9	< 3.2	< 2.0	< 7.9	< 7.9 U	< 7.9	< 7.9	< 0.79	< 2.6	< 7.9	< 0.79	< 48	< 47	< 48
trans-1,3-Dichloropropene	< 4.5	< 9.1	9.1 U	< 9.1	< 3.6	< 2.3	< 9.1	< 9.1 U	< 9.1	< 9.1	< 0.91	< 3.0	< 9.1	< 0.91	< 54	< 54	< 55
Trichloroethene	< 5.4	< 11	11 U	< 11	< 4.3	5.9	< 11	< 11 U	< 11	< 11	2.9	< 3.6	< 11	2	200	< 64	< 65
Trichlorofluoromethane (CFC-11)	18	< 11	43	130.0	65	80	230	130	180	240	190	230	45.0	1.4	190	740	830
Trifluorotrichloroethane (Freon 113)	< 7.7	< 15	15 U	< 15	< 6.1	< 3.8	< 15	< 15 U	< 15	< 15	< 1.5	< 5.1	< 15	< 1.5	< 92	< 92	< 93
Vinyl acetate	< 18	< 35	35 U	< 35	< 14	< 8.8	< 35	< 35 U	< 35	< 35	< 3.5	< 12	< 35	< 3.5	< 210	< 210	< 210
Vinyl chloride	71	< 5.1	10 U	35.0	6.3	84	58	66	19	17	9.8	4	< 5.1	< 0.51	1,400	350	< 31
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4.2

**SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

	SVE-16 11/13/08	SVE-16 04/24/09	SVE-16 10/20/09	SVE-16 04/29/11	SVE-16 10/26/11	SVE-17 10/22/10	SVE-18 04/27/12	SVE-19 04/27/12
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
1,1,1-Trichloroethane	2,100	470	85	220	73	340	77	14
1,1,2,2-Tetrachloroethane	< 14	< 12	< 1.4	< 1.4	< 14	< 3.4	< 14	< 14
1,1,2-Trichloroethane	24	< 9.9	< 1.1	< 1.1	< 11	< 2.7	< 11	< 11
1,1-Dichloroethane	1,200	170	22.0	49.0	15.0	110	< 8.1	< 8.1
1,1-Dichloroethene	220	46	9	25	11	43	9	< 7.9
1,2,4-Trichlorobenzene	< 74	< 67	< 7.4	< 7.4	< 74	< 19	< 74	< 74
1,2,4-Trimethylbenzene	< 9.8	< 8.9	< 0.98	< 0.98	< 9.8	< 2.5	< 9.8	< 9.8
1,2-Dibromoethane (Ethylene dibromide)	< 15	< 14	< 1.5	< 1.5	< 15	< 3.8	< 15	< 15
1,2-Dichlorobenzene	< 12	< 11	< 1.2	< 1.2	< 12	< 3.0	< 12	< 12
1,2-Dichloroethane	< 8.1	< 7.4	< 0.81	< 0.81	< 8.1	< 2.0	< 8.1	< 8.1
1,2-Dichloropropane	12	< 8.4	< 0.92	2	< 9.2	< 2.3	< 9.2	< 9.2
1,2-Dichlorotetrafluoroethane (CFC 114)	< 14	< 13	3	38	< 14	14.0	< 14	< 14
1,3,5-Trimethylbenzene	< 9.8	< 8.9	< 0.98	< 0.98	< 9.8	< 2.5	< 9.8	< 9.8
1,3-Butadiene	< 8.8	< 8.0	< 0.88	< 0.88	< 8.8	< 2.2	< 8.8	< 8.8
1,3-Dichlorobenzene	< 12	< 11	< 1.2	< 1.2	< 12	< 3.0	< 12	< 12
1,4-Dichlorobenzene	< 12	< 11	< 1.2	< 1.2	< 12	< 3.0	< 12	< 12
2-Butanone (Methyl ethyl ketone) (MEK)	320	70	3	< 2.9	< 29	< 7.4	< 29	< 29
2-Hexanone	< 20	< 19	< 2.0	< 2.0	< 20	< 4.9	< 20	< 20
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	< 20	< 19	< 2.0	< 2.0	< 20	< 4.9	< 20	< 20
Acetone	380	< 110	17	12	< 120	< 29	< 120	< 120
Acetonitrile	< 17	< 15	< 1.7	< 1.7	< 17	< 4.2	< 17	< 17
Acrolein	< 18	< 17	< 1.8	< 1.8	< 18	< 4.6	< 18	< 18
Acrylonitrile	< 43	< 39	< 4.3	< 4.3	< 43	< 11	< 43	< 43
Allyl chloride (3-Chloropropene)	< 6.3	< 5.7	< 0.63	< 0.63	< 6.3	< 1.6	< 6.3	< 6.3
alpha-Methylstyrene	< 19	< 18	< 1.9	< 1.9	< 19	< 4.8	< 19	< 19
Benzene	6	< 5.8	< 0.64	4.8	< 6.4	< 1.6	< 6.4	< 6.4
Benzyl chloride	< 21	< 19	< 2.1	< 2.1	< 21	< 5.2	< 21	< 21
Bromodichloromethane	< 13	< 12	< 1.3	< 1.3	< 13	< 3.4	< 13	< 13
Bromoform	< 21	< 19	< 2.1	< 2.1	< 21	< 5.2	< 21	< 21
Bromomethane (Methyl bromide)	< 7.8	< 7.1	< 0.78	< 0.78	< 7.8	< 1.9	< 7.8	< 7.8
Butane	41	18	5	11	14	12.0	< 9.5	< 9.5
Carbon disulfide	81	15	2	4	< 16	< 3.7	< 16	< 16
Carbon tetrachloride	< 13	< 11	< 1.3	< 1.3	< 13	< 3.1	< 13	< 13
Chlorobenzene	< 9.2	< 8.4	< 0.92	< 0.92	< 9.2	< 2.3	< 9.2	< 9.2
Chlorodifluoromethane	31	< 6.4	3.10	6.5	9.00	10.0	< 7.1	< 7.1
Chloroethane	13	< 4.8	< 0.53	4	< 5.3	4.3	< 5.3	< 5.3
Chloroform (Trichloromethane)	81	23	4	21	10	19.0	< 9.8	< 9.8
Chloromethane (Methyl chloride)	< 10	< 9.4	1	< 1.0	< 10	< 2.5	< 10	< 10
cis-1,2-Dichloroethene	27	< 7.2	2	4	< 7.9	< 2.0	< 7.9	< 7.9
cis-1,3-Dichloropropene	< 9.1	< 8.3	< 0.91	< 0.91	< 9.1	< 2.3	< 9.1	< 9.1
Cyclohexane	36	< 16	2.30	17.0	< 17	11.0	< 17	< 17
Dibromochloromethane	< 17	< 15	< 1.7	< 1.7	< 17	< 4.3	< 17	< 17
Dibromomethane	< 28	< 26	< 2.8	< 2.8	< 28	< 7.1	< 28	< 28
Dichlorodifluoromethane (CFC-12)	130	51	40.0	110	82	91.0	110	25.0

Table 4.2

SVE/LFG System VOC Results ($\mu\text{g}/\text{m}^3$)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

	SVE-16 11/13/08	SVE-16 04/24/09	SVE-16 10/20/09	SVE-16 04/29/11	SVE-16 10/26/11	SVE-17 10/22/10	SVE-18 04/27/12	SVE-19 04/27/12
Parameter	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
Ethyl ether	100	< 55	< 6.1	11.0	< 61	< 15	< 61	< 61
Ethylbenzene	27	< 7.9	< 0.87	3	< 8.7	< 2.2	< 8.7	< 8.7
Hexachlorobutadiene	< 110	< 97	< 11	< 11	< 110	< 27	< 110	< 110
Hexane	37	20	6	36	< 18	< 4.2	< 18	< 18
Isopropyl benzene (Cumene)	< 20	< 18	< 2.0	< 2.0	< 20	< 4.9	< 20	< 20
m&p-Xylenes	83	< 7.9	< 0.87	10	< 8.7	< 2.2	< 8.7	< 8.7
Methyl tert butyl ether (MTBE)	< 36	< 33	< 3.6	< 3.6	< 36	< 9.0	< 36	< 36
Methylene chloride	41	< 16	2	3	< 17	5.30	< 17	< 17
Naphthalene	< 26	< 24	< 2.6	< 2.6	< 26	< 6.3	< 26	< 26
N-Decane	< 58	< 53	< 5.8	< 5.8	< 58	< 15	< 58	< 58
N-Dodecane	< 70	< 63	< 7.0	< 7.0	< 70	< 17	< 70	< 70
N-Heptane	31	< 19	4	16	< 20	< 4.9	< 20	< 20
Nonane	31	< 24	< 2.6	9	< 26	< 6.3	< 26	< 26
N-Propylbenzene	< 20	< 18	< 2.0	< 2.0	< 20	< 4.9	< 20	< 20
N-Undecane	< 64	< 58	< 6.4	< 6.4	< 64	< 16	< 64	< 64
Octane	27	< 17	< 1.9	12	< 19	< 4.7	< 19	< 19
o-Xylene	29	< 7.9	< 0.87	3	< 8.7	< 2.2	< 8.7	< 8.7
Pentane	30	< 27	< 3.0	8	< 30	< 7.4	< 30	< 30
Styrene	< 8.5	< 7.7	< 0.85	< 0.85	< 8.5	< 2.1	< 8.5	< 8.5
Tetrachloroethene	120	< 12	3	15	< 14	11.00	< 14	< 14
Toluene	140	< 6.9	2	4	< 7.5	9.30	< 7.5	< 7.5
trans-1,2-Dichloroethene	< 7.9	< 7.2	< 0.79	< 0.79	< 7.9	< 2.0	< 7.9	< 7.9
trans-1,3-Dichloropropene	< 9.1	< 8.3	< 0.91	< 0.91	< 9.1	< 2.3	< 9.1	< 9.1
Trichloroethene	22	< 9.8	< 1.1	4	< 11	< 2.7	< 11	< 11
Trichlorofluoromethane (CFC-11)	160	57	53	130	71	44	160	14
Trifluorotrchloroethane (Freon 113)	< 15	< 14	< 1.5	< 1.5	< 15	< 3.8	< 15	< 15
Vinyl acetate	< 35	< 32	< 3.5	< 3.5	< 35	< 8.8	< 35	< 35
Vinyl chloride	26	< 4.6	< 0.51	5	< 5.1	2	< 5.1	< 5.1
Total VOCs	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

¹ - Summa Canister was taken with only SVE wells operating

For analytes not detected, half the detection limit ($\mu\text{g}/\text{m}^3$) is used in calculation.

NA - Not applicable.

Table 4.3

Mass Loading Calculations - April 28, 2022
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Analand ⁽¹⁾	CAS #	Blower Discharge	Blower Discharge	Blower Discharge	Calculated Blower		WDNR NR 445.07	
		Concentration ⁽²⁾	Concentration ⁽³⁾	Flow Rate ⁽⁴⁾	Discharge Mass	Discharge Mass	Emission Thresholds	Emission Thresholds
		µg/m ³	(mg/m ³)	(cfm)	(lbs/hr)	(lbs/yr) ⁽⁵⁾	25 - 40' stack height	25 - 40' stack height
							(lbs/hr)	(lbs/yr)
1,1-Dichloroethane	75-34-3	130	0.130	567	0.0003	2.4	84.5	-
1,1,1-Trichloroethane	71-55-6	250	0.250	567	0.0005	4.7	-	-
1,1,2-Trichloroethane	79-00-5	< 3.8	0.002	567	0.0000	0.0	11.4	-
1,1-Dichloroethene	75-35-4	33	0.033	567	0.0001	0.6	4.14	-
1,2,4-Trimethylbenzene	95-63-6	< 3.4	0.002	567	0.0000	0.0	25.6	-
1,2-Dichlorobenzene	95-50-1	< 8.3	0.004	567	0.0000	0.1	31.4	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76-14-2	110	0.110	567	0.0002	2.0	-	-
1,2-Dichloroethane	107-06-2	< 2.8	0.001	567	0.0000	0.0	8.45	281
1,2-Dichloropropane	78-87-5	< 3.2	0.002	567	0.0000	0.0	72.3	2,920
1,3,5-Trimethylbenzene	108-67-8	< 6.8	0.003	567	0.0000	0.1	25.6	-
1,4-Dichlorobenzene	106-46-7	< 4.1	0.002	567	0.0000	0.0	664	584,000
2-Butanone (MEK)	78-93-3	< 54	0.027	567	0.0001	0.5	-	-
2-Hexanone	591-78-6	< 7.1	0.004	567	0.0000	0.1	4.27	-
Acetone	67-64-1	< 61	0.031	567	0.0001	0.6	-	-
Acetonitrile	75-05-8	< 5.8	0.003	567	0.0000	0.1	14	-
Benzene	71-43-2	4	0.004	567	0.0000	0.1	-	936
Carbon disulfide	75-15-0	< 4.3	0.002	567	0.0000	0.0	6.5	511,000
Chlorobenzene	108-90-7	< 3.2	0.002	567	0.0000	0.0	9.61	-
Chlorodifluoromethane	75-45-6	24	0.024	567	0.0001	0.4	-	36,500,000
Chloroethane	75-00-3	23	0.023	567	0.0000	0.4	55.1	7,300,000
Chloroform	67-66-3	36	0.036	567	0.0001	0.7	10.2	317
Chloromethane	74-87-3	< 19	0.010	567	0.0000	0.2	21.5	-
cis-1,2-Dichloroethene	156-59-2	5.6	0.006	567	0.0000	0.1	166	-
Cyclohexane	110-82-7	11	0.011	567	0.0000	0.2	-	-
Dichlorodifluoromethane	75-71-8	370	0.370	567	0.0008	6.9	-	-
Ethylbenzene	100-41-4	3.3	0.003	567	0.0000	0.1	90.6	730,000
Ethyl Ether	60-29-7	< 21	0.011	567	0.0000	0.2	-	-
Isopropylbenzene (Cumene)	98-82-8	< 36	0.018	567	0.0000	0.3	51.3	-
Methyl isobutyl ketone	108-10-1	< 37	0.019	567	0.0000	0.3	42.7	-
Methylene chloride	75-09-2	28	0.028	567	0.0001	0.5	36.2	15,532
N-Butane	106-97-8	250	0.250	567	0.0005	4.7	-	-
N-Decane	124-18-5	< 24	0.012	567	0.0000	0.2	-	-
N-heptane	142-82-5	< 6.8	0.003	567	0.0000	0.1	-	-
N-hexane	110-54-3	88	0.088	567	0.0002	1.6	36.8	146,000

Table 4.3

Mass Loading Calculations - April 28, 2022
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Analand ⁽¹⁾	CAS #	Blower Discharge Concentration ⁽²⁾ µg/m ³	Blower Discharge Concentration ⁽³⁾ (mg/m ³)	Blower Discharge Flow Rate ⁽⁴⁾ (cfm)	Calculated Blower Discharge Mass		WDNR NR 445.07 Emission Thresholds 25 - 40' stack height	
					(lbs/hr)	(lbs/yr) ⁽⁵⁾	(lbs/hr)	(lbs/yr)
N-Octane	111-65-9	53	0.053	567	0.0001	1.0	-	-
Nonane	111-84-2	< 22	0.011	567	0.0000	0.2	-	-
Pentane	2672-01-7	< 25	0.013	567	0.0000	0.2	-	-
Tetrachloroethene	127-18-4	87	0.087	567	0.0002	1.6	35.4	1,237
Toluene	108-88-3	< 13	0.007	567	0.0000	0.1	39.3	292,000
trans-1,2-Dichloroethene	156-60-5	< 2.7	0.001	567	0.0000	0.0	166	-
Trichloroethene	79-01-6	6.3	0.006	567	0.0000	0.1	56.1	3,650
Trichlorofluoromethane	75-69-4	100	0.100	567	0.0002	1.9	-	-
Undecane	1120-21-4	< 120	0.060	567	0.0001	1.1	-	-
Vinyl chloride	75-01-4	20	0.020	567	0.0000	0.4	830	73,000
Xylenes, m,p	1330-20-7	88	0.088	567	0.0002	1.6	90.6	-
Xylenes, o	95-47-6	16	0.016	567	0.0000	0.3	90.6	-
Xylenes, Total	1330-20-7	104	0.104	567	0.0002	1.9	90.6	-

Notes:

(1) Historically detected analands regulated under WDNR NR445.

(2) The blower discharge sample collected on April 28, 2022 was used for calculations because it had the greatest total VOC concentration.

(3) For analands not detected, half the detection limit (µg/m³) is used to calculate the concentration in µg/m³.

(4) The maximum flowrate for 2022.

(5) Calculation assumes continuous operation throughout the year.

-- No regulatory limit.

Table 4.4

**SVE/LFG System
Total VOC Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Date	Blower Meter Reading	Time Period	Total VOC Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	Total VOC Mass Removed lbs.
09/23/08		Day 1	194,930	1,250	22
09/25/08		Day 2	205,020	1,250	23
10/01/08		Days 3-8	145,510	1,275	100
10/07/08		Week 2	115,070	1,300	81
10/15/08		Week 3	78,800	1,280	73
10/30/08		Weeks 4-5	68,360	1,100	101
11/13/08	1,229.9	Weeks 6-7	40,581	1,100	56
12/13/08	1,705.1	3rd Month	40,581	1,100	79
04/24/09	3,964.0	2nd Quarter 2009	20,243	1,290	214
07/23/09	2,160.0	3rd Quarter 2009	7,023	1,120	64
10/20/09	2,136.0	4th Quarter 2009	1,427	1,290	15
01/29/10	2,953.0	1st Quarter 2010	6,651	1,280	77
04/22/10	4,562.9	2nd Quarter 2010	4,453	1,290	35
07/23/10	6,590.5	3rd Quarter 2010	4,175	1,180	37
10/22/10	7,573.2	4th Quarter 2010	5,629	1,250	26
01/24/11	9,478.3	1st Quarter 2011	4,521	1,200	39
04/29/11	10,931.3	2nd Quarter 2011	3,145	1,080	18
07/22/11	12,495.8	3rd Quarter 2011	2,633	1,250	19
10/26/11	14,482.5	4th Quarter 2011	2,369	1,250	22
01/26/12	1,808.2	1st Quarter 2012	2,821	1,220	23
04/27/12	1,566.7	2nd Quarter 2012	2,149	1,200	15
07/25/12	1,479.8	3rd Quarter 2012	3,116	1,310	23
10/30/12	1,414.8	4th Quarter 2012	1,102	1,250	7.3
01/03/13	1,558.2	1st Quarter 2013	2,202	1,200	15
04/26/13	931.8	2nd Quarter 2013	338	1,270	1.5
07/25/13	2,165.2	3rd Quarter 2013	1,454	1,250	15
10/23/13	1,984.0	4th Quarter 2013	1,296	1,250	12

Table 4.4

**SVE/LFG System
Total VOC Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Date	Blower Meter Reading	Time Period	Total VOC Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	Total VOC Mass Removed lbs.
12/31/14	3,664.7	2014 ¹	2,522	1,832	63
12/31/15	6,506.4	2015 ¹	823	1,786	36
12/31/16	4,809.3	2016 ¹	1,286	471	11
12/31/17	3,950.9	2017 ¹	1,695	584	15
12/31/18	2,567.3	2018 ¹	1,974	420	8
12/31/19	3,768.4	2019 ¹	1,985	499	14
12/31/20	3,669.5	2020 ¹	1,635	456	10
12/31/21	3,799.2	2021 ¹	986	502	7
12/31/22	4,455.5	2022 ¹	959	520	8
				Total	1,386

Notes:

- ¹ - Average flow rate and average total VOC concentration used to calculate pounds removed.
- Blower ran intermittently from November 25, 2008 to December 13, 2008 due to excess condensate water.
 - Blower was shut down from December 13, 2008, thru January 19, 2009, to devise condensate water collection system and clean well screens.
 - Blower was shutdown from November 21, 2012 to December 21, 2012 in order to evaluate the effects on the quantity of VOC removal.
 - Blower was shutdown from January 10, 2014 to May 13, 2014 in order to evaluate the effects on the quantity of VOC removal.
 - With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and operating only SVE wells SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14. These wells are monitored on a monthly basis. All other SVE wells will be monitored on a semi-annual basis (April and October) and will be "turned on" on an as needed basis. Extraction from the LFG wells was also modified in order to focus gas extraction in the vicinity of the GP-2 nest.

Table 4.5

SVE/LFG System
1,1,1-Trichloroethane Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Date	Time Period	1,1,1-TCA Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	Total 1,1,1-TCA Mass Removed lbs.
09/23/08	Day 1	17,000	1,250	1.9
09/25/08	Day 2	28,000	1,250	3.1
10/01/08	Days 3-8	27,000	1,275	19
10/07/08	Week 2	29,000	1,300	20
10/15/08	Week 3	18,000	1,280	17
10/30/08	Weeks 4-5	15,000	1,100	22
11/13/08	Weeks 6-7	11,000	1,100	15
12/13/08	3rd Month	11,000	1,100	22
04/24/09	2nd Quarter 2009	5,700	1,290	60
07/23/09	3rd Quarter 2009	2,000	1,120	18
10/20/09	4th Quarter 2009	380	1,290	3.9
01/29/10	1st Quarter 2010	1,300	1,280	15
04/22/10	2nd Quarter 2010	1,500	1,290	12
07/23/10	3rd Quarter 2010	1,400	1,180	13
10/22/10	4th Quarter 2010	1,000	1,250	4.6
01/24/11	1st Quarter 2011	1,500	1,200	13
04/29/11	2nd Quarter 2011	940	1,080	5.5
07/22/11	3rd Quarter 2011	830	1,250	6.1
10/26/11	4th Quarter 2011	650	1,250	6.0
01/26/12	1st Quarter 2012	760	1,220	6.3
04/27/12	2nd Quarter 2012	790	1,200	5.6
07/25/12	3rd Quarter 2012	940	1,310	6.8
10/30/12	4th Quarter 2012	350	1,250	2.3
01/03/13	1st Quarter 2013	420	1,200	2.9
04/26/13	2nd Quarter 2013	15	1,270	0.1
07/25/13	3rd Quarter 2013	300	1,250	3.0
10/23/13	4th Quarter 2013	200	1,250	1.9

Table 4.5

SVE/LFG System
1,1,1-Trichloroethane Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Date	Time Period	1,1,1-TCA Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	Total 1,1,1-TCA Mass Removed lbs.
12/31/14	2014 ¹	458	1,832	12
12/31/15	2015 ¹	228	1,786	9.9
12/31/16	2016 ¹	268	471	2.3
12/31/17	2017 ¹	348	584	3.0
12/31/18	2018 ¹	318	420	1.3
12/31/19	2019 ¹	340	499	2.4
12/31/20	2020 ¹	260	456	1.6
12/31/21	2021 ¹	188	502	1.3
12/31/22	2022 ¹	220	520	1.9
Total				340

Notes:

- ¹ - Average flow rate and average 1,1,1-Trichloroethane concentration used to calculate pounds removed.
- Blower ran intermittently from November 25, 2008 to December 13, 2008 due to excess condensate water.
 - Blower was shut down from December 13, 2008, thru January 19, 2009, to devise condensate water collection system and clean well screens.
 - Blower was shutdown from November 21, 2012 to December 21, 2012 in order to evaluate the effects on the quantity of VOC removal.
 - Blower was shutdown from January 10, 2014 to May 13, 2014 in order to evaluate the effects on the quantity of VOC removal.
 - With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and operating only SVE wells SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14. These wells are monitored on a monthly basis. All other SVE wells will be monitored on a semi-annual basis (April and October) and will be "turned on" on an as needed basis. Extraction from the LFG wells was also modified in order to focus gas extraction in the vicinity of the GP-2 nest.

Table 4.6

SVE/LFG System
1,1,-Dichloroethane Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Date	Time Period	1,1-DCA Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	1,1-DCA Mass Removed lbs.
09/23/08	Day 1	51,000	1,250	5.7
09/25/08	Day 2	59,000	1,250	6.6
10/01/08	Days 3-8	42,000	1,275	29
10/07/08	Week 2	32,000	1,300	22
10/15/08	Week 3	20,000	1,280	18
10/30/08	Weeks 4-5	16,000	1,100	24
11/13/08	Weeks 6-7	8,600	1,100	12
12/13/08	3rd Month	8,600	1,100	17
04/24/09	2nd Quarter 2009	3,900	1,290	41
07/23/09	3rd Quarter 2009	1,100	1,120	10
10/20/09	4th Quarter 2009	220	1,290	2.3
01/29/10	1st Quarter 2010	920	1,280	11
04/22/10	2nd Quarter 2010	850	1,290	6.6
07/23/10	3rd Quarter 2010	790	1,180	7.1
10/22/10	4th Quarter 2010	680	1,250	3.1
01/24/11	1st Quarter 2011	940	1,200	8.0
04/29/11	2nd Quarter 2011	550	1,080	3.2
07/22/11	3rd Quarter 2011	600	1,250	4.4
10/26/11	4th Quarter 2011	370	1,250	3.4
01/26/12	1st Quarter 2012	350	1,220	2.9
04/27/12	2nd Quarter 2012	370	1,200	2.6
07/25/12	3rd Quarter 2012	550	1,310	4.0
10/30/12	4th Quarter 2012	190	1,250	1.3
01/03/13	1st Quarter 2013	290	1,200	2.0
04/26/13	2nd Quarter 2013	12	1,270	0.1
07/25/13	3rd Quarter 2013	180	1,250	1.8
10/23/13	4th Quarter 2013	120	1,250	1.1

Table 4.6

**SVE/LFG System
1,1,-Dichloroethane Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Date	Time Period	1,1-DCA Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	1,1-DCA Mass Removed lbs.
12/31/14	2014 ¹	468	1,832	12
12/31/15	2015 ¹	140	1,786	6.1
12/31/16	2016 ¹	205	471	1.7
12/31/17	2017 ¹	263	584	2.3
12/31/18	2018 ¹	260	420	1.0
12/31/19	2019 ¹	253	499	1.8
12/31/20	2020 ¹	193	456	1.2
12/31/21	2021 ¹	134	502	1.0
12/31/22	2022 ¹	120	520	1.0
Total				278

Notes:

- ¹ - Average flow rate and average 1,1-Dichloroethane concentration used to calculate pounds removed.
- Blower ran intermittently from November 25, 2008 to December 13, 2008 due to excess condensate water.
 - Blower was shut down from December 13, 2008, thru January 19, 2009, to devise condensate water collection system and clean well screens.
 - Blower was shutdown from November 21, 2012 to December 21, 2012 in order to evaluate the effects on the quantity of VOC removal.
 - Blower was shutdown from January 10, 2014 to May 13, 2014 in order to evaluate the effects on the quantity of VOC removal.
 - With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and operating only SVE wells SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14. These wells are monitored on a monthly basis. All other SVE wells will be monitored on a semi-annual basis (April and October) and will be "turned on" on an as needed basis. Extraction from the LFG wells was also modified in order to focus gas extraction in the vicinity of the GP-2 nest.

Table 4.7

SVE/LFG System
1,1,-Dichloroethene Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Date	Time Period	1,1-DCE Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	1,1-DCE Mass Removed lbs.
09/23/08	Day 1	3,300	1,250	0.4
09/25/08	Day 2	3,900	1,250	0.4
10/01/08	Days 3-8	4,700	1,275	3.2
10/07/08	Week 2	3,800	1,300	2.7
10/15/08	Week 3	1,900	1,280	1.7
10/30/08	Weeks 4-5	1,700	1,100	2.5
11/13/08	Weeks 6-7	1,400	1,100	1.9
12/13/08	3rd Month	1,400	1,100	2.7
04/24/09	2nd Quarter 2009	570	1,290	6.0
07/23/09	3rd Quarter 2009	180	1,120	1.6
10/20/09	4th Quarter 2009	29	1,290	0.3
01/29/10	1st Quarter 2010	180	1,280	2.1
04/22/10	2nd Quarter 2010	150	1,290	1.2
07/23/10	3rd Quarter 2010	140	1,180	1.3
10/22/10	4th Quarter 2010	110	1,250	0.5
01/24/11	1st Quarter 2011	190	1,200	1.6
04/29/11	2nd Quarter 2011	180	1,080	1.1
07/22/11	3rd Quarter 2011	150	1,250	1.1
10/26/11	4th Quarter 2011	70	1,250	0.7
01/26/12	1st Quarter 2012	76	1,220	0.6
04/27/12	2nd Quarter 2012	83	1,200	0.6
07/25/12	3rd Quarter 2012	100	1,310	0.7
10/30/12	4th Quarter 2012	43	1,250	0.3
01/03/13	1st Quarter 2013	61	1,200	0.4
04/26/13	2nd Quarter 2013	2	1,270	0.0
07/25/13	3rd Quarter 2013	38	1,250	0.4
10/23/13	4th Quarter 2013	25	1,250	0.2

Table 4.7

**SVE/LFG System
1,1,-Dichloroethene Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Date	Time Period	1,1-DCE Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	1,1-DCE Mass Removed lbs.
12/31/14	2014 ¹	58	1,832	1.5
12/31/15	2015 ¹	29	1,786	1.3
12/31/16	2016 ¹	22	471	0.2
12/31/17	2017 ¹	33	584	0.3
12/31/18	2018 ¹	44	420	0.2
12/31/19	2019 ¹	44	499	0.3
12/31/20	2020 ¹	35	456	0.2
12/31/21	2021 ¹	38	502	0.3
12/31/22	2022 ¹	30	520	0.3
Total				40.8

Notes:

- ¹ - Average flow rate and average 1,1-Dichloroethene concentration used to calculate pounds removed.
- Blower ran intermittently from November 25, 2008 to December 13, 2008 due to excess condensate water.
 - Blower was shut down from December 13, 2008, thru January 19, 2009, to devise condensate water collection system and clean well screens.
 - Blower was shutdown from November 21, 2012 to December 21, 2012 in order to evaluate the effects on the quantity of VOC removal.
 - Blower was shutdown from January 10, 2014 to May 13, 2014 in order to evaluate the effects on the quantity of VOC removal.
 - With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and operating only SVE wells SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14. These wells are monitored on a monthly basis. All other SVE wells will be monitored on a semi-annual basis (April and October) and will be "turned on" on an as needed basis. Extraction from the LFG wells was also modified in order to focus gas extraction in the vicinity of the GP-2 nest.

Table 4.8

**SVE/LFG System
Tetrachloroethene Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Date	Time Period	Tetrachloroethene	Flow Rate	Tetrachloroethene
		Concentration $\mu\text{g}/\text{m}^3$	CFM	Mass Removed lbs.
09/23/08	Day 1	3,000	1,250	0.3
09/25/08	Day 2	3,700	1,250	0.4
10/01/08	Days 3-8	2,500	1,275	1.7
10/07/08	Week 2	2,100	1,300	1.5
10/15/08	Week 3	1,900	1,280	1.7
10/30/08	Weeks 4-5	1,800	1,100	2.7
11/13/08	Weeks 6-7	1,000	1,100	1.4
12/13/08	3rd Month	1,000	1,100	2.0
04/24/09	2nd Quarter 2009	760	1,290	8.0
07/23/09	3rd Quarter 2009	320	1,120	2.9
10/20/09	4th Quarter 2009	49	1,290	0.5
01/29/10	1st Quarter 2010	300	1,280	3.5
04/22/10	2nd Quarter 2010	176	1,290	1.4
07/23/10	3rd Quarter 2010	190	1,180	1.7
10/22/10	4th Quarter 2010	190	1,250	0.9
01/24/11	1st Quarter 2011	190	1,200	1.6
04/29/11	2nd Quarter 2011	160	1,080	0.9
07/22/11	3rd Quarter 2011	270	1,250	2.0
10/26/11	4th Quarter 2011	170	1,250	1.6
01/26/12	1st Quarter 2012	95	1,220	0.8
04/27/12	2nd Quarter 2012	110	1,200	0.8
07/25/12	3rd Quarter 2012	250	1,310	1.8
10/30/12	4th Quarter 2012	66	1,250	0.4
01/03/13	1st Quarter 2013	110	1,200	0.8
04/26/13	2nd Quarter 2013	1.9	1,270	0.0
07/25/13	3rd Quarter 2013	74	1,250	0.8
10/23/13	4th Quarter 2013	16	1,250	0.1

Table 4.8

**SVE/LFG System
Tetrachloroethene Mass Removal
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Date	Time Period	Tetrachloroethene Concentration $\mu\text{g}/\text{m}^3$	Flow Rate CFM	Tetrachloroethene Mass Removed lbs.
12/31/14	2014 ¹	135	1,832	3.4
12/31/15	2015 ¹	66	1,786	2.9
12/31/16	2016 ¹	85	471	0.7
12/31/17	2017 ¹	116	584	1.0
12/31/18	2018 ¹	97	420	0.4
12/31/19	2019 ¹	108	499	0.8
12/31/20	2020 ¹	79	456	0.5
12/31/21	2021 ¹	70	502	0.5
12/31/22	2022 ¹	68	520	0.6
Total				52.9

Notes:

- ¹ - Average flow rate and average 1,1-Dichloroethene concentration used to calculate pounds removed.
- Blower ran intermittently from November 25, 2008 to December 13, 2008 due to excess condensate water.
 - Blower was shut down from December 13, 2008, thru January 19, 2009, to devise condensate water collection system and clean well screens.
 - Blower was shutdown from November 21, 2012 to December 21, 2012 in order to evaluate the effects on the quantity of VOC removal.
 - Blower was shutdown from January 10, 2014 to May 13, 2014 in order to evaluate the effects on the quantity of VOC removal.
 - With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and operating only SVE wells SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14. These wells are monitored on a monthly basis. All other SVE wells will be monitored on a semi-annual basis (April and October) and will be "turned on" on an as needed basis. Extraction from the LFG wells was also modified in order to focus gas extraction in the vicinity of the GP-2 nest.

Appendices

Appendix A

Historical Groundwater Elevation Summary

**Historical Groundwater Elevation Summary
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Monitoring Wells	Top of Casing Elevation	December 2003	August 2005	September 2005	April 2007	July 2007	May 2008	August 2008	November 2008	February 2009	May 2009	August 2009	November 2009	January 2010	May 2010	November 2010	May 2011	November 2011	May 2012	November 2012	May 2013
MW-1	1044.71	908.39	903.70	NA	901.86	901.55	900.79	901.42	901.81	901.89	902.00	901.49	900.91	DRY	DRY	DRY	DRY	DRY	DRY	900.87	DRY
MW-1A	1044.00	907.99	903.18	NA	901.46	901.19	900.30	900.94	901.19	901.54	901.48	900.93	900.37	899.96	899.75	897.69	898.60	899.82	900.65	900.49	900.04
MW-1B	1044.86	908.02	902.18	NA	902.74	901.20	900.20	901.01	901.35	901.26	901.53	901.00	900.41	899.99	899.79	899.37	898.64	899.84	900.67	900.51	900.09
MW-2R	1058.23	NA	NA	906.73	905.24	905.03	904.02	904.66	904.85	905.40	905.33	904.77	904.14	903.73	903.43	902.15	902.06	903.33	904.42	904.23	903.70
MW-2A	1058.62	912.34	907.53	907.14	905.64	905.32	904.41	905.01	905.36	905.71	905.66	905.12	904.53	904.05	903.81	902.56	902.41	903.72	904.76	904.62	904.01
MW-2B	1058.59	912.32	907.54	907.11	905.63	905.31	904.38	904.97	905.35	905.68	905.62	905.08	904.47	903.05	903.81	902.49	902.39	903.67	904.73	904.57	904.00
MW-3	1019.14	919.16	917.69	NA	917.04	917.52	917.74	919.19	919.39	918.21	918.38	918.11	917.69	917.27	917.79	918.32	919.19	917.75	918.06	917.43	918.43
MW-4	1072.50	920.62	916.48	NA	914.53	914.29	913.25	914.02	914.24	914.68	914.60	914.05	913.45	NA	912.57	911.05	911.04	912.52	913.71	913.50	912.91
MW-5	1022.91	926.02	921.46	NA	919.43	919.20	918.18	918.82	919.11	919.50	919.55	918.99	918.39	NA	917.47	915.96	916.07	917.40	918.64	918.40	917.63
MW-6	1042.48	921.98	917.27	NA	915.39	914.96	914.10	914.87	915.03	915.24	915.39	914.73	914.10	NA	913.12	911.79	912.03	913.40	914.36	914.18	913.63
MW-8	1049.91	916.63	912.51	NA	910.64	910.37	909.33	909.80	910.30	910.62	910.63	910.10	909.50	908.91	908.72	907.29	907.08	908.54	909.76	909.59	908.94
MW-8A	1049.67	916.68	912.51	NA	910.85	910.34	909.31	909.79	910.27	910.64	910.62	910.08	909.49	908.90	908.70	907.27	907.06	908.52	909.77	909.55	908.95
MW-9	1026.90	912.63	907.91	NA	906.10	905.62	904.95	906.59	906.41	906.52	906.35	905.49	904.67	903.99	903.85	902.58	903.70	904.76	905.31	905.08	904.58
MW-9A	1026.03	911.89	907.14	NA	905.46	905.00	904.33	905.11	905.25	905.48	905.51	904.82	904.18	903.66	903.47	902.22	902.64	903.74	904.49	904.37	904.01
MW-10	1029.08	NA	885.40	885.35	883.94	884.05	883.02	883.46	883.98	883.64	883.38	883.28	883.27	882.65	882.38	881.58	881.87	882.88	883.54	883.36	882.56
MW-10A	1028.94	NA	885.63	885.58	884.17	884.13	883.42	884.20	884.18	884.22	884.17	883.71	883.18	883.02	882.93	882.09	882.22	883.24	883.45	883.29	882.94
MW-10B	1028.79	NA	885.18	885.09	877.68	883.61	882.98	883.47	883.74	883.79	883.69	883.27	882.84	882.59	882.59	881.69	881.88	882.82	883.02	882.82	882.52
MW-11	872.37	NA	862.32	862.34	862.42	862.16	863.36	862.52	862.39	862.41	862.32	862.12	862.34	862.49	862.08	862.25	862.14	862.14	862.66	861.50	865.61
MW-11A	871.83	NA	861.21	861.25	861.70	861.09	862.21	861.44	861.29	861.32	861.24	861.02	861.22	861.37	860.97	861.16	862.22	861.03	861.50	861.46	864.41
MW-12	880.06	NA	868.76	868.74	868.86	868.12	869.44	868.92	868.20	867.98	868.62	867.82	868.09	867.65	868.17	868.31	869.25	867.75	868.65	867.45	869.48
MW-12A	879.67	NA	868.09	867.99	867.69	867.26	868.17	868.04	867.41	867.23	867.39	866.76	866.87	866.71	867.67	866.96	868.05	866.92	867.19	866.49	868.66
MW-13	1033.70	NA	911.02	910.90	909.33	908.85	908.25	909.13	909.20	909.15	909.39	908.59	907.88	907.39	907.02	905.87	906.78	905.82	908.20	907.85	908.13
MW-13A	1033.57	NA	911.01	910.88	909.25	908.79	908.17	909.00	909.08	909.14	909.28	908.51	907.75	907.31	906.98	905.82	906.59	907.76	908.18	907.84	907.98
MW-14	1028.94	NA	906.80	906.31	903.49	904.28	903.34	903.75	904.29	904.47	904.53	904.07	903.53	903.05	902.69	901.46	901.17	902.67	903.63	903.37	902.85
MW-14A	1027.84	NA	906.13	906.01	900.49	904.02	903.02	903.43	903.92	904.28	904.17	903.71	903.14	901.95	902.49	901.14	900.89	902.23	903.34	903.00	902.56
MW-15	880.76	NA	858.44	858.50	859.31	858.00	860.06	858.52	858.28	858.63	858.51	857.89	858.25	858.42	858.05	858.51	859.57	858.17	859.07	857.89	859.89
MW-15A	879.52	NA	861.37	861.30	861.64	860.77	862.04	861.20	860.94	861.15	861.00	860.50	860.67	860.75	860.49	860.71	861.57	860.69	861.18	860.41	861.81
MW-16	1039.90	NA	NA	NA	NA	NA	897.82	898.40	898.72	898.91	898.88	898.30	897.74	897.31	897.14	896.01	896.20	897.38	898.00	897.80	897.51
MW-16A	1040.08	NA	NA	NA	NA	NA	897.82	898.38	898.75	898.94	898.88	898.37	897.75	897.44	897.10	896.08	896.23	897.37	898.02	897.80	897.51
MW-17	907.23	NA	NA	NA	NA	NA	870.55	870.86	870.65	870.52	870.63	870.03	869.84	869.72	869.43	869.42	870.06	870.21	870.03	869.76	870.26
MW-17A	907.44	NA	NA	NA	NA	NA	870.64	870.85	870.66	870.51	870.40	870.01	869.83	869.67	869.54	869.32	869.96	870.08	869.90	869.63	867.41
MW-18	897.73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	864.35	864.22	864.24	861.03	859.72	861.51	860.12	860.68
MW-19**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.07
MW-19A**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.05
Apple River*	870.68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	860.12	859.99	861.04	864.97	864.25	864.46	864.01	865.12

**Historical Groundwater Elevation Summary
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Monitoring Wells	Top of Casing Elevation	November 2013	May 2014	November 2014	May 2015	November 2015	May 2016	November 2016	May 2017	November 2017	May 2018	November 2018	May 2019	November 2019	May 2020	November 2020	May 2021	November 2021	May 2022	November 2022
MW-1	1044.71	901.81	DRY	906.17	906.42	905.40	906.98	907.19	906.56	907.64	-	904.89	-	905.27	905.77	DRY	-	905.28	904.49	902.89
MW-1A	1044.00	901.25	901.56	905.57	905.80	904.51	906.58	906.50	905.57	906.63	905.73	904.29	-	903.68	905.25	906.50	-	904.54	-	903.4
MW-1B	1044.86	901.31	901.63	905.73	905.82	904.72	906.36	906.55	905.62	906.71	907.77	904.29	-	905.56	905.05	906.56	-	904.58	-	903.46
MW-2R	1058.23	904.95	905.47	909.78	910.15	909.13	910.65	911.07	910.30	910.82	910.45	909.72	-	910.51	910.66	911.71	-	910.56	-	947.24
MW-2A	1058.62	905.28	905.74	909.95	910.14	909.11	910.67	910.85	909.91	911.00	910.06	908.71	-	908.69	909.34	910.78	-	908.93	-	907.73
MW-2B	1058.59	905.24	905.68	909.90	910.12	909.08	910.66	910.83	909.88	910.99	910.04	908.7	-	908.64	909.37	910.82	-	908.93	-	907.76
MW-3	1019.14	919.23	918.75	920.98	919.58	919.54	920.39	919.66	919.43	919.30	919.09	918.57	-	919.63	919.77	920.02	-	918.85	-	918.67
MW-4	1072.50	914.20	914.72	919.21	919.51	918.32	-	920.02	919.33	-	-	-	-	-	-	918.08	-	918.24	-	916.66
MW-5	1022.91	918.93	NA	923.73	924.64	923.32	-	925.24	924.41	925.60	924.55	922.95	-	923.05	-	-	-	-	-	921.76
MW-6	1042.48	914.98	915.49	917.83	920.19	919.04	920.77	920.92	920.14	921.38	-	-	-	-	-	-	-	-	-	-
MW-8	1049.91	909.23	910.78	915.23	915.32	914.30	915.69	915.76	915.09	916.19	915.37	913.71	-	914.16	914.58	915.85	-	914.19	-	912.67
MW-8A	1049.67	910.20	910.76	915.25	915.33	914.27	915.70	915.75	915.12	916.22	914.89	913.74	-	914.12	916.60	915.85	-	914.16	-	912.64
MW-9	1026.90	906.39	906.27	911.18	910.65	909.64	911.74	911.49	910.60	911.76	910.61	909.24	-	909.55	910.42	911.57	-	909.56	-	908.16
MW-9A	1026.03	905.23	905.54	909.82	909.76	908.64	910.44	910.46	909.68	910.60	909.72	908.48	-	908.52	909.20	910.55	-	908.57	-	907.07
MW-10	1029.08	883.81	883.96	886.10	887.30	886.33	887.44	887.63	886.95	887.53	-	885.96	-	886.42	886.80	887.56	886.63	886.14	885.58	885.18
MW-10A	1028.94	884.17	884.27	887.23	887.58	886.64	887.77	887.94	886.80	887.77	887.36	886.24	886.24	886.66	887.03	887.83	887.30	886.45	885.78	885.42
MW-10B	1028.79	883.74	883.78	886.71	886.96	886.17	887.28	887.38	887.03	887.30	886.85	885.74	885.78	886.15	886.56	887.27	-	885.96	-	884.95
MW-11	872.37	864.95	863.01	862.19	862.07	862.60	862.53	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-11A	871.83	864.86	862.95	862.15	862.04	862.58	862.49	862.20	-	862.12	862.25	862.21	862.87	862.62	-	862.22	-	861.95	-	862.01
MW-12	880.06	868.09	869.54	868.98	868.85	869.31	869.36	868.97	-	868.84	-	-	-	869.42	-	-	-	-	-	-
MW-12A	879.67	867.21	868.34	868.48	868.02	868.60	869.01	868.41	-	868.54	-	-	-	869.55	-	-	-	-	-	-
MW-13	1033.70	909.16	909.31	913.28	913.13	912.44	914.29	913.91	912.94	914.34	913.46	912.59	-	912.26	912.78	914.16	-	912.14	-	910.83
MW-13A	1033.57	909.11	909.29	913.36	913.22	912.13	913.94	914.02	913.26	914.23	913.55	911.85	-	912.41	912.79	914.32	-	912.32	-	911.13
MW-14	1028.94	904.23	904.69	909.02	909.44	908.06	910.02	909.91	909.20	916.14	909.28	907.65	-	907.85	891.71	910.26	-	908.08	-	906.55
MW-14A	1027.84	903.85	904.31	908.70	909.15	908.05	909.82	909.73	908.88	910.34	908.95	907.38	-	907.66	890.63	910.10	-	907.77	-	906.4
MW-15	880.76	858.15	860.33	858.87	858.65	859.41	859.60	858.95	860.14	858.93	859.37	859.17	860.32	859.88	859.82	859.06	-	858.62	-	-
MW-15A	879.52	860.75	862.25	861.61	861.39	861.44	862.25	861.74	862.47	861.75	862.03	861.87	862.7	862.51	862.31	862.02	-	861.50	-	861.22
MW-16	1039.90	898.70	898.95	902.49	902.90	901.70	903.40	903.21	902.78	903.70	902.93	901.42	901.37	901.68	902.26	903.44	902.94	901.72	901.02	900.61
MW-16A	1040.08	898.68	898.94	902.49	902.72	901.86	903.45	903.49	902.72	903.71	902.99	901.42	901.39	901.64	902.28	903.76	902.98	901.70	901.05	900.61
MW-17	907.23	870.50	870.85	872.20	871.66	871.77	872.48	872.09	871.89	871.95	872.13	871.47	872.09	872.2	871.18	872.23	872.09	871.35	871.43	871.04
MW-17A	907.44	870.44	870.77	872.12	871.56	871.49	872.39	872.01	871.78	872.04	871.96	871.44	872.05	872.11	872.10	872.13	872.00	871.28	871.31	869.7
MW-18	897.73	860.14	865.51	865.26	864.83	865.61	865.84	865.61	865.72	864.36	865.98	865.66	866.28	866.33	866.45	865.95	865.92	865.49	865.93	865.23
MW-19**	NA	38.19	38.07	38.19	38.58	38.02	37.66	37.85	37.59	37.89	-	37.78	37.16	-	37.45	-	-	-	-	38.10
MW-19A**	NA	38.21	38.05	38.21	38.56	38.00	37.65	37.84	37.59	37.89	-	37.77	37.12	37.10	-	37.43	-	-	-	38.08
Apple River*	870.68	864.36	861.88	860.14	860.36	860.18	861.78	860.38	862.27	860.57	-	-	-	-	860.96	-	-	860.73	-	860.42

Notes:

December 2003 through April 2007 data provided by SEH.

All elevations in feet above mean sea level (AMSL).

* - Measured from bridge on County Road C.

** - Not surveyed

MW-11 and MW-11A were converted to flush mounts on 11/15/12.

New TOC Elevations: MW-11 869.05 MW-11A 868.67

MW-11 was abandoned in 2016

Appendix B

**Data Quality Validation Memorandums and
Laboratory Reports**

Gas Data

Technical Memorandum

August 05, 2022

To	Tom Hobday, GHD	Tel	612-524-6836
Copy To	Johan Hedblom, GHD	Email	grant.anderson@ghd.com
From	Grant Anderson/mg/6	Ref. No.	048038-70-05
Subject	Analytical Results and Reduced Validation Air Sampling Event New Richmond Landfill Site New Richmond, Wisconsin April 2022		

1. Introduction

The following document details a reduced validation of analytical results for one air sample collected in support of the air sampling program at the New Richmond Landfill Site during April 2022. The sample was submitted to Eurofins Environment Testing America (EETA), located in Knoxville, Tennessee. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD Services, Inc. (GHD) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes, and laboratory control samples (LCS).

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the documents entitled:

- i. "Quality Assurance Project Plan (QAPP), New Richmond Landfill, WDNR License #2492"; April 2008, Conestoga Rovers & Associates, Report 7
- ii. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999, United States Environmental Protection Agency (USEPA) 540/R-99/008

Item ii. will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criterion for the analyses is summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. The sample was prepared and analyzed within the required holding time.

The sample was properly preserved and stored by the laboratory at the required temperature.

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

Laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for VOCs are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria.

5. Laboratory Control Sample (LCS) Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all compounds of interest. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

6. Field QA/QC Samples

There were no field QA/QC samples associated with this sampling event.

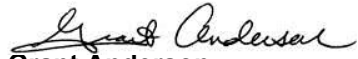
7. Analyte Reporting

The laboratory reported detected results down to the reporting limit (RL). Non-detect results were presented as non-detect at the RL in Table 2.

8. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Regards,



Grant Anderson
Chemist

Encl.

Table 1

**Sample Collection and Analysis Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
April 2022**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters
G-220428-001	Blower Discharge	air	04/28/2022	15:26	VOC

Notes:

VOC - Volatile Organic Compounds

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
April 2022

Location ID:
Sample Name:
Sample Date:

Blower Discharge
G-220428-001
04/28/2022

Parameters	Unit	
Volatile Organic Compounds		
1,1,1-Trichloroethane	ppbv	46
1,1,2,2-Tetrachloroethane	ppbv	0.69 U
1,1,2-Trichloroethane	ppbv	0.69 U
1,1-Dichloroethane	ppbv	33
1,1-Dichloroethene	ppbv	8.3
1,2,4-Trichlorobenzene	ppbv	3.4 U
1,2,4-Trimethylbenzene	ppbv	0.69 U
1,2-Dibromoethane (Ethylene dibromide)	ppbv	0.69 U
1,2-Dichlorobenzene	ppbv	1.4 U
1,2-Dichloroethane	ppbv	0.69 U
1,2-Dichloropropane	ppbv	0.69 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppbv	3.8
1,3,5-Trimethylbenzene	ppbv	1.4 U
1,3-Butadiene	ppbv	1.4 U
1,3-Dichlorobenzene	ppbv	0.69 U
1,4-Dichlorobenzene	ppbv	0.69 U
2-Butanone (Methyl ethyl ketone) (MEK)	ppbv	3.4 U
2-Hexanone	ppbv	1.7 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppbv	3.4 U
Acetone	ppbv	26 U
Acetonitrile	ppbv	3.4 U
Acrolein	ppbv	3.4 U
Acrylonitrile	ppbv	6.9 U
Allyl chloride	ppbv	0.69 U
alpha-Methylstyrene	ppbv	1.4 U
Benzene	ppbv	1.2
Benzyl chloride	ppbv	1.4 U
Bromodichloromethane	ppbv	0.69 U
Bromoform	ppbv	0.69 U
Bromomethane (Methyl bromide)	ppbv	0.69 U
Butane	ppbv	7.8
Carbon disulfide	ppbv	1.4 U
Carbon tetrachloride	ppbv	1.5
Chlorobenzene	ppbv	0.69 U
Chlorodifluoromethane	ppbv	6.8
Chloroethane	ppbv	8.6
Chloroform (Trichloromethane)	ppbv	7.7

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
April 2022

Location ID:
Sample Name:
Sample Date:

Blower Discharge
G-220428-001
04/28/2022

Parameters	Unit	
Chloromethane (Methyl chloride)	ppbv	3.4 U
cis-1,2-Dichloroethene	ppbv	1.4
cis-1,3-Dichloropropene	ppbv	1.4 U
Cyclohexane	ppbv	3.3
Dibromochloromethane	ppbv	0.69 U
Dibromomethane	ppbv	1.4 U
Dichlorodifluoromethane (CFC-12)	ppbv	14
Ethyl ether	ppbv	6.9 U
Ethylbenzene	ppbv	0.76
Hexachlorobutadiene	ppbv	3.4 U
Hexane	ppbv	2.3
Isopropyl benzene	ppbv	1.4 U
m&p-Xylenes	ppbv	1.9
Methyl tert butyl ether (MTBE)	ppbv	3.4 U
Methylene chloride	ppbv	8.2
N-Decane	ppbv	3.4 U
N-Dodecane	ppbv	3.4 U
N-Heptane	ppbv	2.7
N-Propylbenzene	ppbv	1.4 U
N-Undecane	ppbv	3.4 U
Naphthalene	ppbv	1.4 U
Nonane	ppbv	1.4 U
o-Xylene	ppbv	0.69 U
Octane	ppbv	1.4 U
Pentane	ppbv	8.6 U
Styrene	ppbv	0.69 U
Tetrachloroethene	ppbv	13
Toluene	ppbv	3.4 U
trans-1,2-Dichloroethene	ppbv	0.69 U
trans-1,3-Dichloropropene	ppbv	0.69 U
Trichloroethene	ppbv	1.2
Trichlorofluoromethane (CFC-11)	ppbv	12
Trifluorotrchloroethane (CFC-113)	ppbv	0.69 U
Vinyl acetate	ppbv	3.4 U
Vinyl chloride	ppbv	7.7
1,1,1-Trichloroethane	µg/m3	250
1,1,2,2-Tetrachloroethane	µg/m3	4.7 U

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
April 2022

Location ID:
Sample Name:
Sample Date:

Blower Discharge
G-220428-001
04/28/2022

Parameters	Unit	
1,1,2-Trichloroethane	µg/m3	3.8 U
1,1-Dichloroethane	µg/m3	130
1,1-Dichloroethene	µg/m3	33
1,2,4-Trichlorobenzene	µg/m3	26 U
1,2,4-Trimethylbenzene	µg/m3	3.4 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	5.3 U
1,2-Dichlorobenzene	µg/m3	8.3 U
1,2-Dichloroethane	µg/m3	2.8 U
1,2-Dichloropropane	µg/m3	3.2 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	26
1,3,5-Trimethylbenzene	µg/m3	6.8 U
1,3-Butadiene	µg/m3	3.0 U
1,3-Dichlorobenzene	µg/m3	4.1 U
1,4-Dichlorobenzene	µg/m3	4.1 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	10 U
2-Hexanone	µg/m3	7.1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	14 U
Acetone	µg/m3	61 U
Acetonitrile	µg/m3	5.8 U
Acrolein	µg/m3	7.9 U
Acrylonitrile	µg/m3	15 U
Allyl chloride	µg/m3	2.2 U
alpha-Methylstyrene	µg/m3	6.7 U
Benzene	µg/m3	4.0
Benzyl chloride	µg/m3	7.1 U
Bromodichloromethane	µg/m3	4.6 U
Bromoform	µg/m3	7.1 U
Bromomethane (Methyl bromide)	µg/m3	2.7 U
Butane	µg/m3	18
Carbon disulfide	µg/m3	4.3 U
Carbon tetrachloride	µg/m3	9.3
Chlorobenzene	µg/m3	3.2 U
Chlorodifluoromethane	µg/m3	24
Chloroethane	µg/m3	23
Chloroform (Trichloromethane)	µg/m3	38
Chloromethane (Methyl chloride)	µg/m3	7.1 U
cis-1,2-Dichloroethene	µg/m3	5.6
cis-1,3-Dichloropropene	µg/m3	6.3 U

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
April 2022

Location ID:
Sample Name:
Sample Date:

Blower Discharge
G-220428-001
04/28/2022

Parameters	Unit	
Cyclohexane	µg/m3	11
Dibromochloromethane	µg/m3	5.9 U
Dibromomethane	µg/m3	9.8 U
Dichlorodifluoromethane (CFC-12)	µg/m3	71
Ethyl ether	µg/m3	21 U
Ethylbenzene	µg/m3	3.3
Hexachlorobutadiene	µg/m3	37 U
Hexane	µg/m3	7.9
Isopropyl benzene	µg/m3	6.8 U
m&p-Xylenes	µg/m3	8.3
Methyl tert butyl ether (MTBE)	µg/m3	12 U
Methylene chloride	µg/m3	28
N-Decane	µg/m3	20 U
N-Dodecane	µg/m3	24 U
N-Heptane	µg/m3	11
N-Propylbenzene	µg/m3	6.8 U
N-Undecane	µg/m3	22 U
Naphthalene	µg/m3	7.2 U
Nonane	µg/m3	7.2 U
o-Xylene	µg/m3	3.0 U
Octane	µg/m3	6.4 U
Pentane	µg/m3	25 U
Styrene	µg/m3	2.9 U
Tetrachloroethene	µg/m3	87
Toluene	µg/m3	13 U
trans-1,2-Dichloroethene	µg/m3	2.7 U
trans-1,3-Dichloropropene	µg/m3	3.1 U
Trichloroethene	µg/m3	6.3
Trichlorofluoromethane (CFC-11)	µg/m3	67
Trifluorotrchloroethane (CFC-113)	µg/m3	5.3 U
Vinyl acetate	µg/m3	12 U
Vinyl chloride	µg/m3	20

Note:

U – Not detected at the associated reporting limit

Table 3
Analytical Method
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
April 2022

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOC)	TO-15	Air	-	30

Notes:

Method References:

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Air", EPA-625/R-96/010b, January 1999.

Technical Memorandum

November 30, 2022

To	Tom Hobday, GHD	Tel	612-524-6836
Copy To	Johan Hedblom, GHD	Email	grant.anderson@ghd.com
From	Grant Anderson/lg/7/	Ref. No.	048038-70-05
Subject	Analytical Results and Reduced Validation Air Sampling Event New Richmond Landfill Site New Richmond, Wisconsin October 2022		

1. Introduction

The following document details a reduced validation of analytical results for six air samples collected in support of the air sampling program at the New Richmond Landfill Site during October 2022. The samples were submitted to Eurofins Environment Testing America (EETA), located in Knoxville, Tennessee. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

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Laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for volatile organic compounds (VOC) are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all compounds of interest. Vinyl acetate yielded a recovery above the control limits. However, all associated sample results were non-detect for vinyl acetate; therefore, no qualification of data was necessary based on outlying LCS recoveries. All remaining LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

6. Field QA/QC Samples

There were no field QA/QC samples associated with this sampling event.

7. Analyte Reporting

The laboratory reported detected results down to the reporting limit (RL). Non-detect results were presented as non-detect at the RL in Table 2.

8. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Regards,

A handwritten signature in black ink that reads "Grant Anderson". The signature is written in a cursive style with a prominent underline.

Grant Anderson
Chemist

Encl.

Table 1

Sample Collection and Analysis Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
October 2022

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters
G-221027-BZ-001	Blower Discharge	air	10/27/2022	13:43	VOC (TO-15)
G-221027-BZ-002	SVE-4	air	10/27/2022	14:06	VOC (TO-15)
G-221027-BZ-003	SVE-6	air	10/27/2022	14:15	VOC (TO-15)
G-221027-BZ-004	SVE-12	air	10/27/2022	14:25	VOC (TO-15)
G-221027-BZ-005	SVE-7	air	10/27/2022	14:36	VOC (TO-15)
G-221027-BZ-006	SVE-14	air	10/27/2022	14:47	VOC (TO-15)

Note:

VOC - Volatile Organic Compounds

Table 2

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
October 2022

Location ID:	Blower Discharge	SVE-4	SVE-6	SVE-7	SVE-12	SVE-14
Sample Name:	G-221027-BZ-001	G-221027-BZ-002	G-221027-BZ-003	G-221027-BZ-005	G-221027-BZ-004	G-221027-BZ-006
Sample Date:	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022

Parameters	Unit						
Volatile Organic Compounds							
1,1,1-Trichloroethane	ppbv	35	20	110	52	61	26
1,1,2,2-Tetrachloroethane	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
1,1,2-Trichloroethane	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
1,1-Dichloroethane	ppbv	26	31	79	61	48	7.0
1,1-Dichloroethene	ppbv	6.8	4.9	32	11	21	4.7
1,2,4-Trichlorobenzene	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
1,2,4-Trimethylbenzene	ppbv	0.58	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
1,2-Dibromoethane (Ethylene dibromide)	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
1,2-Dichlorobenzene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
1,2-Dichloroethane	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
1,2-Dichloropropane	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppbv	2.3	3.2	1.6 U	3.1	1.2	2.6
1,3,5-Trimethylbenzene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
1,3-Butadiene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
1,3-Dichlorobenzene	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
1,4-Dichlorobenzene	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
2-Butanone (Methyl ethyl ketone) (MEK)	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
2-Hexanone	ppbv	1.0 U	1.9 U	4.0 U	2.5 U	2.5 U	1.7 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
Acetone	ppbv	16 U	28 U	60 U	38 U	38 U	25 U
Acetonitrile	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
Acrolein	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
Acrylonitrile	ppbv	4.1 U	7.6 U	16 U	10 U	10 U	6.7 U
Allyl chloride	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
alpha-Methylstyrene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
Benzene	ppbv	0.93	1.0	1.6 U	1.0 U	1.0 U	0.67 U
Benzyl chloride	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
Bromodichloromethane	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Bromoform	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Bromomethane (Methyl bromide)	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Butane	ppbv	4.1	8.4	8.0 U	5.0 U	5.0 U	5.2
Carbon disulfide	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
Carbon tetrachloride	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Chlorobenzene	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Chlorodifluoromethane	ppbv	3.4	4.4	1.6 U	1.3	1.0 U	3.6
Chloroethane	ppbv	5.7	29	11	3.7	1.5	0.67 U
Chloroform (Trichloromethane)	ppbv	4.5	1.4	8.5	7.7	19	15
Chloromethane (Methyl chloride)	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
cis-1,2-Dichloroethene	ppbv	2.9	21	2.1	2.0	1.6	0.67 U
cis-1,3-Dichloropropene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
Cyclohexane	ppbv	2.0	1.8	3.2 U	2.0 U	2.0 U	1.3 U
Dibromochloromethane	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Dibromomethane	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U

Table 2

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
October 2022

Location ID:	Blower Discharge	SVE-4	SVE-6	SVE-7	SVE-12	SVE-14
Sample Name:	G-221027-BZ-001	G-221027-BZ-002	G-221027-BZ-003	G-221027-BZ-005	G-221027-BZ-004	G-221027-BZ-006
Sample Date:	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022

Parameters	Unit						
Dichlorodifluoromethane (CFC-12)	ppbv	11	5.0	24	1.0 U	8.7	57
Ethyl ether	ppbv	4.1 U	7.6 U	16 U	10 U	10 U	6.7 U
Ethylbenzene	ppbv	1.0	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Hexachlorobutadiene	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
Hexane	ppbv	1.4	3.0	3.2 U	2.0 U	2.0 U	1.3 U
Isopropyl benzene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
m&p-Xylenes	ppbv	1.8	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Methyl tert butyl ether (MTBE)	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
Methylene chloride	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
N-Decane	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
N-Dodecane	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
N-Heptane	ppbv	0.95	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
N-Propylbenzene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
N-Undecane	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
Naphthalene	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
Nonane	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
o-Xylene	ppbv	0.56	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Octane	ppbv	0.83 U	1.5 U	3.2 U	2.0 U	2.0 U	1.3 U
Pentane	ppbv	5.2 U	9.5 U	20 U	13 U	13 U	8.3 U
Styrene	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Tetrachloroethene	ppbv	7.1	2.7	7.6	14	3.0	4.7
Toluene	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
trans-1,2-Dichloroethene	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
trans-1,3-Dichloropropene	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Trichloroethene	ppbv	0.91	0.77	1.8	1.9	1.0 U	0.67 U
Trichlorofluoromethane (CFC-11)	ppbv	11	2.9	2.3	3.9	3.1	41
Trifluorotrchloroethane (CFC-113)	ppbv	0.41 U	0.76 U	1.6 U	1.0 U	1.0 U	0.67 U
Vinyl acetate	ppbv	2.1 U	3.8 U	8.0 U	5.0 U	5.0 U	3.3 U
Vinyl chloride	ppbv	4.9	5.0	3.2 U	2.0 U	28	1.6
1,1,1-Trichloroethane	µg/m3	190	110	590	280	330	140
1,1,2,2-Tetrachloroethane	µg/m3	2.8 U	5.2 U	11 U	6.9 U	6.9 U	4.6 U
1,1,2-Trichloroethane	µg/m3	2.3 U	4.1 U	8.7 U	5.5 U	5.5 U	3.6 U
1,1-Dichloroethane	µg/m3	110	130	320	250	190	28
1,1-Dichloroethene	µg/m3	27	19	130	44	82	19
1,2,4-Trichlorobenzene	µg/m3	15 U	28 U	59 U	37 U	37 U	25 U
1,2,4-Trimethylbenzene	µg/m3	2.9	3.7 U	7.9 U	4.9 U	4.9 U	3.3 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m3	3.2 U	5.8 U	12 U	7.7 U	7.7 U	5.1 U
1,2-Dichlorobenzene	µg/m3	5.0 U	9.1 U	19 U	12 U	12 U	8.0 U
1,2-Dichloroethane	µg/m3	1.7 U	3.1 U	6.5 U	4.0 U	4.0 U	2.7 U
1,2-Dichloropropane	µg/m3	1.9 U	3.5 U	7.4 U	4.6 U	4.6 U	3.1 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m3	16	23	11 U	22	8.1	18
1,3,5-Trimethylbenzene	µg/m3	4.1 U	7.4 U	16 U	9.8 U	9.8 U	6.6 U
1,3-Butadiene	µg/m3	1.8 U	3.3 U	7.1 U	4.4 U	4.4 U	2.9 U

Table 2

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
October 2022

Location ID:	Blower Discharge	SVE-4	SVE-6	SVE-7	SVE-12	SVE-14
Sample Name:	G-221027-BZ-001	G-221027-BZ-002	G-221027-BZ-003	G-221027-BZ-005	G-221027-BZ-004	G-221027-BZ-006
Sample Date:	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022

Parameters	Unit						
1,3-Dichlorobenzene	µg/m3	2.5 U	4.5 U	9.6 U	6.0 U	6.0 U	4.0 U
1,4-Dichlorobenzene	µg/m3	2.5 U	4.5 U	9.6 U	6.0 U	6.0 U	4.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m3	6.1 U	11 U	24 U	15 U	15 U	9.8 U
2-Hexanone	µg/m3	4.2 U	7.7 U	16 U	10 U	10 U	6.8 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m3	8.5 U	15 U	33 U	20 U	20 U	14 U
Acetone	µg/m3	37 U	67 U	140 U	89 U	89 U	59 U
Acetonitrile	µg/m3	3.5 U	6.3 U	13 U	8.4 U	8.4 U	5.6 U
Acrolein	µg/m3	4.7 U	8.7 U	18 U	11 U	11 U	7.6 U
Acrylonitrile	µg/m3	9.0 U	16 U	35 U	22 U	22 U	14 U
Allyl chloride	µg/m3	1.3 U	2.4 U	5.0 U	3.1 U	3.1 U	2.1 U
alpha-Methylstyrene	µg/m3	4.0 U	7.3 U	15 U	9.7 U	9.7 U	6.4 U
Benzene	µg/m3	3.0	3.2	5.1 U	3.2 U	3.2 U	2.1 U
Benzyl chloride	µg/m3	4.3 U	7.8 U	17 U	10 U	10 U	6.9 U
Bromodichloromethane	µg/m3	2.8 U	5.1 U	11 U	6.7 U	6.7 U	4.5 U
Bromoform	µg/m3	4.3 U	7.8 U	17 U	10 U	10 U	6.9 U
Bromomethane (Methyl bromide)	µg/m3	1.6 U	2.9 U	6.2 U	3.9 U	3.9 U	2.6 U
Butane	µg/m3	9.6	20	19 U	12 U	12 U	12
Carbon disulfide	µg/m3	2.6 U	4.7 U	10 U	6.2 U	6.2 U	4.2 U
Carbon tetrachloride	µg/m3	2.6 U	4.8 U	10 U	6.3 U	6.3 U	4.2 U
Chlorobenzene	µg/m3	1.9 U	3.5 U	7.4 U	4.6 U	4.6 U	3.1 U
Chlorodifluoromethane	µg/m3	12	15	5.7 U	4.6	3.5 U	13
Chloroethane	µg/m3	15	77	28	9.8	4.0	1.8 U
Chloroform (Trichloromethane)	µg/m3	22	6.7	41	37	92	73
Chloromethane (Methyl chloride)	µg/m3	4.3 U	7.8 U	17 U	10 U	10 U	6.9 U
cis-1,2-Dichloroethene	µg/m3	11	83	8.3	7.8	6.2	2.6 U
cis-1,3-Dichloropropene	µg/m3	3.8 U	6.9 U	15 U	9.1 U	9.1 U	6.1 U
Cyclohexane	µg/m3	7.0	6.1	11 U	6.9 U	6.9 U	4.6 U
Dibromochloromethane	µg/m3	3.5 U	6.4 U	14 U	8.5 U	8.5 U	5.7 U
Dibromomethane	µg/m3	5.9 U	11 U	23 U	14 U	14 U	9.5 U
Dichlorodifluoromethane (CFC-12)	µg/m3	54	25	120	4.9 U	43	280
Ethyl ether	µg/m3	13 U	23 U	49 U	30 U	30 U	20 U
Ethylbenzene	µg/m3	4.4	3.3 U	6.9 U	4.3 U	4.3 U	2.9 U
Hexachlorobutadiene	µg/m3	22 U	40 U	85 U	53 U	53 U	36 U
Hexane	µg/m3	5.0	10	11 U	7.0 U	7.0 U	4.7 U
Isopropyl benzene	µg/m3	4.1 U	7.4 U	16 U	9.8 U	9.8 U	6.6 U
m&p-Xylenes	µg/m3	7.7	3.3 U	6.9 U	4.3 U	4.3 U	2.9 U
Methyl tert butyl ether (MTBE)	µg/m3	7.5 U	14 U	29 U	18 U	18 U	12 U
Methylene chloride	µg/m3	7.2 U	13 U	28 U	17 U	17 U	12 U
N-Decane	µg/m3	12 U	22 U	47 U	29 U	29 U	19 U
N-Dodecane	µg/m3	14 U	26 U	56 U	35 U	35 U	23 U
N-Heptane	µg/m3	3.9	6.2 U	13 U	8.2 U	8.2 U	5.5 U
N-Propylbenzene	µg/m3	4.1 U	7.4 U	16 U	9.8 U	9.8 U	6.6 U
N-Undecane	µg/m3	13 U	24 U	51 U	32 U	32 U	21 U
Naphthalene	µg/m3	4.3 U	7.9 U	17 U	10 U	10 U	7.0 U

Table 2

Validated Analytical Results Summary
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
October 2022

Location ID:	Blower Discharge	SVE-4	SVE-6	SVE-7	SVE-12	SVE-14
Sample Name:	G-221027-BZ-001	G-221027-BZ-002	G-221027-BZ-003	G-221027-BZ-005	G-221027-BZ-004	G-221027-BZ-006
Sample Date:	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022	10/27/2022

Parameters	Unit						
Nonane	µg/m3	4.3 U	7.9 U	17 U	10 U	10 U	7.0 U
o-Xylene	µg/m3	2.4	3.3 U	6.9 U	4.3 U	4.3 U	2.9 U
Octane	µg/m3	3.9 U	7.1 U	15 U	9.3 U	9.3 U	6.2 U
Pentane	µg/m3	15 U	28 U	59 U	37 U	37 U	25 U
Styrene	µg/m3	1.8 U	3.2 U	6.8 U	4.3 U	4.3 U	2.8 U
Tetrachloroethene	µg/m3	48	18	51	94	20	32
Toluene	µg/m3	7.8 U	14 U	30 U	19 U	19 U	13 U
trans-1,2-Dichloroethene	µg/m3	1.6 U	3.0 U	6.3 U	4.0 U	4.0 U	2.6 U
trans-1,3-Dichloropropene	µg/m3	1.9 U	3.4 U	7.3 U	4.5 U	4.5 U	3.0 U
Trichloroethene	µg/m3	4.9	4.1	9.8	10	5.4 U	3.6 U
Trichlorofluoromethane (CFC-11)	µg/m3	63	16	13	22	18	230
Trifluorotrchloroethane (CFC-113)	µg/m3	3.2 U	5.8 U	12 U	7.7 U	7.7 U	5.1 U
Vinyl acetate	µg/m3	7.3 U	13 U	28 U	18 U	18 U	12 U
Vinyl chloride	µg/m3	13	13	8.2 U	5.1 U	71	4.0

Note:

U – Not detected at the associated reporting limit

Table 3

**Analytical Method
Air Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
October 2022**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOC)	TO-15	Air	-	30

Notes:

Method Reference:

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Air", EPA-625/R-96/010b, January 1999.

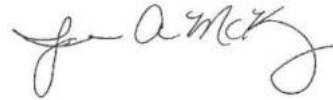
ANALYTICAL REPORT

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-27327-1
Client Project/Site: New Richmond Landfill

For:
GHD Services Inc.
900 Long Lake Road
Suite 200
New Brighton, Minnesota 55112

Attn: Mr. Grant Anderson



Authorized for release by:
5/11/2022 10:11:38 AM

Jamie McKinney, Senior Project Manager
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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Job ID: 140-27327-1

Laboratory: Eurofins Knoxville

Narrative

**Job Narrative
140-27327-1**

Comments

No additional comments.

Receipt

The sample was received on 5/3/2022 9:30 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. Canister ID listed as 14026956 should be 34001200.

Air - GC/MS VOA

Methods TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by Eurofins TestAmerica Knoxville.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Client Sample ID: G-220428-001

Lab Sample ID: 140-27327-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	46		0.69		ppb v/v	5.17		TO-15	Total/NA
1,1-Dichloroethane	33		0.69		ppb v/v	5.17		TO-15	Total/NA
1,1-Dichloroethene	8.3		0.69		ppb v/v	5.17		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.8		0.69		ppb v/v	5.17		TO-15	Total/NA
Benzene	1.2		0.69		ppb v/v	5.17		TO-15	Total/NA
Butane	7.8		3.4		ppb v/v	5.17		TO-15	Total/NA
Carbon tetrachloride	1.5		0.69		ppb v/v	5.17		TO-15	Total/NA
Chlorodifluoromethane	6.8		0.69		ppb v/v	5.17		TO-15	Total/NA
Chloroethane	8.6		0.69		ppb v/v	5.17		TO-15	Total/NA
Chloroform	7.7		0.69		ppb v/v	5.17		TO-15	Total/NA
cis-1,2-Dichloroethene	1.4		0.69		ppb v/v	5.17		TO-15	Total/NA
Cyclohexane	3.3		1.4		ppb v/v	5.17		TO-15	Total/NA
Dichlorodifluoromethane	14		0.69		ppb v/v	5.17		TO-15	Total/NA
Ethylbenzene	0.76		0.69		ppb v/v	5.17		TO-15	Total/NA
Heptane	2.7		1.4		ppb v/v	5.17		TO-15	Total/NA
Hexane	2.3		1.4		ppb v/v	5.17		TO-15	Total/NA
Methylene Chloride	8.2		3.4		ppb v/v	5.17		TO-15	Total/NA
m-Xylene & p-Xylene	1.9		0.69		ppb v/v	5.17		TO-15	Total/NA
Tetrachloroethene	13		0.69		ppb v/v	5.17		TO-15	Total/NA
Trichloroethene	1.2		0.69		ppb v/v	5.17		TO-15	Total/NA
Trichlorofluoromethane	12		0.69		ppb v/v	5.17		TO-15	Total/NA
Vinyl chloride	7.7		1.4		ppb v/v	5.17		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	250		3.8		ug/m3	5.17		TO-15	Total/NA
1,1-Dichloroethane	130		2.8		ug/m3	5.17		TO-15	Total/NA
1,1-Dichloroethene	33		2.7		ug/m3	5.17		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	26		4.8		ug/m3	5.17		TO-15	Total/NA
Benzene	4.0		2.2		ug/m3	5.17		TO-15	Total/NA
Butane	18		8.2		ug/m3	5.17		TO-15	Total/NA
Carbon tetrachloride	9.3		4.3		ug/m3	5.17		TO-15	Total/NA
Chlorodifluoromethane	24		2.4		ug/m3	5.17		TO-15	Total/NA
Chloroethane	23		1.8		ug/m3	5.17		TO-15	Total/NA
Chloroform	38		3.4		ug/m3	5.17		TO-15	Total/NA
cis-1,2-Dichloroethene	5.6		2.7		ug/m3	5.17		TO-15	Total/NA
Cyclohexane	11		4.7		ug/m3	5.17		TO-15	Total/NA
Dichlorodifluoromethane	71		3.4		ug/m3	5.17		TO-15	Total/NA
Ethylbenzene	3.3		3.0		ug/m3	5.17		TO-15	Total/NA
Heptane	11		5.7		ug/m3	5.17		TO-15	Total/NA
Hexane	7.9		4.9		ug/m3	5.17		TO-15	Total/NA
Methylene Chloride	28		12		ug/m3	5.17		TO-15	Total/NA
m-Xylene & p-Xylene	8.3		3.0		ug/m3	5.17		TO-15	Total/NA
Tetrachloroethene	87		4.7		ug/m3	5.17		TO-15	Total/NA
Trichloroethene	6.3		3.7		ug/m3	5.17		TO-15	Total/NA
Trichlorofluoromethane	67		3.9		ug/m3	5.17		TO-15	Total/NA
Vinyl chloride	20		3.5		ug/m3	5.17		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Client Sample ID: G-220428-001

Lab Sample ID: 140-27327-1

Date Collected: 04/28/22 15:26

Matrix: Air

Date Received: 05/03/22 09:30

Sample Container: Summa Canister 6L

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	46		0.69		ppb v/v			05/05/22 21:28	5.17
1,1,2,2-Tetrachloroethane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,1,2-Trichloroethane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,1-Dichloroethane	33		0.69		ppb v/v			05/05/22 21:28	5.17
1,1-Dichloroethene	8.3		0.69		ppb v/v			05/05/22 21:28	5.17
1,2,4-Trichlorobenzene	ND		3.4		ppb v/v			05/05/22 21:28	5.17
1,2,4-Trimethylbenzene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,2-Dibromoethane (EDB)	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.8		0.69		ppb v/v			05/05/22 21:28	5.17
1,2-Dichlorobenzene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
1,2-Dichloroethane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,2-Dichloropropane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,3,5-Trimethylbenzene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
1,3-Butadiene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
1,3-Dichlorobenzene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
1,4-Dichlorobenzene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
2-Butanone (MEK)	ND		3.4		ppb v/v			05/05/22 21:28	5.17
2-Hexanone	ND		1.7		ppb v/v			05/05/22 21:28	5.17
3-Chloropropene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
4-Methyl-2-pentanone (MIBK)	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Acetone	ND		26		ppb v/v			05/05/22 21:28	5.17
Acetonitrile	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Acrolein	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Acrylonitrile	ND		6.9		ppb v/v			05/05/22 21:28	5.17
Alpha Methyl Styrene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Benzene	1.2		0.69		ppb v/v			05/05/22 21:28	5.17
Benzyl chloride	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Bromodichloromethane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Bromoform	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Bromomethane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Butane	7.8		3.4		ppb v/v			05/05/22 21:28	5.17
Carbon disulfide	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Carbon tetrachloride	1.5		0.69		ppb v/v			05/05/22 21:28	5.17
Chlorobenzene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Chlorodifluoromethane	6.8		0.69		ppb v/v			05/05/22 21:28	5.17
Chloroethane	8.6		0.69		ppb v/v			05/05/22 21:28	5.17
Chloroform	7.7		0.69		ppb v/v			05/05/22 21:28	5.17
Chloromethane	ND		3.4		ppb v/v			05/05/22 21:28	5.17
cis-1,2-Dichloroethene	1.4		0.69		ppb v/v			05/05/22 21:28	5.17
cis-1,3-Dichloropropene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Cumene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Cyclohexane	3.3		1.4		ppb v/v			05/05/22 21:28	5.17
Decane	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Dibromochloromethane	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Dibromomethane	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Dichlorodifluoromethane	14		0.69		ppb v/v			05/05/22 21:28	5.17
Dodecane	ND		3.4		ppb v/v			05/05/22 21:28	5.17

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Client Sample ID: G-220428-001

Lab Sample ID: 140-27327-1

Date Collected: 04/28/22 15:26

Matrix: Air

Date Received: 05/03/22 09:30

Sample Container: Summa Canister 6L

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl ether	ND		6.9		ppb v/v			05/05/22 21:28	5.17
Ethylbenzene	0.76		0.69		ppb v/v			05/05/22 21:28	5.17
Heptane	2.7		1.4		ppb v/v			05/05/22 21:28	5.17
Hexachlorobutadiene	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Hexane	2.3		1.4		ppb v/v			05/05/22 21:28	5.17
Methyl tert-butyl ether	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Methylene Chloride	8.2		3.4		ppb v/v			05/05/22 21:28	5.17
m-Xylene & p-Xylene	1.9		0.69		ppb v/v			05/05/22 21:28	5.17
Naphthalene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Nonane	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Octane	ND		1.4		ppb v/v			05/05/22 21:28	5.17
o-Xylene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Pentane	ND		8.6		ppb v/v			05/05/22 21:28	5.17
Propylbenzene	ND		1.4		ppb v/v			05/05/22 21:28	5.17
Styrene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Tetrachloroethene	13		0.69		ppb v/v			05/05/22 21:28	5.17
Toluene	ND		3.4		ppb v/v			05/05/22 21:28	5.17
trans-1,2-Dichloroethene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
trans-1,3-Dichloropropene	ND		0.69		ppb v/v			05/05/22 21:28	5.17
Trichloroethene	1.2		0.69		ppb v/v			05/05/22 21:28	5.17
Trichlorofluoromethane	12		0.69		ppb v/v			05/05/22 21:28	5.17
Undecane	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Vinyl acetate	ND		3.4		ppb v/v			05/05/22 21:28	5.17
Vinyl chloride	7.7		1.4		ppb v/v			05/05/22 21:28	5.17
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	250		3.8		ug/m3			05/05/22 21:28	5.17
1,1,2,2-Tetrachloroethane	ND		4.7		ug/m3			05/05/22 21:28	5.17
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.3		ug/m3			05/05/22 21:28	5.17
1,1,2-Trichloroethane	ND		3.8		ug/m3			05/05/22 21:28	5.17
1,1-Dichloroethane	130		2.8		ug/m3			05/05/22 21:28	5.17
1,1-Dichloroethene	33		2.7		ug/m3			05/05/22 21:28	5.17
1,2,4-Trichlorobenzene	ND		26		ug/m3			05/05/22 21:28	5.17
1,2,4-Trimethylbenzene	ND		3.4		ug/m3			05/05/22 21:28	5.17
1,2-Dibromoethane (EDB)	ND		5.3		ug/m3			05/05/22 21:28	5.17
1,2-Dichloro-1,1,2,2-tetrafluoroethane	26		4.8		ug/m3			05/05/22 21:28	5.17
1,2-Dichlorobenzene	ND		8.3		ug/m3			05/05/22 21:28	5.17
1,2-Dichloroethane	ND		2.8		ug/m3			05/05/22 21:28	5.17
1,2-Dichloropropane	ND		3.2		ug/m3			05/05/22 21:28	5.17
1,3,5-Trimethylbenzene	ND		6.8		ug/m3			05/05/22 21:28	5.17
1,3-Butadiene	ND		3.0		ug/m3			05/05/22 21:28	5.17
1,3-Dichlorobenzene	ND		4.1		ug/m3			05/05/22 21:28	5.17
1,4-Dichlorobenzene	ND		4.1		ug/m3			05/05/22 21:28	5.17
2-Butanone (MEK)	ND		10		ug/m3			05/05/22 21:28	5.17
2-Hexanone	ND		7.1		ug/m3			05/05/22 21:28	5.17
3-Chloropropene	ND		2.2		ug/m3			05/05/22 21:28	5.17
4-Methyl-2-pentanone (MIBK)	ND		14		ug/m3			05/05/22 21:28	5.17
Acetone	ND		61		ug/m3			05/05/22 21:28	5.17

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Client Sample ID: G-220428-001

Lab Sample ID: 140-27327-1

Date Collected: 04/28/22 15:26

Matrix: Air

Date Received: 05/03/22 09:30

Sample Container: Summa Canister 6L

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	ND		5.8		ug/m3			05/05/22 21:28	5.17
Acrolein	ND		7.9		ug/m3			05/05/22 21:28	5.17
Acrylonitrile	ND		15		ug/m3			05/05/22 21:28	5.17
Alpha Methyl Styrene	ND		6.7		ug/m3			05/05/22 21:28	5.17
Benzene	4.0		2.2		ug/m3			05/05/22 21:28	5.17
Benzyl chloride	ND		7.1		ug/m3			05/05/22 21:28	5.17
Bromodichloromethane	ND		4.6		ug/m3			05/05/22 21:28	5.17
Bromoform	ND		7.1		ug/m3			05/05/22 21:28	5.17
Bromomethane	ND		2.7		ug/m3			05/05/22 21:28	5.17
Butane	18		8.2		ug/m3			05/05/22 21:28	5.17
Carbon disulfide	ND		4.3		ug/m3			05/05/22 21:28	5.17
Carbon tetrachloride	9.3		4.3		ug/m3			05/05/22 21:28	5.17
Chlorobenzene	ND		3.2		ug/m3			05/05/22 21:28	5.17
Chlorodifluoromethane	24		2.4		ug/m3			05/05/22 21:28	5.17
Chloroethane	23		1.8		ug/m3			05/05/22 21:28	5.17
Chloroform	38		3.4		ug/m3			05/05/22 21:28	5.17
Chloromethane	ND		7.1		ug/m3			05/05/22 21:28	5.17
cis-1,2-Dichloroethene	5.6		2.7		ug/m3			05/05/22 21:28	5.17
cis-1,3-Dichloropropene	ND		6.3		ug/m3			05/05/22 21:28	5.17
Cumene	ND		6.8		ug/m3			05/05/22 21:28	5.17
Cyclohexane	11		4.7		ug/m3			05/05/22 21:28	5.17
Decane	ND		20		ug/m3			05/05/22 21:28	5.17
Dibromochloromethane	ND		5.9		ug/m3			05/05/22 21:28	5.17
Dibromomethane	ND		9.8		ug/m3			05/05/22 21:28	5.17
Dichlorodifluoromethane	71		3.4		ug/m3			05/05/22 21:28	5.17
Dodecane	ND		24		ug/m3			05/05/22 21:28	5.17
Ethyl ether	ND		21		ug/m3			05/05/22 21:28	5.17
Ethylbenzene	3.3		3.0		ug/m3			05/05/22 21:28	5.17
Heptane	11		5.7		ug/m3			05/05/22 21:28	5.17
Hexachlorobutadiene	ND		37		ug/m3			05/05/22 21:28	5.17
Hexane	7.9		4.9		ug/m3			05/05/22 21:28	5.17
Methyl tert-butyl ether	ND		12		ug/m3			05/05/22 21:28	5.17
Methylene Chloride	28		12		ug/m3			05/05/22 21:28	5.17
m-Xylene & p-Xylene	8.3		3.0		ug/m3			05/05/22 21:28	5.17
Naphthalene	ND		7.2		ug/m3			05/05/22 21:28	5.17
Nonane	ND		7.2		ug/m3			05/05/22 21:28	5.17
Octane	ND		6.4		ug/m3			05/05/22 21:28	5.17
o-Xylene	ND		3.0		ug/m3			05/05/22 21:28	5.17
Pentane	ND		25		ug/m3			05/05/22 21:28	5.17
Propylbenzene	ND		6.8		ug/m3			05/05/22 21:28	5.17
Styrene	ND		2.9		ug/m3			05/05/22 21:28	5.17
Tetrachloroethene	87		4.7		ug/m3			05/05/22 21:28	5.17
Toluene	ND		13		ug/m3			05/05/22 21:28	5.17
trans-1,2-Dichloroethene	ND		2.7		ug/m3			05/05/22 21:28	5.17
trans-1,3-Dichloropropene	ND		3.1		ug/m3			05/05/22 21:28	5.17
Trichloroethene	6.3		3.7		ug/m3			05/05/22 21:28	5.17
Trichlorofluoromethane	67		3.9		ug/m3			05/05/22 21:28	5.17
Undecane	ND		22		ug/m3			05/05/22 21:28	5.17

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Client Sample ID: G-220428-001

Lab Sample ID: 140-27327-1

Date Collected: 04/28/22 15:26

Matrix: Air

Date Received: 05/03/22 09:30

Sample Container: Summa Canister 6L

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		12		ug/m3			05/05/22 21:28	5.17
Vinyl chloride	20		3.5		ug/m3			05/05/22 21:28	5.17
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					05/05/22 21:28	5.17

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Default Detection Limits

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	RL	MDL	Units
1,1,1-Trichloroethane	0.20	0.072	ppb v/v
1,1,1-Trichloroethane	1.1	0.39	ug/m3
1,1,2,2-Tetrachloroethane	0.20	0.035	ppb v/v
1,1,2,2-Tetrachloroethane	1.4	0.24	ug/m3
1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	0.024	ppb v/v
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	0.18	ug/m3
1,1,2-Trichloroethane	0.20	0.038	ppb v/v
1,1,2-Trichloroethane	1.1	0.21	ug/m3
1,1-Dichloroethane	0.20	0.027	ppb v/v
1,1-Dichloroethane	0.81	0.11	ug/m3
1,1-Dichloroethene	0.20	0.032	ppb v/v
1,1-Dichloroethene	0.79	0.13	ug/m3
1,2,4-Trichlorobenzene	1.0	0.089	ppb v/v
1,2,4-Trichlorobenzene	7.4	0.66	ug/m3
1,2,4-Trimethylbenzene	0.20	0.050	ppb v/v
1,2,4-Trimethylbenzene	0.98	0.25	ug/m3
1,2-Dibromoethane (EDB)	0.20	0.031	ppb v/v
1,2-Dibromoethane (EDB)	1.5	0.24	ug/m3
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.20	0.030	ppb v/v
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.4	0.21	ug/m3
1,2-Dichlorobenzene	0.40	0.078	ppb v/v
1,2-Dichlorobenzene	2.4	0.47	ug/m3
1,2-Dichloroethane	0.20	0.025	ppb v/v
1,2-Dichloroethane	0.81	0.10	ug/m3
1,2-Dichloropropane	0.20	0.025	ppb v/v
1,2-Dichloropropane	0.92	0.12	ug/m3
1,3,5-Trimethylbenzene	0.40	0.16	ppb v/v
1,3,5-Trimethylbenzene	2.0	0.79	ug/m3
1,3-Butadiene	0.40	0.048	ppb v/v
1,3-Butadiene	0.88	0.11	ug/m3
1,3-Dichlorobenzene	0.20	0.040	ppb v/v
1,3-Dichlorobenzene	1.2	0.24	ug/m3
1,4-Dichlorobenzene	0.20	0.040	ppb v/v
1,4-Dichlorobenzene	1.2	0.24	ug/m3
2-Butanone (MEK)	1.0	0.18	ppb v/v
2-Butanone (MEK)	2.9	0.53	ug/m3
2-Hexanone	0.50	0.14	ppb v/v
2-Hexanone	2.0	0.57	ug/m3
3-Chloropropene	0.20	0.10	ppb v/v
3-Chloropropene	0.63	0.31	ug/m3
4-Methyl-2-pentanone (MIBK)	1.0	0.14	ppb v/v
4-Methyl-2-pentanone (MIBK)	4.1	0.57	ug/m3
Acetone	7.5	1.4	ppb v/v
Acetone	18	3.3	ug/m3
Acetonitrile	1.0	0.38	ppb v/v
Acetonitrile	1.7	0.64	ug/m3
Acrolein	1.0	0.25	ppb v/v
Acrolein	2.3	0.57	ug/m3
Acrylonitrile	2.0	0.27	ppb v/v
Acrylonitrile	4.3	0.59	ug/m3
Alpha Methyl Styrene	0.40	0.093	ppb v/v
Alpha Methyl Styrene	1.9	0.45	ug/m3
Benzene	0.20	0.033	ppb v/v

Default Detection Limits

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	RL	MDL	Units
Benzene	0.64	0.11	ug/m3
Benzyl chloride	0.40	0.095	ppb v/v
Benzyl chloride	2.1	0.49	ug/m3
Bromodichloromethane	0.20	0.044	ppb v/v
Bromodichloromethane	1.3	0.29	ug/m3
Bromoform	0.20	0.066	ppb v/v
Bromoform	2.1	0.68	ug/m3
Bromomethane	0.20	0.055	ppb v/v
Bromomethane	0.78	0.21	ug/m3
Butane	1.0	0.21	ppb v/v
Butane	2.4	0.50	ug/m3
Carbon disulfide	0.40	0.087	ppb v/v
Carbon disulfide	1.2	0.27	ug/m3
Carbon tetrachloride	0.20	0.032	ppb v/v
Carbon tetrachloride	1.3	0.20	ug/m3
Chlorobenzene	0.20	0.056	ppb v/v
Chlorobenzene	0.92	0.26	ug/m3
Chlorodifluoromethane	0.20	0.055	ppb v/v
Chlorodifluoromethane	0.71	0.19	ug/m3
Chloroethane	0.20	0.079	ppb v/v
Chloroethane	0.53	0.21	ug/m3
Chloroform	0.20	0.036	ppb v/v
Chloroform	0.98	0.18	ug/m3
Chloromethane	1.0	0.16	ppb v/v
Chloromethane	2.1	0.33	ug/m3
cis-1,2-Dichloroethene	0.20	0.025	ppb v/v
cis-1,2-Dichloroethene	0.79	0.099	ug/m3
cis-1,3-Dichloropropene	0.40	0.048	ppb v/v
cis-1,3-Dichloropropene	1.8	0.22	ug/m3
Cumene	0.40	0.043	ppb v/v
Cumene	2.0	0.21	ug/m3
Cyclohexane	0.40	0.093	ppb v/v
Cyclohexane	1.4	0.32	ug/m3
Decane	1.0	0.095	ppb v/v
Decane	5.8	0.55	ug/m3
Dibromochloromethane	0.20	0.034	ppb v/v
Dibromochloromethane	1.7	0.29	ug/m3
Dibromomethane	0.40	0.030	ppb v/v
Dibromomethane	2.8	0.21	ug/m3
Dichlorodifluoromethane	0.20	0.035	ppb v/v
Dichlorodifluoromethane	0.99	0.17	ug/m3
Dodecane	1.0	0.32	ppb v/v
Dodecane	7.0	2.2	ug/m3
Ethyl ether	2.0	0.085	ppb v/v
Ethyl ether	6.1	0.26	ug/m3
Ethylbenzene	0.20	0.033	ppb v/v
Ethylbenzene	0.87	0.14	ug/m3
Heptane	0.40	0.035	ppb v/v
Heptane	1.6	0.14	ug/m3
Hexachlorobutadiene	1.0	0.080	ppb v/v
Hexachlorobutadiene	11	0.85	ug/m3
Hexane	0.40	0.063	ppb v/v
Hexane	1.4	0.22	ug/m3

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Default Detection Limits

Client: GHD Services Inc.
 Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	RL	MDL	Units
Methyl tert-butyl ether	1.0	0.13	ppb v/v
Methyl tert-butyl ether	3.6	0.47	ug/m3
Methylene Chloride	1.0	0.34	ppb v/v
Methylene Chloride	3.5	1.2	ug/m3
m-Xylene & p-Xylene	0.20	0.073	ppb v/v
m-Xylene & p-Xylene	0.87	0.32	ug/m3
Naphthalene	0.40	0.10	ppb v/v
Naphthalene	2.1	0.52	ug/m3
Nonane	0.40	0.11	ppb v/v
Nonane	2.1	0.58	ug/m3
Octane	0.40	0.11	ppb v/v
Octane	1.9	0.51	ug/m3
o-Xylene	0.20	0.038	ppb v/v
o-Xylene	0.87	0.17	ug/m3
Pentane	2.5	0.24	ppb v/v
Pentane	7.4	0.71	ug/m3
Propylbenzene	0.40	0.048	ppb v/v
Propylbenzene	2.0	0.24	ug/m3
Styrene	0.20	0.060	ppb v/v
Styrene	0.85	0.26	ug/m3
Tetrachloroethene	0.20	0.029	ppb v/v
Tetrachloroethene	1.4	0.20	ug/m3
Toluene	1.0	0.057	ppb v/v
Toluene	3.8	0.21	ug/m3
trans-1,2-Dichloroethene	0.20	0.033	ppb v/v
trans-1,2-Dichloroethene	0.79	0.13	ug/m3
trans-1,3-Dichloropropene	0.20	0.049	ppb v/v
trans-1,3-Dichloropropene	0.91	0.22	ug/m3
Trichloroethene	0.20	0.033	ppb v/v
Trichloroethene	1.1	0.18	ug/m3
Trichlorofluoromethane	0.20	0.028	ppb v/v
Trichlorofluoromethane	1.1	0.16	ug/m3
Undecane	1.0	0.12	ppb v/v
Undecane	6.4	0.77	ug/m3
Vinyl acetate	1.0	0.070	ppb v/v
Vinyl acetate	3.5	0.25	ug/m3
Vinyl chloride	0.40	0.065	ppb v/v
Vinyl chloride	1.0	0.17	ug/m3

Surrogate Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Matrix: Air

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
140-27327-1	G-220428-001	97
LCS 140-61357/1002	Lab Control Sample	101
MB 140-61357/5	Method Blank	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 140-61357/5
Matrix: Air
Analysis Batch: 61357

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,1,2,2-Tetrachloroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,1,2-Trichloroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,1-Dichloroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,1-Dichloroethene	ND		0.20		ppb v/v			05/05/22 10:00	1
1,2,4-Trichlorobenzene	ND		1.0		ppb v/v			05/05/22 10:00	1
1,2,4-Trimethylbenzene	ND		0.20		ppb v/v			05/05/22 10:00	1
1,2-Dibromoethane (EDB)	ND		0.20		ppb v/v			05/05/22 10:00	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,2-Dichlorobenzene	ND		0.40		ppb v/v			05/05/22 10:00	1
1,2-Dichloroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,2-Dichloropropane	ND		0.20		ppb v/v			05/05/22 10:00	1
1,3,5-Trimethylbenzene	ND		0.40		ppb v/v			05/05/22 10:00	1
1,3-Butadiene	ND		0.40		ppb v/v			05/05/22 10:00	1
1,3-Dichlorobenzene	ND		0.20		ppb v/v			05/05/22 10:00	1
1,4-Dichlorobenzene	ND		0.20		ppb v/v			05/05/22 10:00	1
2-Butanone (MEK)	ND		1.0		ppb v/v			05/05/22 10:00	1
2-Hexanone	ND		0.50		ppb v/v			05/05/22 10:00	1
3-Chloropropene	ND		0.20		ppb v/v			05/05/22 10:00	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		ppb v/v			05/05/22 10:00	1
Acetone	ND		7.5		ppb v/v			05/05/22 10:00	1
Acetonitrile	ND		1.0		ppb v/v			05/05/22 10:00	1
Acrolein	ND		1.0		ppb v/v			05/05/22 10:00	1
Acrylonitrile	ND		2.0		ppb v/v			05/05/22 10:00	1
Alpha Methyl Styrene	ND		0.40		ppb v/v			05/05/22 10:00	1
Benzene	ND		0.20		ppb v/v			05/05/22 10:00	1
Benzyl chloride	ND		0.40		ppb v/v			05/05/22 10:00	1
Bromodichloromethane	ND		0.20		ppb v/v			05/05/22 10:00	1
Bromoform	ND		0.20		ppb v/v			05/05/22 10:00	1
Bromomethane	ND		0.20		ppb v/v			05/05/22 10:00	1
Butane	ND		1.0		ppb v/v			05/05/22 10:00	1
Carbon disulfide	ND		0.40		ppb v/v			05/05/22 10:00	1
Carbon tetrachloride	ND		0.20		ppb v/v			05/05/22 10:00	1
Chlorobenzene	ND		0.20		ppb v/v			05/05/22 10:00	1
Chlorodifluoromethane	ND		0.20		ppb v/v			05/05/22 10:00	1
Chloroethane	ND		0.20		ppb v/v			05/05/22 10:00	1
Chloroform	ND		0.20		ppb v/v			05/05/22 10:00	1
Chloromethane	ND		1.0		ppb v/v			05/05/22 10:00	1
cis-1,2-Dichloroethene	ND		0.20		ppb v/v			05/05/22 10:00	1
cis-1,3-Dichloropropene	ND		0.40		ppb v/v			05/05/22 10:00	1
Cumene	ND		0.40		ppb v/v			05/05/22 10:00	1
Cyclohexane	ND		0.40		ppb v/v			05/05/22 10:00	1
Decane	ND		1.0		ppb v/v			05/05/22 10:00	1
Dibromochloromethane	ND		0.20		ppb v/v			05/05/22 10:00	1
Dibromomethane	ND		0.40		ppb v/v			05/05/22 10:00	1
Dichlorodifluoromethane	ND		0.20		ppb v/v			05/05/22 10:00	1
Dodecane	ND		1.0		ppb v/v			05/05/22 10:00	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-61357/5
Matrix: Air
Analysis Batch: 61357

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl ether	ND		2.0		ppb v/v			05/05/22 10:00	1
Ethylbenzene	ND		0.20		ppb v/v			05/05/22 10:00	1
Heptane	ND		0.40		ppb v/v			05/05/22 10:00	1
Hexachlorobutadiene	ND		1.0		ppb v/v			05/05/22 10:00	1
Hexane	ND		0.40		ppb v/v			05/05/22 10:00	1
Methyl tert-butyl ether	ND		1.0		ppb v/v			05/05/22 10:00	1
Methylene Chloride	ND		1.0		ppb v/v			05/05/22 10:00	1
m-Xylene & p-Xylene	ND		0.20		ppb v/v			05/05/22 10:00	1
Naphthalene	ND		0.40		ppb v/v			05/05/22 10:00	1
Nonane	ND		0.40		ppb v/v			05/05/22 10:00	1
Octane	ND		0.40		ppb v/v			05/05/22 10:00	1
o-Xylene	ND		0.20		ppb v/v			05/05/22 10:00	1
Pentane	ND		2.5		ppb v/v			05/05/22 10:00	1
Propylbenzene	ND		0.40		ppb v/v			05/05/22 10:00	1
Styrene	ND		0.20		ppb v/v			05/05/22 10:00	1
Tetrachloroethene	ND		0.20		ppb v/v			05/05/22 10:00	1
Toluene	ND		1.0		ppb v/v			05/05/22 10:00	1
trans-1,2-Dichloroethene	ND		0.20		ppb v/v			05/05/22 10:00	1
trans-1,3-Dichloropropene	ND		0.20		ppb v/v			05/05/22 10:00	1
Trichloroethene	ND		0.20		ppb v/v			05/05/22 10:00	1
Trichlorofluoromethane	ND		0.20		ppb v/v			05/05/22 10:00	1
Undecane	ND		1.0		ppb v/v			05/05/22 10:00	1
Vinyl acetate	ND		1.0		ppb v/v			05/05/22 10:00	1
Vinyl chloride	ND		0.40		ppb v/v			05/05/22 10:00	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.1		ug/m3			05/05/22 10:00	1
1,1,2,2-Tetrachloroethane	ND		1.4		ug/m3			05/05/22 10:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.5		ug/m3			05/05/22 10:00	1
1,1,2-Trichloroethane	ND		1.1		ug/m3			05/05/22 10:00	1
1,1-Dichloroethane	ND		0.81		ug/m3			05/05/22 10:00	1
1,1-Dichloroethene	ND		0.79		ug/m3			05/05/22 10:00	1
1,2,4-Trichlorobenzene	ND		7.4		ug/m3			05/05/22 10:00	1
1,2,4-Trimethylbenzene	ND		0.98		ug/m3			05/05/22 10:00	1
1,2-Dibromoethane (EDB)	ND		1.5		ug/m3			05/05/22 10:00	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		1.4		ug/m3			05/05/22 10:00	1
1,2-Dichlorobenzene	ND		2.4		ug/m3			05/05/22 10:00	1
1,2-Dichloroethane	ND		0.81		ug/m3			05/05/22 10:00	1
1,2-Dichloropropane	ND		0.92		ug/m3			05/05/22 10:00	1
1,3,5-Trimethylbenzene	ND		2.0		ug/m3			05/05/22 10:00	1
1,3-Butadiene	ND		0.88		ug/m3			05/05/22 10:00	1
1,3-Dichlorobenzene	ND		1.2		ug/m3			05/05/22 10:00	1
1,4-Dichlorobenzene	ND		1.2		ug/m3			05/05/22 10:00	1
2-Butanone (MEK)	ND		2.9		ug/m3			05/05/22 10:00	1
2-Hexanone	ND		2.0		ug/m3			05/05/22 10:00	1
3-Chloropropene	ND		0.63		ug/m3			05/05/22 10:00	1
4-Methyl-2-pentanone (MIBK)	ND		4.1		ug/m3			05/05/22 10:00	1
Acetone	ND		18		ug/m3			05/05/22 10:00	1
Acetonitrile	ND		1.7		ug/m3			05/05/22 10:00	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-61357/5
Matrix: Air
Analysis Batch: 61357

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Acrolein	ND		2.3		ug/m3			05/05/22 10:00	1
Acrylonitrile	ND		4.3		ug/m3			05/05/22 10:00	1
Alpha Methyl Styrene	ND		1.9		ug/m3			05/05/22 10:00	1
Benzene	ND		0.64		ug/m3			05/05/22 10:00	1
Benzyl chloride	ND		2.1		ug/m3			05/05/22 10:00	1
Bromodichloromethane	ND		1.3		ug/m3			05/05/22 10:00	1
Bromoform	ND		2.1		ug/m3			05/05/22 10:00	1
Bromomethane	ND		0.78		ug/m3			05/05/22 10:00	1
Butane	ND		2.4		ug/m3			05/05/22 10:00	1
Carbon disulfide	ND		1.2		ug/m3			05/05/22 10:00	1
Carbon tetrachloride	ND		1.3		ug/m3			05/05/22 10:00	1
Chlorobenzene	ND		0.92		ug/m3			05/05/22 10:00	1
Chlorodifluoromethane	ND		0.71		ug/m3			05/05/22 10:00	1
Chloroethane	ND		0.53		ug/m3			05/05/22 10:00	1
Chloroform	ND		0.98		ug/m3			05/05/22 10:00	1
Chloromethane	ND		2.1		ug/m3			05/05/22 10:00	1
cis-1,2-Dichloroethene	ND		0.79		ug/m3			05/05/22 10:00	1
cis-1,3-Dichloropropene	ND		1.8		ug/m3			05/05/22 10:00	1
Cumene	ND		2.0		ug/m3			05/05/22 10:00	1
Cyclohexane	ND		1.4		ug/m3			05/05/22 10:00	1
Decane	ND		5.8		ug/m3			05/05/22 10:00	1
Dibromochloromethane	ND		1.7		ug/m3			05/05/22 10:00	1
Dibromomethane	ND		2.8		ug/m3			05/05/22 10:00	1
Dichlorodifluoromethane	ND		0.99		ug/m3			05/05/22 10:00	1
Dodecane	ND		7.0		ug/m3			05/05/22 10:00	1
Ethyl ether	ND		6.1		ug/m3			05/05/22 10:00	1
Ethylbenzene	ND		0.87		ug/m3			05/05/22 10:00	1
Heptane	ND		1.6		ug/m3			05/05/22 10:00	1
Hexachlorobutadiene	ND		11		ug/m3			05/05/22 10:00	1
Hexane	ND		1.4		ug/m3			05/05/22 10:00	1
Methyl tert-butyl ether	ND		3.6		ug/m3			05/05/22 10:00	1
Methylene Chloride	ND		3.5		ug/m3			05/05/22 10:00	1
m-Xylene & p-Xylene	ND		0.87		ug/m3			05/05/22 10:00	1
Naphthalene	ND		2.1		ug/m3			05/05/22 10:00	1
Nonane	ND		2.1		ug/m3			05/05/22 10:00	1
Octane	ND		1.9		ug/m3			05/05/22 10:00	1
o-Xylene	ND		0.87		ug/m3			05/05/22 10:00	1
Pentane	ND		7.4		ug/m3			05/05/22 10:00	1
Propylbenzene	ND		2.0		ug/m3			05/05/22 10:00	1
Styrene	ND		0.85		ug/m3			05/05/22 10:00	1
Tetrachloroethene	ND		1.4		ug/m3			05/05/22 10:00	1
Toluene	ND		3.8		ug/m3			05/05/22 10:00	1
trans-1,2-Dichloroethene	ND		0.79		ug/m3			05/05/22 10:00	1
trans-1,3-Dichloropropene	ND		0.91		ug/m3			05/05/22 10:00	1
Trichloroethene	ND		1.1		ug/m3			05/05/22 10:00	1
Trichlorofluoromethane	ND		1.1		ug/m3			05/05/22 10:00	1
Undecane	ND		6.4		ug/m3			05/05/22 10:00	1
Vinyl acetate	ND		3.5		ug/m3			05/05/22 10:00	1
Vinyl chloride	ND		1.0		ug/m3			05/05/22 10:00	1

Eurofins Knoxville

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

<u>Surrogate</u>	<u>MB</u> <u>%Recovery</u>	<u>MB</u> <u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
4-Bromofluorobenzene (Surr)	94		60 - 140		05/05/22 10:00	1

Lab Sample ID: LCS 140-61357/1002
Matrix: Air
Analysis Batch: 61357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

<u>Analyte</u>	<u>Spike</u> <u>Added</u>	<u>LCS</u> <u>Result</u>	<u>LCS</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec</u> <u>Limits</u>
1,1,1-Trichloroethane	2.00	2.19		ppb v/v		110	70 - 130
1,1,1,2-Tetrachloroethane	2.00	2.29		ppb v/v		114	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	2.00	2.16		ppb v/v		108	70 - 130
1,1,2-Trichloroethane	2.00	2.17		ppb v/v		109	70 - 130
1,1-Dichloroethane	2.00	2.11		ppb v/v		106	70 - 130
1,1-Dichloroethene	2.00	2.15		ppb v/v		108	70 - 130
1,2,4-Trichlorobenzene	2.00	2.30		ppb v/v		115	60 - 140
1,2,4-Trimethylbenzene	2.00	2.34		ppb v/v		117	70 - 130
1,2-Dibromoethane (EDB)	2.00	2.22		ppb v/v		111	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.00	2.37		ppb v/v		118	60 - 140
1,2-Dichlorobenzene	2.00	2.53		ppb v/v		127	70 - 130
1,2-Dichloroethane	2.00	2.16		ppb v/v		108	70 - 130
1,2-Dichloropropane	2.00	2.11		ppb v/v		105	70 - 130
1,3,5-Trimethylbenzene	2.00	2.25		ppb v/v		112	70 - 130
1,3-Butadiene	2.00	2.14		ppb v/v		107	60 - 140
1,3-Dichlorobenzene	2.00	2.49		ppb v/v		125	70 - 130
1,4-Dichlorobenzene	2.00	2.49		ppb v/v		124	70 - 130
2-Butanone (MEK)	2.00	2.05		ppb v/v		103	60 - 140
2-Hexanone	2.00	2.05		ppb v/v		102	60 - 140
3-Chloropropene	2.00	2.26		ppb v/v		113	60 - 140
4-Methyl-2-pentanone (MIBK)	2.00	2.04		ppb v/v		102	60 - 140
Acetone	6.00	6.70		ppb v/v		112	60 - 140
Acetonitrile	2.00	2.42		ppb v/v		121	60 - 140
Acrolein	2.00	2.44		ppb v/v		122	60 - 140
Acrylonitrile	2.00	2.12		ppb v/v		106	60 - 140
Alpha Methyl Styrene	2.00	2.39		ppb v/v		120	60 - 140
Benzene	2.00	2.12		ppb v/v		106	70 - 130
Benzyl chloride	2.00	2.52		ppb v/v		126	70 - 130
Bromodichloromethane	2.00	2.27		ppb v/v		113	70 - 130
Bromoform	2.00	2.18		ppb v/v		109	60 - 140
Bromomethane	2.00	2.15		ppb v/v		107	70 - 130
Butane	2.00	2.16		ppb v/v		108	60 - 140
Carbon disulfide	2.00	2.19		ppb v/v		109	70 - 130
Carbon tetrachloride	2.00	2.52		ppb v/v		126	70 - 130
Chlorobenzene	2.00	2.21		ppb v/v		111	70 - 130
Chlorodifluoromethane	2.00	2.06		ppb v/v		103	60 - 140
Chloroethane	2.00	2.23		ppb v/v		111	70 - 130
Chloroform	2.00	2.17		ppb v/v		109	70 - 130
Chloromethane	2.00	2.11		ppb v/v		106	60 - 140
cis-1,2-Dichloroethene	2.00	2.12		ppb v/v		106	70 - 130
cis-1,3-Dichloropropene	2.00	2.16		ppb v/v		108	70 - 130
Cumene	2.00	2.22		ppb v/v		111	70 - 130
Cyclohexane	2.00	2.08		ppb v/v		104	70 - 130

Eurofins Knoxville

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-61357/1002
Matrix: Air
Analysis Batch: 61357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Decane	2.00	2.30		ppb v/v		115	60 - 140
Dibromochloromethane	2.00	2.38		ppb v/v		119	70 - 130
Dibromomethane	2.00	2.13		ppb v/v		106	70 - 130
Dichlorodifluoromethane	2.00	2.17		ppb v/v		108	60 - 140
Dodecane	2.00	2.27		ppb v/v		113	60 - 140
Ethyl ether	2.00	2.01		ppb v/v		101	60 - 140
Ethylbenzene	2.00	2.21		ppb v/v		110	70 - 130
Heptane	2.00	2.06		ppb v/v		103	70 - 130
Hexachlorobutadiene	2.00	2.25		ppb v/v		113	60 - 140
Hexane	2.00	2.03		ppb v/v		101	70 - 130
Methyl tert-butyl ether	2.00	2.10		ppb v/v		105	60 - 140
Methylene Chloride	2.00	2.02		ppb v/v		101	70 - 130
m-Xylene & p-Xylene	4.00	4.43		ppb v/v		111	70 - 130
Naphthalene	2.00	2.28		ppb v/v		114	60 - 140
Nonane	2.00	2.06		ppb v/v		103	60 - 140
Octane	2.00	2.08		ppb v/v		104	70 - 130
o-Xylene	2.00	2.24		ppb v/v		112	70 - 130
Pentane	2.00	2.25		ppb v/v		113	70 - 130
Propylbenzene	2.00	2.23		ppb v/v		111	70 - 130
Styrene	2.00	2.30		ppb v/v		115	70 - 130
Tetrachloroethene	2.00	2.15		ppb v/v		108	70 - 130
Toluene	2.00	2.14		ppb v/v		107	70 - 130
trans-1,2-Dichloroethene	2.00	2.13		ppb v/v		107	70 - 130
trans-1,3-Dichloropropene	2.00	2.19		ppb v/v		109	70 - 130
Trichloroethene	2.00	2.17		ppb v/v		108	70 - 130
Trichlorofluoromethane	2.00	2.20		ppb v/v		110	60 - 140
Undecane	2.00	2.34		ppb v/v		117	60 - 140
Vinyl acetate	2.00	1.89		ppb v/v		94	60 - 140
Vinyl chloride	2.00	2.16		ppb v/v		108	70 - 130
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	11	12.0		ug/m3		110	70 - 130
1,1,2,2-Tetrachloroethane	14	15.7		ug/m3		114	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	15	16.6		ug/m3		108	70 - 130
1,1,2-Trichloroethane	11	11.9		ug/m3		109	70 - 130
1,1-Dichloroethane	8.1	8.55		ug/m3		106	70 - 130
1,1-Dichloroethene	7.9	8.54		ug/m3		108	70 - 130
1,2,4-Trichlorobenzene	15	17.0		ug/m3		115	60 - 140
1,2,4-Trimethylbenzene	9.8	11.5		ug/m3		117	70 - 130
1,2-Dibromoethane (EDB)	15	17.1		ug/m3		111	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	14	16.6		ug/m3		118	60 - 140
1,2-Dichlorobenzene	12	15.2		ug/m3		127	70 - 130
1,2-Dichloroethane	8.1	8.76		ug/m3		108	70 - 130
1,2-Dichloropropane	9.2	9.74		ug/m3		105	70 - 130
1,3,5-Trimethylbenzene	9.8	11.0		ug/m3		112	70 - 130
1,3-Butadiene	4.4	4.73		ug/m3		107	60 - 140
1,3-Dichlorobenzene	12	15.0		ug/m3		125	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-61357/1002
Matrix: Air
Analysis Batch: 61357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	12	15.0		ug/m3		124	70 - 130
2-Butanone (MEK)	5.9	6.06		ug/m3		103	60 - 140
2-Hexanone	8.2	8.39		ug/m3		102	60 - 140
3-Chloropropene	6.3	7.07		ug/m3		113	60 - 140
4-Methyl-2-pentanone (MIBK)	8.2	8.36		ug/m3		102	60 - 140
Acetone	14	15.9		ug/m3		112	60 - 140
Acetonitrile	3.4	4.06		ug/m3		121	60 - 140
Acrolein	4.6	5.60		ug/m3		122	60 - 140
Acrylonitrile	4.3	4.60		ug/m3		106	60 - 140
Alpha Methyl Styrene	9.7	11.6		ug/m3		120	60 - 140
Benzene	6.4	6.77		ug/m3		106	70 - 130
Benzyl chloride	10	13.0		ug/m3		126	70 - 130
Bromodichloromethane	13	15.2		ug/m3		113	70 - 130
Bromoform	21	22.5		ug/m3		109	60 - 140
Bromomethane	7.8	8.34		ug/m3		107	70 - 130
Butane	4.8	5.13		ug/m3		108	60 - 140
Carbon disulfide	6.2	6.82		ug/m3		109	70 - 130
Carbon tetrachloride	13	15.9		ug/m3		126	70 - 130
Chlorobenzene	9.2	10.2		ug/m3		111	70 - 130
Chlorodifluoromethane	7.1	7.28		ug/m3		103	60 - 140
Chloroethane	5.3	5.88		ug/m3		111	70 - 130
Chloroform	9.8	10.6		ug/m3		109	70 - 130
Chloromethane	4.1	4.36		ug/m3		106	60 - 140
cis-1,2-Dichloroethene	7.9	8.41		ug/m3		106	70 - 130
cis-1,3-Dichloropropene	9.1	9.78		ug/m3		108	70 - 130
Cumene	9.8	10.9		ug/m3		111	70 - 130
Cyclohexane	6.9	7.17		ug/m3		104	70 - 130
Decane	12	13.4		ug/m3		115	60 - 140
Dibromochloromethane	17	20.3		ug/m3		119	70 - 130
Dibromomethane	14	15.1		ug/m3		106	70 - 130
Dichlorodifluoromethane	9.9	10.7		ug/m3		108	60 - 140
Dodecane	14	15.8		ug/m3		113	60 - 140
Ethyl ether	6.1	6.10		ug/m3		101	60 - 140
Ethylbenzene	8.7	9.58		ug/m3		110	70 - 130
Heptane	8.2	8.45		ug/m3		103	70 - 130
Hexachlorobutadiene	21	24.0		ug/m3		113	60 - 140
Hexane	7.0	7.15		ug/m3		101	70 - 130
Methyl tert-butyl ether	7.2	7.56		ug/m3		105	60 - 140
Methylene Chloride	6.9	7.02		ug/m3		101	70 - 130
m-Xylene & p-Xylene	17	19.2		ug/m3		111	70 - 130
Naphthalene	10	12.0		ug/m3		114	60 - 140
Nonane	10	10.8		ug/m3		103	60 - 140
Octane	9.3	9.73		ug/m3		104	70 - 130
o-Xylene	8.7	9.75		ug/m3		112	70 - 130
Pentane	5.9	6.64		ug/m3		113	70 - 130
Propylbenzene	9.8	10.9		ug/m3		111	70 - 130
Styrene	8.5	9.79		ug/m3		115	70 - 130
Tetrachloroethene	14	14.6		ug/m3		108	70 - 130
Toluene	7.5	8.08		ug/m3		107	70 - 130

Eurofins Knoxville

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-61357/1002

Client Sample ID: Lab Control Sample

Matrix: Air

Prep Type: Total/NA

Analysis Batch: 61357

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,2-Dichloroethene	7.9	8.45		ug/m3		107	70 - 130
trans-1,3-Dichloropropene	9.1	9.92		ug/m3		109	70 - 130
Trichloroethene	11	11.6		ug/m3		108	70 - 130
Trichlorofluoromethane	11	12.4		ug/m3		110	60 - 140
Undecane	13	14.9		ug/m3		117	60 - 140
Vinyl acetate	7.0	6.64		ug/m3		94	60 - 140
Vinyl chloride	5.1	5.52		ug/m3		108	70 - 130
Surrogate							
		LCS	LCS				
4-Bromofluorobenzene (Surr)		%Recovery	Qualifier				Limits
		101					60 - 140

QC Association Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Air - GC/MS VOA

Analysis Batch: 61357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-27327-1	G-220428-001	Total/NA	Air	TO-15	
MB 140-61357/5	Method Blank	Total/NA	Air	TO-15	
LCS 140-61357/1002	Lab Control Sample	Total/NA	Air	TO-15	

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Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Client Sample ID: G-220428-001

Lab Sample ID: 140-27327-1

Date Collected: 04/28/22 15:26

Matrix: Air

Date Received: 05/03/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		5.17	300 mL	500 mL	61357	05/05/22 21:28	S1K	TAL KNX
Instrument ID: MR										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-61357/5

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	200 mL	500 mL	61357	05/05/22 10:00	S1K	TAL KNX
Instrument ID: MR										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-61357/1002

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	500 mL	500 mL	61357	05/05/22 07:45	S1K	TAL KNX
Instrument ID: MR										

Laboratory References:

TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Laboratory: Eurofins Knoxville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998044300	08-31-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
TO-15		Air	1,1,1-Trichloroethane
TO-15		Air	1,1,2,2-Tetrachloroethane
TO-15		Air	1,1,2-Trichloro-1,2,2-trifluoroethane
TO-15		Air	1,1,2-Trichloroethane
TO-15		Air	1,1-Dichloroethane
TO-15		Air	1,1-Dichloroethene
TO-15		Air	1,2,4-Trichlorobenzene
TO-15		Air	1,2,4-Trimethylbenzene
TO-15		Air	1,2-Dibromoethane (EDB)
TO-15		Air	1,2-Dichloro-1,1,2,2-tetrafluoroethane
TO-15		Air	1,2-Dichlorobenzene
TO-15		Air	1,2-Dichloroethane
TO-15		Air	1,2-Dichloropropane
TO-15		Air	1,3,5-Trimethylbenzene
TO-15		Air	1,3-Butadiene
TO-15		Air	1,3-Dichlorobenzene
TO-15		Air	1,4-Dichlorobenzene
TO-15		Air	2-Butanone (MEK)
TO-15		Air	2-Hexanone
TO-15		Air	3-Chloropropene
TO-15		Air	4-Methyl-2-pentanone (MIBK)
TO-15		Air	Acetone
TO-15		Air	Acetonitrile
TO-15		Air	Acrolein
TO-15		Air	Acrylonitrile
TO-15		Air	Alpha Methyl Styrene
TO-15		Air	Benzene
TO-15		Air	Benzyl chloride
TO-15		Air	Bromodichloromethane
TO-15		Air	Bromoform
TO-15		Air	Bromomethane
TO-15		Air	Butane
TO-15		Air	Carbon disulfide
TO-15		Air	Carbon tetrachloride
TO-15		Air	Chlorobenzene
TO-15		Air	Chlorodifluoromethane
TO-15		Air	Chloroethane
TO-15		Air	Chloroform
TO-15		Air	Chloromethane
TO-15		Air	cis-1,2-Dichloroethene
TO-15		Air	cis-1,3-Dichloropropene
TO-15		Air	Cumene
TO-15		Air	Cyclohexane
TO-15		Air	Decane
TO-15		Air	Dibromochloromethane

Accreditation/Certification Summary

Client: GHD Services Inc.
 Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Laboratory: Eurofins Knoxville (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
TO-15		Air	Dibromomethane
TO-15		Air	Dichlorodifluoromethane
TO-15		Air	Dodecane
TO-15		Air	Ethyl ether
TO-15		Air	Ethylbenzene
TO-15		Air	Heptane
TO-15		Air	Hexachlorobutadiene
TO-15		Air	Hexane
TO-15		Air	Methyl tert-butyl ether
TO-15		Air	Methylene Chloride
TO-15		Air	m-Xylene & p-Xylene
TO-15		Air	Naphthalene
TO-15		Air	Nonane
TO-15		Air	Octane
TO-15		Air	o-Xylene
TO-15		Air	Pentane
TO-15		Air	Propylbenzene
TO-15		Air	Styrene
TO-15		Air	Tetrachloroethene
TO-15		Air	Toluene
TO-15		Air	trans-1,2-Dichloroethene
TO-15		Air	trans-1,3-Dichloropropene
TO-15		Air	Trichloroethene
TO-15		Air	Trichlorofluoromethane
TO-15		Air	Undecane
TO-15		Air	Vinyl acetate
TO-15		Air	Vinyl chloride

Method Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-27327-1

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL KNX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

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Sample Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill


Job ID: 140-27327-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
140-27327-1	G-220428-001	Air	04/28/22 15:26	05/03/22 09:30	Air Canister (6-Liter) #34001200

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EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	✓			<input type="checkbox"/> Containers, Broken	
2. Were ambient air containers received intact?			✓	<input checked="" type="checkbox"/> Checked in lab	
3. The coolers/containers custody seal if present, is it intact?	✓			<input type="checkbox"/> Yes <input type="checkbox"/> NA	7. Coaster ID written SS 140 34556 should be 340120
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID: _____ Correction factor: _____			✓	<input type="checkbox"/> Cooler Out of Temp, Client Contacted, Proceed/Cancel <input type="checkbox"/> Cooler Out of Temp, Same Day Receipt	
5. Were all of the sample containers received intact?	✓			<input type="checkbox"/> Containers, Broken	
6. Were samples received in appropriate containers?	✓			<input type="checkbox"/> Containers, Improper; Client Contacted; Proceed/Cancel	
7. Do sample container labels match COC? (IDs, Dates, Times)		✓		<input type="checkbox"/> COC & Samples Do Not Match <input checked="" type="checkbox"/> COC Incorrect/Incomplete <input type="checkbox"/> COC Not Received	
8. Were all of the samples listed on the COC received?	✓			<input type="checkbox"/> Sample Received, Not on COC <input type="checkbox"/> Sample on COC; Not Received	
9. Is the date/time of sample collection noted?	✓			<input type="checkbox"/> COC; No Date/Time; Client Contacted	Labeling Verified by: _____ Date: _____
10. Was the sampler identified on the COC?	✓			<input type="checkbox"/> Sampler Not Listed on COC	
11. Is the client and project name/# identified?	✓			<input type="checkbox"/> COC Incorrect/Incomplete	
12. Are tests/parameters listed for each sample?	✓			<input type="checkbox"/> COC No tests on COC	pH test strip lot number: _____
13. Is the matrix of the samples noted?	✓			<input type="checkbox"/> COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			<input type="checkbox"/> COC Incorrect/Incomplete	Box 16A: pH Preservation Box 18A: Residual Chlorine
15. Were samples received within holding time?	✓			<input type="checkbox"/> Holding Time - Receipt	Preservative: _____
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	<input type="checkbox"/> pH Adjusted, pH Included (See box 16A) <input type="checkbox"/> Incorrect Preservative	Lot Number: _____ Exp Date: _____ Analyst: _____ Date: _____ Time: _____
17. Were VOA samples received without headspace?			✓	<input type="checkbox"/> Headspace (VOA only) <input type="checkbox"/> Residual Chlorine	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: _____			✓		
19. For 1613B water samples is pH<9?			✓	<input type="checkbox"/> If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?			✓	<input type="checkbox"/> Project missing info	
Project #: <u>1401350</u> PM Instructions: _____					

Sample Receiving Associate:  Date: 05.03.22 QA026R32.doc, 062719



Summa Canister Dilution Worksheet

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job No.: 140-27327-1

Lab Sample ID	Canister Volume (L)	Preadjusted Pressure ("Hg)	Preadjusted Pressure (atm)	Preadjusted Volume (L)	Adjusted Pressure (psig)	Adjusted Pressure (atm)	Adjusted Volume (L)	Initial Volume (mL)	Dilution Factor	Final Dilution Factor	Final Pressure Gauge ID	Date	Analyst Initials
140-27327-1	6	-23.9	0.20	1.21	0.6	1.04	6.24		5.17	5.17	G5	05/03/22 12:46	BRS

Formulae:

Preadjusted Volume (L) = ((Preadjusted Pressure ("Hg) + 29.92 "Hg) * Vol L) / 29.92 "Hg

Adjusted Volume (L) = ((Adjusted Pressure (psig) + 14.7 psig) * Vol L) / 14.7 psig

Dilution Factor = Adjusted Volume (L) / Preadjusted Volume (L)

Where:

29.92 "Hg = Standard atmospheric pressure in inches of Mercury ("Hg)

14.7 psig = Standard atmospheric pressure in pounds per square inch gauge (psig)



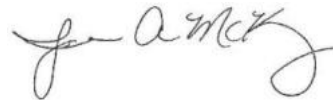
ANALYTICAL REPORT

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-29435-1
Client Project/Site: New Richmond Landfill

For:
GHD Services Inc.
900 Long Lake Road
Suite 200
New Brighton, Minnesota 55112

Attn: Mr. Grant Anderson



Authorized for release by:
11/11/2022 8:43:00 AM

Jamie McKinney, Senior Project Manager
(865)291-3000
Jamie.McKinney@et.eurofinsus.com

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the {0} Project Manager.



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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Qualifiers

Air - GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Job ID: 140-29435-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative 140-29435-1

Comments

No additional comments.

Receipt

The samples were received on 11/1/2022 9:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice.

Air - GC/MS VOA

Methods TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by Eurofins TestAmerica Knoxville.

Method TO-15: The continuing calibration verification (CCV) associated with batch 140-67239 exhibited % difference of > 30% for the following analyte(s) Vinyl acetate; however, the results were within the LCS acceptance limits. The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria.

Method TO-15: The following analyte(s) recovered outside control limits for the LCS associated with analytical batch 140-67239: Vinyl acetate. This is not indicative of a systematic control problem because this was random marginal exceedance. Qualified results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-001

Lab Sample ID: 140-29435-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	35		0.41		ppb v/v	1.55		TO-15	Total/NA
1,1-Dichloroethane	26		0.41		ppb v/v	1.55		TO-15	Total/NA
1,1-Dichloroethene	6.8		0.41		ppb v/v	1.55		TO-15	Total/NA
1,2,4-Trimethylbenzene	0.58		0.41		ppb v/v	1.55		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.3		0.41		ppb v/v	1.55		TO-15	Total/NA
Benzene	0.93		0.41		ppb v/v	1.55		TO-15	Total/NA
Butane	4.1		2.1		ppb v/v	1.55		TO-15	Total/NA
Chlorodifluoromethane	3.4		0.41		ppb v/v	1.55		TO-15	Total/NA
Chloroethane	5.7		0.41		ppb v/v	1.55		TO-15	Total/NA
Chloroform	4.5		0.41		ppb v/v	1.55		TO-15	Total/NA
cis-1,2-Dichloroethene	2.9		0.41		ppb v/v	1.55		TO-15	Total/NA
Cyclohexane	2.0		0.83		ppb v/v	1.55		TO-15	Total/NA
Dichlorodifluoromethane	11		0.41		ppb v/v	1.55		TO-15	Total/NA
Ethylbenzene	1.0		0.41		ppb v/v	1.55		TO-15	Total/NA
Heptane	0.95		0.83		ppb v/v	1.55		TO-15	Total/NA
Hexane	1.4		0.83		ppb v/v	1.55		TO-15	Total/NA
m-Xylene & p-Xylene	1.8		0.41		ppb v/v	1.55		TO-15	Total/NA
o-Xylene	0.56		0.41		ppb v/v	1.55		TO-15	Total/NA
Tetrachloroethene	7.1		0.41		ppb v/v	1.55		TO-15	Total/NA
Trichloroethene	0.91		0.41		ppb v/v	1.55		TO-15	Total/NA
Trichlorofluoromethane	11		0.41		ppb v/v	1.55		TO-15	Total/NA
Vinyl chloride	4.9		0.83		ppb v/v	1.55		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	190		2.3		ug/m3	1.55		TO-15	Total/NA
1,1-Dichloroethane	110		1.7		ug/m3	1.55		TO-15	Total/NA
1,1-Dichloroethene	27		1.6		ug/m3	1.55		TO-15	Total/NA
1,2,4-Trimethylbenzene	2.9		2.0		ug/m3	1.55		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	16		2.9		ug/m3	1.55		TO-15	Total/NA
Benzene	3.0		1.3		ug/m3	1.55		TO-15	Total/NA
Butane	9.6		4.9		ug/m3	1.55		TO-15	Total/NA
Chlorodifluoromethane	12		1.5		ug/m3	1.55		TO-15	Total/NA
Chloroethane	15		1.1		ug/m3	1.55		TO-15	Total/NA
Chloroform	22		2.0		ug/m3	1.55		TO-15	Total/NA
cis-1,2-Dichloroethene	11		1.6		ug/m3	1.55		TO-15	Total/NA
Cyclohexane	7.0		2.8		ug/m3	1.55		TO-15	Total/NA
Dichlorodifluoromethane	54		2.0		ug/m3	1.55		TO-15	Total/NA
Ethylbenzene	4.4		1.8		ug/m3	1.55		TO-15	Total/NA
Heptane	3.9		3.4		ug/m3	1.55		TO-15	Total/NA
Hexane	5.0		2.9		ug/m3	1.55		TO-15	Total/NA
m-Xylene & p-Xylene	7.7		1.8		ug/m3	1.55		TO-15	Total/NA
o-Xylene	2.4		1.8		ug/m3	1.55		TO-15	Total/NA
Tetrachloroethene	48		2.8		ug/m3	1.55		TO-15	Total/NA
Trichloroethene	4.9		2.2		ug/m3	1.55		TO-15	Total/NA
Trichlorofluoromethane	63		2.3		ug/m3	1.55		TO-15	Total/NA
Vinyl chloride	13		2.1		ug/m3	1.55		TO-15	Total/NA

Client Sample ID: G-221027-BZ-002

Lab Sample ID: 140-29435-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	20		0.76		ppb v/v	1.89		TO-15	Total/NA
1,1-Dichloroethane	31		0.76		ppb v/v	1.89		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Knoxville

Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-002 (Continued)

Lab Sample ID: 140-29435-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	4.9		0.76		ppb v/v	1.89		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.2		0.76		ppb v/v	1.89		TO-15	Total/NA
Benzene	1.0		0.76		ppb v/v	1.89		TO-15	Total/NA
Butane	8.4		3.8		ppb v/v	1.89		TO-15	Total/NA
Chlorodifluoromethane	4.4		0.76		ppb v/v	1.89		TO-15	Total/NA
Chloroethane	29		0.76		ppb v/v	1.89		TO-15	Total/NA
Chloroform	1.4		0.76		ppb v/v	1.89		TO-15	Total/NA
cis-1,2-Dichloroethene	21		0.76		ppb v/v	1.89		TO-15	Total/NA
Cyclohexane	1.8		1.5		ppb v/v	1.89		TO-15	Total/NA
Dichlorodifluoromethane	5.0		0.76		ppb v/v	1.89		TO-15	Total/NA
Hexane	3.0		1.5		ppb v/v	1.89		TO-15	Total/NA
Tetrachloroethene	2.7		0.76		ppb v/v	1.89		TO-15	Total/NA
Trichloroethene	0.77		0.76		ppb v/v	1.89		TO-15	Total/NA
Trichlorofluoromethane	2.9		0.76		ppb v/v	1.89		TO-15	Total/NA
Vinyl chloride	5.0		1.5		ppb v/v	1.89		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	110		4.1		ug/m3	1.89		TO-15	Total/NA
1,1-Dichloroethane	130		3.1		ug/m3	1.89		TO-15	Total/NA
1,1-Dichloroethene	19		3.0		ug/m3	1.89		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	23		5.3		ug/m3	1.89		TO-15	Total/NA
Benzene	3.2		2.4		ug/m3	1.89		TO-15	Total/NA
Butane	20		9.0		ug/m3	1.89		TO-15	Total/NA
Chlorodifluoromethane	15		2.7		ug/m3	1.89		TO-15	Total/NA
Chloroethane	77		2.0		ug/m3	1.89		TO-15	Total/NA
Chloroform	6.7		3.7		ug/m3	1.89		TO-15	Total/NA
cis-1,2-Dichloroethene	83		3.0		ug/m3	1.89		TO-15	Total/NA
Cyclohexane	6.1		5.2		ug/m3	1.89		TO-15	Total/NA
Dichlorodifluoromethane	25		3.7		ug/m3	1.89		TO-15	Total/NA
Hexane	10		5.3		ug/m3	1.89		TO-15	Total/NA
Tetrachloroethene	18		5.1		ug/m3	1.89		TO-15	Total/NA
Trichloroethene	4.1		4.1		ug/m3	1.89		TO-15	Total/NA
Trichlorofluoromethane	16		4.2		ug/m3	1.89		TO-15	Total/NA
Vinyl chloride	13		3.9		ug/m3	1.89		TO-15	Total/NA

Client Sample ID: G-221027-BZ-003

Lab Sample ID: 140-29435-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	110		1.6		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethane	79		1.6		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethene	32		1.6		ppb v/v	1		TO-15	Total/NA
Chloroethane	11		1.6		ppb v/v	1		TO-15	Total/NA
Chloroform	8.5		1.6		ppb v/v	1		TO-15	Total/NA
cis-1,2-Dichloroethene	2.1		1.6		ppb v/v	1		TO-15	Total/NA
Dichlorodifluoromethane	24		1.6		ppb v/v	1		TO-15	Total/NA
Tetrachloroethene	7.6		1.6		ppb v/v	1		TO-15	Total/NA
Trichloroethene	1.8		1.6		ppb v/v	1		TO-15	Total/NA
Trichlorofluoromethane	2.3		1.6		ppb v/v	1		TO-15	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	590		8.7		ug/m3	1		TO-15	Total/NA
1,1-Dichloroethane	320		6.5		ug/m3	1		TO-15	Total/NA
1,1-Dichloroethene	130		6.3		ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Knoxville

Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-003 (Continued)

Lab Sample ID: 140-29435-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroethane	28		4.2		ug/m3	1		TO-15	Total/NA
Chloroform	41		7.8		ug/m3	1		TO-15	Total/NA
cis-1,2-Dichloroethene	8.3		6.3		ug/m3	1		TO-15	Total/NA
Dichlorodifluoromethane	120		7.9		ug/m3	1		TO-15	Total/NA
Tetrachloroethene	51		11		ug/m3	1		TO-15	Total/NA
Trichloroethene	9.8		8.6		ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	13		9.0		ug/m3	1		TO-15	Total/NA

Client Sample ID: G-221027-BZ-004

Lab Sample ID: 140-29435-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	61		1.0		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethane	48		1.0		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethene	21		1.0		ppb v/v	1		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.2		1.0		ppb v/v	1		TO-15	Total/NA
Chloroethane	1.5		1.0		ppb v/v	1		TO-15	Total/NA
Chloroform	19		1.0		ppb v/v	1		TO-15	Total/NA
cis-1,2-Dichloroethene	1.6		1.0		ppb v/v	1		TO-15	Total/NA
Dichlorodifluoromethane	8.7		1.0		ppb v/v	1		TO-15	Total/NA
Tetrachloroethene	3.0		1.0		ppb v/v	1		TO-15	Total/NA
Trichlorofluoromethane	3.1		1.0		ppb v/v	1		TO-15	Total/NA
Vinyl chloride	28		2.0		ppb v/v	1		TO-15	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	330		5.5		ug/m3	1		TO-15	Total/NA
1,1-Dichloroethane	190		4.0		ug/m3	1		TO-15	Total/NA
1,1-Dichloroethene	82		4.0		ug/m3	1		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	8.1		7.0		ug/m3	1		TO-15	Total/NA
Chloroethane	4.0		2.6		ug/m3	1		TO-15	Total/NA
Chloroform	92		4.9		ug/m3	1		TO-15	Total/NA
cis-1,2-Dichloroethene	6.2		4.0		ug/m3	1		TO-15	Total/NA
Dichlorodifluoromethane	43		4.9		ug/m3	1		TO-15	Total/NA
Tetrachloroethene	20		6.8		ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	18		5.6		ug/m3	1		TO-15	Total/NA
Vinyl chloride	71		5.1		ug/m3	1		TO-15	Total/NA

Client Sample ID: G-221027-BZ-005

Lab Sample ID: 140-29435-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	52		1.0		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethane	61		1.0		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethene	11		1.0		ppb v/v	1		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.1		1.0		ppb v/v	1		TO-15	Total/NA
Chlorodifluoromethane	1.3		1.0		ppb v/v	1		TO-15	Total/NA
Chloroethane	3.7		1.0		ppb v/v	1		TO-15	Total/NA
Chloroform	7.7		1.0		ppb v/v	1		TO-15	Total/NA
cis-1,2-Dichloroethene	2.0		1.0		ppb v/v	1		TO-15	Total/NA
Tetrachloroethene	14		1.0		ppb v/v	1		TO-15	Total/NA
Trichloroethene	1.9		1.0		ppb v/v	1		TO-15	Total/NA
Trichlorofluoromethane	3.9		1.0		ppb v/v	1		TO-15	Total/NA
1,1,1-Trichloroethane	280		5.5		ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Knoxville

Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-005 (Continued)

Lab Sample ID: 140-29435-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	250		4.0		ug/m3	1		TO-15	Total/NA
1,1-Dichloroethene	44		4.0		ug/m3	1		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	22		7.0		ug/m3	1		TO-15	Total/NA
Chlorodifluoromethane	4.6		3.5		ug/m3	1		TO-15	Total/NA
Chloroethane	9.8		2.6		ug/m3	1		TO-15	Total/NA
Chloroform	37		4.9		ug/m3	1		TO-15	Total/NA
cis-1,2-Dichloroethene	7.8		4.0		ug/m3	1		TO-15	Total/NA
Tetrachloroethene	94		6.8		ug/m3	1		TO-15	Total/NA
Trichloroethene	10		5.4		ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	22		5.6		ug/m3	1		TO-15	Total/NA

Client Sample ID: G-221027-BZ-006

Lab Sample ID: 140-29435-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	26		0.67		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethane	7.0		0.67		ppb v/v	1		TO-15	Total/NA
1,1-Dichloroethene	4.7		0.67		ppb v/v	1		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.6		0.67		ppb v/v	1		TO-15	Total/NA
Butane	5.2		3.3		ppb v/v	1		TO-15	Total/NA
Chlorodifluoromethane	3.6		0.67		ppb v/v	1		TO-15	Total/NA
Chloroform	15		0.67		ppb v/v	1		TO-15	Total/NA
Dichlorodifluoromethane	57		0.67		ppb v/v	1		TO-15	Total/NA
Tetrachloroethene	4.7		0.67		ppb v/v	1		TO-15	Total/NA
Trichlorofluoromethane	41		0.67		ppb v/v	1		TO-15	Total/NA
Vinyl chloride	1.6		1.3		ppb v/v	1		TO-15	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	140		3.6		ug/m3	1		TO-15	Total/NA
1,1-Dichloroethane	28		2.7		ug/m3	1		TO-15	Total/NA
1,1-Dichloroethene	19		2.6		ug/m3	1		TO-15	Total/NA
1,2-Dichloro-1,1,2,2-tetrafluoroethane	18		4.7		ug/m3	1		TO-15	Total/NA
Butane	12		7.9		ug/m3	1		TO-15	Total/NA
Chlorodifluoromethane	13		2.4		ug/m3	1		TO-15	Total/NA
Chloroform	73		3.3		ug/m3	1		TO-15	Total/NA
Dichlorodifluoromethane	280		3.3		ug/m3	1		TO-15	Total/NA
Tetrachloroethene	32		4.5		ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	230		3.7		ug/m3	1		TO-15	Total/NA
Vinyl chloride	4.0		3.4		ug/m3	1		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-001

Lab Sample ID: 140-29435-1

Date Collected: 10/27/22 13:43

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	35		0.41		ppb v/v			11/08/22 23:21	1.55
1,1,2,2-Tetrachloroethane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
1,1,2-Trichloroethane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
1,1-Dichloroethane	26		0.41		ppb v/v			11/08/22 23:21	1.55
1,1-Dichloroethene	6.8		0.41		ppb v/v			11/08/22 23:21	1.55
1,2,4-Trichlorobenzene	ND		2.1		ppb v/v			11/08/22 23:21	1.55
1,2,4-Trimethylbenzene	0.58		0.41		ppb v/v			11/08/22 23:21	1.55
1,2-Dibromoethane (EDB)	ND		0.41		ppb v/v			11/08/22 23:21	1.55
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.3		0.41		ppb v/v			11/08/22 23:21	1.55
1,2-Dichlorobenzene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
1,2-Dichloroethane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
1,2-Dichloropropane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
1,3,5-Trimethylbenzene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
1,3-Butadiene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
1,3-Dichlorobenzene	ND		0.41		ppb v/v			11/08/22 23:21	1.55
1,4-Dichlorobenzene	ND		0.41		ppb v/v			11/08/22 23:21	1.55
2-Butanone (MEK)	ND		2.1		ppb v/v			11/08/22 23:21	1.55
2-Hexanone	ND		1.0		ppb v/v			11/08/22 23:21	1.55
3-Chloropropene	ND		0.41		ppb v/v			11/08/22 23:21	1.55
4-Methyl-2-pentanone (MIBK)	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Acetone	ND		16		ppb v/v			11/08/22 23:21	1.55
Acetonitrile	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Acrolein	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Acrylonitrile	ND		4.1		ppb v/v			11/08/22 23:21	1.55
Alpha Methyl Styrene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Benzene	0.93		0.41		ppb v/v			11/08/22 23:21	1.55
Benzyl chloride	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Bromodichloromethane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Bromoform	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Bromomethane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Butane	4.1		2.1		ppb v/v			11/08/22 23:21	1.55
Carbon disulfide	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Carbon tetrachloride	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Chlorobenzene	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Chlorodifluoromethane	3.4		0.41		ppb v/v			11/08/22 23:21	1.55
Chloroethane	5.7		0.41		ppb v/v			11/08/22 23:21	1.55
Chloroform	4.5		0.41		ppb v/v			11/08/22 23:21	1.55
Chloromethane	ND		2.1		ppb v/v			11/08/22 23:21	1.55
cis-1,2-Dichloroethene	2.9		0.41		ppb v/v			11/08/22 23:21	1.55
cis-1,3-Dichloropropene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Cumene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Cyclohexane	2.0		0.83		ppb v/v			11/08/22 23:21	1.55
Decane	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Dibromochloromethane	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Dibromomethane	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Dichlorodifluoromethane	11		0.41		ppb v/v			11/08/22 23:21	1.55
Dodecane	ND		2.1		ppb v/v			11/08/22 23:21	1.55

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-001

Lab Sample ID: 140-29435-1

Date Collected: 10/27/22 13:43

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl ether	ND		4.1		ppb v/v			11/08/22 23:21	1.55
Ethylbenzene	1.0		0.41		ppb v/v			11/08/22 23:21	1.55
Heptane	0.95		0.83		ppb v/v			11/08/22 23:21	1.55
Hexachlorobutadiene	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Hexane	1.4		0.83		ppb v/v			11/08/22 23:21	1.55
Methyl tert-butyl ether	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Methylene Chloride	ND		2.1		ppb v/v			11/08/22 23:21	1.55
m-Xylene & p-Xylene	1.8		0.41		ppb v/v			11/08/22 23:21	1.55
Naphthalene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Nonane	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Octane	ND		0.83		ppb v/v			11/08/22 23:21	1.55
o-Xylene	0.56		0.41		ppb v/v			11/08/22 23:21	1.55
Pentane	ND		5.2		ppb v/v			11/08/22 23:21	1.55
Propylbenzene	ND		0.83		ppb v/v			11/08/22 23:21	1.55
Styrene	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Tetrachloroethene	7.1		0.41		ppb v/v			11/08/22 23:21	1.55
Toluene	ND		2.1		ppb v/v			11/08/22 23:21	1.55
trans-1,2-Dichloroethene	ND		0.41		ppb v/v			11/08/22 23:21	1.55
trans-1,3-Dichloropropene	ND		0.41		ppb v/v			11/08/22 23:21	1.55
Trichloroethene	0.91		0.41		ppb v/v			11/08/22 23:21	1.55
Trichlorofluoromethane	11		0.41		ppb v/v			11/08/22 23:21	1.55
Undecane	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Vinyl acetate	ND		2.1		ppb v/v			11/08/22 23:21	1.55
Vinyl chloride	4.9		0.83		ppb v/v			11/08/22 23:21	1.55
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	190		2.3		ug/m3			11/08/22 23:21	1.55
1,1,2,2-Tetrachloroethane	ND		2.8		ug/m3			11/08/22 23:21	1.55
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		3.2		ug/m3			11/08/22 23:21	1.55
1,1,2-Trichloroethane	ND		2.3		ug/m3			11/08/22 23:21	1.55
1,1-Dichloroethane	110		1.7		ug/m3			11/08/22 23:21	1.55
1,1-Dichloroethene	27		1.6		ug/m3			11/08/22 23:21	1.55
1,2,4-Trichlorobenzene	ND		15		ug/m3			11/08/22 23:21	1.55
1,2,4-Trimethylbenzene	2.9		2.0		ug/m3			11/08/22 23:21	1.55
1,2-Dibromoethane (EDB)	ND		3.2		ug/m3			11/08/22 23:21	1.55
1,2-Dichloro-1,1,2,2-tetrafluoroethane	16		2.9		ug/m3			11/08/22 23:21	1.55
1,2-Dichlorobenzene	ND		5.0		ug/m3			11/08/22 23:21	1.55
1,2-Dichloroethane	ND		1.7		ug/m3			11/08/22 23:21	1.55
1,2-Dichloropropane	ND		1.9		ug/m3			11/08/22 23:21	1.55
1,3,5-Trimethylbenzene	ND		4.1		ug/m3			11/08/22 23:21	1.55
1,3-Butadiene	ND		1.8		ug/m3			11/08/22 23:21	1.55
1,3-Dichlorobenzene	ND		2.5		ug/m3			11/08/22 23:21	1.55
1,4-Dichlorobenzene	ND		2.5		ug/m3			11/08/22 23:21	1.55
2-Butanone (MEK)	ND		6.1		ug/m3			11/08/22 23:21	1.55
2-Hexanone	ND		4.2		ug/m3			11/08/22 23:21	1.55
3-Chloropropene	ND		1.3		ug/m3			11/08/22 23:21	1.55
4-Methyl-2-pentanone (MIBK)	ND		8.5		ug/m3			11/08/22 23:21	1.55
Acetone	ND		37		ug/m3			11/08/22 23:21	1.55

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-001

Lab Sample ID: 140-29435-1

Date Collected: 10/27/22 13:43

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	ND		3.5		ug/m3			11/08/22 23:21	1.55
Acrolein	ND		4.7		ug/m3			11/08/22 23:21	1.55
Acrylonitrile	ND		9.0		ug/m3			11/08/22 23:21	1.55
Alpha Methyl Styrene	ND		4.0		ug/m3			11/08/22 23:21	1.55
Benzene	3.0		1.3		ug/m3			11/08/22 23:21	1.55
Benzyl chloride	ND		4.3		ug/m3			11/08/22 23:21	1.55
Bromodichloromethane	ND		2.8		ug/m3			11/08/22 23:21	1.55
Bromoform	ND		4.3		ug/m3			11/08/22 23:21	1.55
Bromomethane	ND		1.6		ug/m3			11/08/22 23:21	1.55
Butane	9.6		4.9		ug/m3			11/08/22 23:21	1.55
Carbon disulfide	ND		2.6		ug/m3			11/08/22 23:21	1.55
Carbon tetrachloride	ND		2.6		ug/m3			11/08/22 23:21	1.55
Chlorobenzene	ND		1.9		ug/m3			11/08/22 23:21	1.55
Chlorodifluoromethane	12		1.5		ug/m3			11/08/22 23:21	1.55
Chloroethane	15		1.1		ug/m3			11/08/22 23:21	1.55
Chloroform	22		2.0		ug/m3			11/08/22 23:21	1.55
Chloromethane	ND		4.3		ug/m3			11/08/22 23:21	1.55
cis-1,2-Dichloroethene	11		1.6		ug/m3			11/08/22 23:21	1.55
cis-1,3-Dichloropropene	ND		3.8		ug/m3			11/08/22 23:21	1.55
Cumene	ND		4.1		ug/m3			11/08/22 23:21	1.55
Cyclohexane	7.0		2.8		ug/m3			11/08/22 23:21	1.55
Decane	ND		12		ug/m3			11/08/22 23:21	1.55
Dibromochloromethane	ND		3.5		ug/m3			11/08/22 23:21	1.55
Dibromomethane	ND		5.9		ug/m3			11/08/22 23:21	1.55
Dichlorodifluoromethane	54		2.0		ug/m3			11/08/22 23:21	1.55
Dodecane	ND		14		ug/m3			11/08/22 23:21	1.55
Ethyl ether	ND		13		ug/m3			11/08/22 23:21	1.55
Ethylbenzene	4.4		1.8		ug/m3			11/08/22 23:21	1.55
Heptane	3.9		3.4		ug/m3			11/08/22 23:21	1.55
Hexachlorobutadiene	ND		22		ug/m3			11/08/22 23:21	1.55
Hexane	5.0		2.9		ug/m3			11/08/22 23:21	1.55
Methyl tert-butyl ether	ND		7.5		ug/m3			11/08/22 23:21	1.55
Methylene Chloride	ND		7.2		ug/m3			11/08/22 23:21	1.55
m-Xylene & p-Xylene	7.7		1.8		ug/m3			11/08/22 23:21	1.55
Naphthalene	ND		4.3		ug/m3			11/08/22 23:21	1.55
Nonane	ND		4.3		ug/m3			11/08/22 23:21	1.55
Octane	ND		3.9		ug/m3			11/08/22 23:21	1.55
o-Xylene	2.4		1.8		ug/m3			11/08/22 23:21	1.55
Pentane	ND		15		ug/m3			11/08/22 23:21	1.55
Propylbenzene	ND		4.1		ug/m3			11/08/22 23:21	1.55
Styrene	ND		1.8		ug/m3			11/08/22 23:21	1.55
Tetrachloroethene	48		2.8		ug/m3			11/08/22 23:21	1.55
Toluene	ND		7.8		ug/m3			11/08/22 23:21	1.55
trans-1,2-Dichloroethene	ND		1.6		ug/m3			11/08/22 23:21	1.55
trans-1,3-Dichloropropene	ND		1.9		ug/m3			11/08/22 23:21	1.55
Trichloroethene	4.9		2.2		ug/m3			11/08/22 23:21	1.55
Trichlorofluoromethane	63		2.3		ug/m3			11/08/22 23:21	1.55
Undecane	ND		13		ug/m3			11/08/22 23:21	1.55

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-001

Lab Sample ID: 140-29435-1

Date Collected: 10/27/22 13:43

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND		7.3		ug/m3			11/08/22 23:21	1.55
Vinyl chloride	13		2.1		ug/m3			11/08/22 23:21	1.55
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					11/08/22 23:21	1.55

Client Sample ID: G-221027-BZ-002

Lab Sample ID: 140-29435-2

Date Collected: 10/27/22 14:06

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	20		0.76		ppb v/v			11/09/22 00:04	1.89
1,1,2,2-Tetrachloroethane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,1,2-Trichloroethane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,1-Dichloroethane	31		0.76		ppb v/v			11/09/22 00:04	1.89
1,1-Dichloroethene	4.9		0.76		ppb v/v			11/09/22 00:04	1.89
1,2,4-Trichlorobenzene	ND		3.8		ppb v/v			11/09/22 00:04	1.89
1,2,4-Trimethylbenzene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,2-Dibromoethane (EDB)	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.2		0.76		ppb v/v			11/09/22 00:04	1.89
1,2-Dichlorobenzene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
1,2-Dichloroethane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,2-Dichloropropane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,3,5-Trimethylbenzene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
1,3-Butadiene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
1,3-Dichlorobenzene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
1,4-Dichlorobenzene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
2-Butanone (MEK)	ND		3.8		ppb v/v			11/09/22 00:04	1.89
2-Hexanone	ND		1.9		ppb v/v			11/09/22 00:04	1.89
3-Chloropropene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
4-Methyl-2-pentanone (MIBK)	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Acetone	ND		28		ppb v/v			11/09/22 00:04	1.89
Acetonitrile	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Acrolein	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Acrylonitrile	ND		7.6		ppb v/v			11/09/22 00:04	1.89
Alpha Methyl Styrene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Benzene	1.0		0.76		ppb v/v			11/09/22 00:04	1.89
Benzyl chloride	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Bromodichloromethane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Bromoform	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Bromomethane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Butane	8.4		3.8		ppb v/v			11/09/22 00:04	1.89
Carbon disulfide	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Carbon tetrachloride	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Chlorobenzene	ND		0.76		ppb v/v			11/09/22 00:04	1.89

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-002

Lab Sample ID: 140-29435-2

Date Collected: 10/27/22 14:06

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodifluoromethane	4.4		0.76		ppb v/v			11/09/22 00:04	1.89
Chloroethane	29		0.76		ppb v/v			11/09/22 00:04	1.89
Chloroform	1.4		0.76		ppb v/v			11/09/22 00:04	1.89
Chloromethane	ND		3.8		ppb v/v			11/09/22 00:04	1.89
cis-1,2-Dichloroethene	21		0.76		ppb v/v			11/09/22 00:04	1.89
cis-1,3-Dichloropropene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Cumene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Cyclohexane	1.8		1.5		ppb v/v			11/09/22 00:04	1.89
Decane	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Dibromochloromethane	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Dibromomethane	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Dichlorodifluoromethane	5.0		0.76		ppb v/v			11/09/22 00:04	1.89
Dodecane	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Ethyl ether	ND		7.6		ppb v/v			11/09/22 00:04	1.89
Ethylbenzene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Heptane	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Hexachlorobutadiene	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Hexane	3.0		1.5		ppb v/v			11/09/22 00:04	1.89
Methyl tert-butyl ether	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Methylene Chloride	ND		3.8		ppb v/v			11/09/22 00:04	1.89
m-Xylene & p-Xylene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Naphthalene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Nonane	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Octane	ND		1.5		ppb v/v			11/09/22 00:04	1.89
o-Xylene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Pentane	ND		9.5		ppb v/v			11/09/22 00:04	1.89
Propylbenzene	ND		1.5		ppb v/v			11/09/22 00:04	1.89
Styrene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Tetrachloroethene	2.7		0.76		ppb v/v			11/09/22 00:04	1.89
Toluene	ND		3.8		ppb v/v			11/09/22 00:04	1.89
trans-1,2-Dichloroethene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
trans-1,3-Dichloropropene	ND		0.76		ppb v/v			11/09/22 00:04	1.89
Trichloroethene	0.77		0.76		ppb v/v			11/09/22 00:04	1.89
Trichlorofluoromethane	2.9		0.76		ppb v/v			11/09/22 00:04	1.89
Undecane	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Vinyl acetate	ND		3.8		ppb v/v			11/09/22 00:04	1.89
Vinyl chloride	5.0		1.5		ppb v/v			11/09/22 00:04	1.89
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	110		4.1		ug/m3			11/09/22 00:04	1.89
1,1,2,2-Tetrachloroethane	ND		5.2		ug/m3			11/09/22 00:04	1.89
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.8		ug/m3			11/09/22 00:04	1.89
1,1,2-Trichloroethane	ND		4.1		ug/m3			11/09/22 00:04	1.89
1,1-Dichloroethane	130		3.1		ug/m3			11/09/22 00:04	1.89
1,1-Dichloroethene	19		3.0		ug/m3			11/09/22 00:04	1.89
1,2,4-Trichlorobenzene	ND		28		ug/m3			11/09/22 00:04	1.89
1,2,4-Trimethylbenzene	ND		3.7		ug/m3			11/09/22 00:04	1.89
1,2-Dibromoethane (EDB)	ND		5.8		ug/m3			11/09/22 00:04	1.89

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-002

Lab Sample ID: 140-29435-2

Date Collected: 10/27/22 14:06

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloro-1,1,2,2-tetrafluoroethane	23		5.3		ug/m3			11/09/22 00:04	1.89
1,2-Dichlorobenzene	ND		9.1		ug/m3			11/09/22 00:04	1.89
1,2-Dichloroethane	ND		3.1		ug/m3			11/09/22 00:04	1.89
1,2-Dichloropropane	ND		3.5		ug/m3			11/09/22 00:04	1.89
1,3,5-Trimethylbenzene	ND		7.4		ug/m3			11/09/22 00:04	1.89
1,3-Butadiene	ND		3.3		ug/m3			11/09/22 00:04	1.89
1,3-Dichlorobenzene	ND		4.5		ug/m3			11/09/22 00:04	1.89
1,4-Dichlorobenzene	ND		4.5		ug/m3			11/09/22 00:04	1.89
2-Butanone (MEK)	ND		11		ug/m3			11/09/22 00:04	1.89
2-Hexanone	ND		7.7		ug/m3			11/09/22 00:04	1.89
3-Chloropropene	ND		2.4		ug/m3			11/09/22 00:04	1.89
4-Methyl-2-pentanone (MIBK)	ND		15		ug/m3			11/09/22 00:04	1.89
Acetone	ND		67		ug/m3			11/09/22 00:04	1.89
Acetonitrile	ND		6.3		ug/m3			11/09/22 00:04	1.89
Acrolein	ND		8.7		ug/m3			11/09/22 00:04	1.89
Acrylonitrile	ND		16		ug/m3			11/09/22 00:04	1.89
Alpha Methyl Styrene	ND		7.3		ug/m3			11/09/22 00:04	1.89
Benzene	3.2		2.4		ug/m3			11/09/22 00:04	1.89
Benzyl chloride	ND		7.8		ug/m3			11/09/22 00:04	1.89
Bromodichloromethane	ND		5.1		ug/m3			11/09/22 00:04	1.89
Bromoform	ND		7.8		ug/m3			11/09/22 00:04	1.89
Bromomethane	ND		2.9		ug/m3			11/09/22 00:04	1.89
Butane	20		9.0		ug/m3			11/09/22 00:04	1.89
Carbon disulfide	ND		4.7		ug/m3			11/09/22 00:04	1.89
Carbon tetrachloride	ND		4.8		ug/m3			11/09/22 00:04	1.89
Chlorobenzene	ND		3.5		ug/m3			11/09/22 00:04	1.89
Chlorodifluoromethane	15		2.7		ug/m3			11/09/22 00:04	1.89
Chloroethane	77		2.0		ug/m3			11/09/22 00:04	1.89
Chloroform	6.7		3.7		ug/m3			11/09/22 00:04	1.89
Chloromethane	ND		7.8		ug/m3			11/09/22 00:04	1.89
cis-1,2-Dichloroethene	83		3.0		ug/m3			11/09/22 00:04	1.89
cis-1,3-Dichloropropene	ND		6.9		ug/m3			11/09/22 00:04	1.89
Cumene	ND		7.4		ug/m3			11/09/22 00:04	1.89
Cyclohexane	6.1		5.2		ug/m3			11/09/22 00:04	1.89
Decane	ND		22		ug/m3			11/09/22 00:04	1.89
Dibromochloromethane	ND		6.4		ug/m3			11/09/22 00:04	1.89
Dibromomethane	ND		11		ug/m3			11/09/22 00:04	1.89
Dichlorodifluoromethane	25		3.7		ug/m3			11/09/22 00:04	1.89
Dodecane	ND		26		ug/m3			11/09/22 00:04	1.89
Ethyl ether	ND		23		ug/m3			11/09/22 00:04	1.89
Ethylbenzene	ND		3.3		ug/m3			11/09/22 00:04	1.89
Heptane	ND		6.2		ug/m3			11/09/22 00:04	1.89
Hexachlorobutadiene	ND		40		ug/m3			11/09/22 00:04	1.89
Hexane	10		5.3		ug/m3			11/09/22 00:04	1.89
Methyl tert-butyl ether	ND		14		ug/m3			11/09/22 00:04	1.89
Methylene Chloride	ND		13		ug/m3			11/09/22 00:04	1.89
m-Xylene & p-Xylene	ND		3.3		ug/m3			11/09/22 00:04	1.89
Naphthalene	ND		7.9		ug/m3			11/09/22 00:04	1.89

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-002

Lab Sample ID: 140-29435-2

Date Collected: 10/27/22 14:06

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nonane	ND		7.9		ug/m3			11/09/22 00:04	1.89
Octane	ND		7.1		ug/m3			11/09/22 00:04	1.89
o-Xylene	ND		3.3		ug/m3			11/09/22 00:04	1.89
Pentane	ND		28		ug/m3			11/09/22 00:04	1.89
Propylbenzene	ND		7.4		ug/m3			11/09/22 00:04	1.89
Styrene	ND		3.2		ug/m3			11/09/22 00:04	1.89
Tetrachloroethene	18		5.1		ug/m3			11/09/22 00:04	1.89
Toluene	ND		14		ug/m3			11/09/22 00:04	1.89
trans-1,2-Dichloroethene	ND		3.0		ug/m3			11/09/22 00:04	1.89
trans-1,3-Dichloropropene	ND		3.4		ug/m3			11/09/22 00:04	1.89
Trichloroethene	4.1		4.1		ug/m3			11/09/22 00:04	1.89
Trichlorofluoromethane	16		4.2		ug/m3			11/09/22 00:04	1.89
Undecane	ND		24		ug/m3			11/09/22 00:04	1.89
Vinyl acetate	ND		13		ug/m3			11/09/22 00:04	1.89
Vinyl chloride	13		3.9		ug/m3			11/09/22 00:04	1.89
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					11/09/22 00:04	1.89

Client Sample ID: G-221027-BZ-003

Lab Sample ID: 140-29435-3

Date Collected: 10/27/22 14:15

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	110		1.6		ppb v/v			11/09/22 00:47	1
1,1,2,2-Tetrachloroethane	ND		1.6		ppb v/v			11/09/22 00:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.6		ppb v/v			11/09/22 00:47	1
1,1,2-Trichloroethane	ND		1.6		ppb v/v			11/09/22 00:47	1
1,1-Dichloroethane	79		1.6		ppb v/v			11/09/22 00:47	1
1,1-Dichloroethene	32		1.6		ppb v/v			11/09/22 00:47	1
1,2,4-Trichlorobenzene	ND		8.0		ppb v/v			11/09/22 00:47	1
1,2,4-Trimethylbenzene	ND		1.6		ppb v/v			11/09/22 00:47	1
1,2-Dibromoethane (EDB)	ND		1.6		ppb v/v			11/09/22 00:47	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		1.6		ppb v/v			11/09/22 00:47	1
1,2-Dichlorobenzene	ND		3.2		ppb v/v			11/09/22 00:47	1
1,2-Dichloroethane	ND		1.6		ppb v/v			11/09/22 00:47	1
1,2-Dichloropropane	ND		1.6		ppb v/v			11/09/22 00:47	1
1,3,5-Trimethylbenzene	ND		3.2		ppb v/v			11/09/22 00:47	1
1,3-Butadiene	ND		3.2		ppb v/v			11/09/22 00:47	1
1,3-Dichlorobenzene	ND		1.6		ppb v/v			11/09/22 00:47	1
1,4-Dichlorobenzene	ND		1.6		ppb v/v			11/09/22 00:47	1
2-Butanone (MEK)	ND		8.0		ppb v/v			11/09/22 00:47	1
2-Hexanone	ND		4.0		ppb v/v			11/09/22 00:47	1
3-Chloropropene	ND		1.6		ppb v/v			11/09/22 00:47	1
4-Methyl-2-pentanone (MIBK)	ND		8.0		ppb v/v			11/09/22 00:47	1
Acetone	ND		60		ppb v/v			11/09/22 00:47	1
Acetonitrile	ND		8.0		ppb v/v			11/09/22 00:47	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-003

Lab Sample ID: 140-29435-3

Date Collected: 10/27/22 14:15

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		8.0		ppb v/v			11/09/22 00:47	1
Acrylonitrile	ND		16		ppb v/v			11/09/22 00:47	1
Alpha Methyl Styrene	ND		3.2		ppb v/v			11/09/22 00:47	1
Benzene	ND		1.6		ppb v/v			11/09/22 00:47	1
Benzyl chloride	ND		3.2		ppb v/v			11/09/22 00:47	1
Bromodichloromethane	ND		1.6		ppb v/v			11/09/22 00:47	1
Bromoform	ND		1.6		ppb v/v			11/09/22 00:47	1
Bromomethane	ND		1.6		ppb v/v			11/09/22 00:47	1
Butane	ND		8.0		ppb v/v			11/09/22 00:47	1
Carbon disulfide	ND		3.2		ppb v/v			11/09/22 00:47	1
Carbon tetrachloride	ND		1.6		ppb v/v			11/09/22 00:47	1
Chlorobenzene	ND		1.6		ppb v/v			11/09/22 00:47	1
Chlorodifluoromethane	ND		1.6		ppb v/v			11/09/22 00:47	1
Chloroethane	11		1.6		ppb v/v			11/09/22 00:47	1
Chloroform	8.5		1.6		ppb v/v			11/09/22 00:47	1
Chloromethane	ND		8.0		ppb v/v			11/09/22 00:47	1
cis-1,2-Dichloroethene	2.1		1.6		ppb v/v			11/09/22 00:47	1
cis-1,3-Dichloropropene	ND		3.2		ppb v/v			11/09/22 00:47	1
Cumene	ND		3.2		ppb v/v			11/09/22 00:47	1
Cyclohexane	ND		3.2		ppb v/v			11/09/22 00:47	1
Decane	ND		8.0		ppb v/v			11/09/22 00:47	1
Dibromochloromethane	ND		1.6		ppb v/v			11/09/22 00:47	1
Dibromomethane	ND		3.2		ppb v/v			11/09/22 00:47	1
Dichlorodifluoromethane	24		1.6		ppb v/v			11/09/22 00:47	1
Dodecane	ND		8.0		ppb v/v			11/09/22 00:47	1
Ethyl ether	ND		16		ppb v/v			11/09/22 00:47	1
Ethylbenzene	ND		1.6		ppb v/v			11/09/22 00:47	1
Heptane	ND		3.2		ppb v/v			11/09/22 00:47	1
Hexachlorobutadiene	ND		8.0		ppb v/v			11/09/22 00:47	1
Hexane	ND		3.2		ppb v/v			11/09/22 00:47	1
Methyl tert-butyl ether	ND		8.0		ppb v/v			11/09/22 00:47	1
Methylene Chloride	ND		8.0		ppb v/v			11/09/22 00:47	1
m-Xylene & p-Xylene	ND		1.6		ppb v/v			11/09/22 00:47	1
Naphthalene	ND		3.2		ppb v/v			11/09/22 00:47	1
Nonane	ND		3.2		ppb v/v			11/09/22 00:47	1
Octane	ND		3.2		ppb v/v			11/09/22 00:47	1
o-Xylene	ND		1.6		ppb v/v			11/09/22 00:47	1
Pentane	ND		20		ppb v/v			11/09/22 00:47	1
Propylbenzene	ND		3.2		ppb v/v			11/09/22 00:47	1
Styrene	ND		1.6		ppb v/v			11/09/22 00:47	1
Tetrachloroethene	7.6		1.6		ppb v/v			11/09/22 00:47	1
Toluene	ND		8.0		ppb v/v			11/09/22 00:47	1
trans-1,2-Dichloroethene	ND		1.6		ppb v/v			11/09/22 00:47	1
trans-1,3-Dichloropropene	ND		1.6		ppb v/v			11/09/22 00:47	1
Trichloroethene	1.8		1.6		ppb v/v			11/09/22 00:47	1
Trichlorofluoromethane	2.3		1.6		ppb v/v			11/09/22 00:47	1
Undecane	ND		8.0		ppb v/v			11/09/22 00:47	1
Vinyl acetate	ND		8.0		ppb v/v			11/09/22 00:47	1

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-003

Lab Sample ID: 140-29435-3

Date Collected: 10/27/22 14:15

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		3.2		ppb v/v			11/09/22 00:47	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	590		8.7		ug/m3			11/09/22 00:47	1
1,1,2,2-Tetrachloroethane	ND		11		ug/m3			11/09/22 00:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		12		ug/m3			11/09/22 00:47	1
1,1,2-Trichloroethane	ND		8.7		ug/m3			11/09/22 00:47	1
1,1-Dichloroethane	320		6.5		ug/m3			11/09/22 00:47	1
1,1-Dichloroethene	130		6.3		ug/m3			11/09/22 00:47	1
1,2,4-Trichlorobenzene	ND		59		ug/m3			11/09/22 00:47	1
1,2,4-Trimethylbenzene	ND		7.9		ug/m3			11/09/22 00:47	1
1,2-Dibromoethane (EDB)	ND		12		ug/m3			11/09/22 00:47	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		11		ug/m3			11/09/22 00:47	1
1,2-Dichlorobenzene	ND		19		ug/m3			11/09/22 00:47	1
1,2-Dichloroethane	ND		6.5		ug/m3			11/09/22 00:47	1
1,2-Dichloropropane	ND		7.4		ug/m3			11/09/22 00:47	1
1,3,5-Trimethylbenzene	ND		16		ug/m3			11/09/22 00:47	1
1,3-Butadiene	ND		7.1		ug/m3			11/09/22 00:47	1
1,3-Dichlorobenzene	ND		9.6		ug/m3			11/09/22 00:47	1
1,4-Dichlorobenzene	ND		9.6		ug/m3			11/09/22 00:47	1
2-Butanone (MEK)	ND		24		ug/m3			11/09/22 00:47	1
2-Hexanone	ND		16		ug/m3			11/09/22 00:47	1
3-Chloropropene	ND		5.0		ug/m3			11/09/22 00:47	1
4-Methyl-2-pentanone (MIBK)	ND		33		ug/m3			11/09/22 00:47	1
Acetone	ND		140		ug/m3			11/09/22 00:47	1
Acetonitrile	ND		13		ug/m3			11/09/22 00:47	1
Acrolein	ND		18		ug/m3			11/09/22 00:47	1
Acrylonitrile	ND		35		ug/m3			11/09/22 00:47	1
Alpha Methyl Styrene	ND		15		ug/m3			11/09/22 00:47	1
Benzene	ND		5.1		ug/m3			11/09/22 00:47	1
Benzyl chloride	ND		17		ug/m3			11/09/22 00:47	1
Bromodichloromethane	ND		11		ug/m3			11/09/22 00:47	1
Bromoform	ND		17		ug/m3			11/09/22 00:47	1
Bromomethane	ND		6.2		ug/m3			11/09/22 00:47	1
Butane	ND		19		ug/m3			11/09/22 00:47	1
Carbon disulfide	ND		10		ug/m3			11/09/22 00:47	1
Carbon tetrachloride	ND		10		ug/m3			11/09/22 00:47	1
Chlorobenzene	ND		7.4		ug/m3			11/09/22 00:47	1
Chlorodifluoromethane	ND		5.7		ug/m3			11/09/22 00:47	1
Chloroethane	28		4.2		ug/m3			11/09/22 00:47	1
Chloroform	41		7.8		ug/m3			11/09/22 00:47	1
Chloromethane	ND		17		ug/m3			11/09/22 00:47	1
cis-1,2-Dichloroethene	8.3		6.3		ug/m3			11/09/22 00:47	1
cis-1,3-Dichloropropene	ND		15		ug/m3			11/09/22 00:47	1
Cumene	ND		16		ug/m3			11/09/22 00:47	1
Cyclohexane	ND		11		ug/m3			11/09/22 00:47	1
Decane	ND		47		ug/m3			11/09/22 00:47	1
Dibromochloromethane	ND		14		ug/m3			11/09/22 00:47	1
Dibromomethane	ND		23		ug/m3			11/09/22 00:47	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-003

Lab Sample ID: 140-29435-3

Date Collected: 10/27/22 14:15

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	120		7.9		ug/m3			11/09/22 00:47	1
Dodecane	ND		56		ug/m3			11/09/22 00:47	1
Ethyl ether	ND		49		ug/m3			11/09/22 00:47	1
Ethylbenzene	ND		6.9		ug/m3			11/09/22 00:47	1
Heptane	ND		13		ug/m3			11/09/22 00:47	1
Hexachlorobutadiene	ND		85		ug/m3			11/09/22 00:47	1
Hexane	ND		11		ug/m3			11/09/22 00:47	1
Methyl tert-butyl ether	ND		29		ug/m3			11/09/22 00:47	1
Methylene Chloride	ND		28		ug/m3			11/09/22 00:47	1
m-Xylene & p-Xylene	ND		6.9		ug/m3			11/09/22 00:47	1
Naphthalene	ND		17		ug/m3			11/09/22 00:47	1
Nonane	ND		17		ug/m3			11/09/22 00:47	1
Octane	ND		15		ug/m3			11/09/22 00:47	1
o-Xylene	ND		6.9		ug/m3			11/09/22 00:47	1
Pentane	ND		59		ug/m3			11/09/22 00:47	1
Propylbenzene	ND		16		ug/m3			11/09/22 00:47	1
Styrene	ND		6.8		ug/m3			11/09/22 00:47	1
Tetrachloroethene	51		11		ug/m3			11/09/22 00:47	1
Toluene	ND		30		ug/m3			11/09/22 00:47	1
trans-1,2-Dichloroethene	ND		6.3		ug/m3			11/09/22 00:47	1
trans-1,3-Dichloropropene	ND		7.3		ug/m3			11/09/22 00:47	1
Trichloroethene	9.8		8.6		ug/m3			11/09/22 00:47	1
Trichlorofluoromethane	13		9.0		ug/m3			11/09/22 00:47	1
Undecane	ND		51		ug/m3			11/09/22 00:47	1
Vinyl acetate	ND		28		ug/m3			11/09/22 00:47	1
Vinyl chloride	ND		8.2		ug/m3			11/09/22 00:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					11/09/22 00:47	1

Client Sample ID: G-221027-BZ-004

Lab Sample ID: 140-29435-4

Date Collected: 10/27/22 14:25

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	61		1.0		ppb v/v			11/09/22 01:29	1
1,1,2,2-Tetrachloroethane	ND		1.0		ppb v/v			11/09/22 01:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0		ppb v/v			11/09/22 01:29	1
1,1,2-Trichloroethane	ND		1.0		ppb v/v			11/09/22 01:29	1
1,1-Dichloroethane	48		1.0		ppb v/v			11/09/22 01:29	1
1,1-Dichloroethene	21		1.0		ppb v/v			11/09/22 01:29	1
1,2,4-Trichlorobenzene	ND		5.0		ppb v/v			11/09/22 01:29	1
1,2,4-Trimethylbenzene	ND		1.0		ppb v/v			11/09/22 01:29	1
1,2-Dibromoethane (EDB)	ND		1.0		ppb v/v			11/09/22 01:29	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.2		1.0		ppb v/v			11/09/22 01:29	1
1,2-Dichlorobenzene	ND		2.0		ppb v/v			11/09/22 01:29	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-004

Lab Sample ID: 140-29435-4

Date Collected: 10/27/22 14:25

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ppb v/v			11/09/22 01:29	1
1,2-Dichloropropane	ND		1.0		ppb v/v			11/09/22 01:29	1
1,3,5-Trimethylbenzene	ND		2.0		ppb v/v			11/09/22 01:29	1
1,3-Butadiene	ND		2.0		ppb v/v			11/09/22 01:29	1
1,3-Dichlorobenzene	ND		1.0		ppb v/v			11/09/22 01:29	1
1,4-Dichlorobenzene	ND		1.0		ppb v/v			11/09/22 01:29	1
2-Butanone (MEK)	ND		5.0		ppb v/v			11/09/22 01:29	1
2-Hexanone	ND		2.5		ppb v/v			11/09/22 01:29	1
3-Chloropropene	ND		1.0		ppb v/v			11/09/22 01:29	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ppb v/v			11/09/22 01:29	1
Acetone	ND		38		ppb v/v			11/09/22 01:29	1
Acetonitrile	ND		5.0		ppb v/v			11/09/22 01:29	1
Acrolein	ND		5.0		ppb v/v			11/09/22 01:29	1
Acrylonitrile	ND		10		ppb v/v			11/09/22 01:29	1
Alpha Methyl Styrene	ND		2.0		ppb v/v			11/09/22 01:29	1
Benzene	ND		1.0		ppb v/v			11/09/22 01:29	1
Benzyl chloride	ND		2.0		ppb v/v			11/09/22 01:29	1
Bromodichloromethane	ND		1.0		ppb v/v			11/09/22 01:29	1
Bromoform	ND		1.0		ppb v/v			11/09/22 01:29	1
Bromomethane	ND		1.0		ppb v/v			11/09/22 01:29	1
Butane	ND		5.0		ppb v/v			11/09/22 01:29	1
Carbon disulfide	ND		2.0		ppb v/v			11/09/22 01:29	1
Carbon tetrachloride	ND		1.0		ppb v/v			11/09/22 01:29	1
Chlorobenzene	ND		1.0		ppb v/v			11/09/22 01:29	1
Chlorodifluoromethane	ND		1.0		ppb v/v			11/09/22 01:29	1
Chloroethane	1.5		1.0		ppb v/v			11/09/22 01:29	1
Chloroform	19		1.0		ppb v/v			11/09/22 01:29	1
Chloromethane	ND		5.0		ppb v/v			11/09/22 01:29	1
cis-1,2-Dichloroethene	1.6		1.0		ppb v/v			11/09/22 01:29	1
cis-1,3-Dichloropropene	ND		2.0		ppb v/v			11/09/22 01:29	1
Cumene	ND		2.0		ppb v/v			11/09/22 01:29	1
Cyclohexane	ND		2.0		ppb v/v			11/09/22 01:29	1
Decane	ND		5.0		ppb v/v			11/09/22 01:29	1
Dibromochloromethane	ND		1.0		ppb v/v			11/09/22 01:29	1
Dibromomethane	ND		2.0		ppb v/v			11/09/22 01:29	1
Dichlorodifluoromethane	8.7		1.0		ppb v/v			11/09/22 01:29	1
Dodecane	ND		5.0		ppb v/v			11/09/22 01:29	1
Ethyl ether	ND		10		ppb v/v			11/09/22 01:29	1
Ethylbenzene	ND		1.0		ppb v/v			11/09/22 01:29	1
Heptane	ND		2.0		ppb v/v			11/09/22 01:29	1
Hexachlorobutadiene	ND		5.0		ppb v/v			11/09/22 01:29	1
Hexane	ND		2.0		ppb v/v			11/09/22 01:29	1
Methyl tert-butyl ether	ND		5.0		ppb v/v			11/09/22 01:29	1
Methylene Chloride	ND		5.0		ppb v/v			11/09/22 01:29	1
m-Xylene & p-Xylene	ND		1.0		ppb v/v			11/09/22 01:29	1
Naphthalene	ND		2.0		ppb v/v			11/09/22 01:29	1
Nonane	ND		2.0		ppb v/v			11/09/22 01:29	1
Octane	ND		2.0		ppb v/v			11/09/22 01:29	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-004

Lab Sample ID: 140-29435-4

Date Collected: 10/27/22 14:25

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0		ppb v/v			11/09/22 01:29	1
Pentane	ND		13		ppb v/v			11/09/22 01:29	1
Propylbenzene	ND		2.0		ppb v/v			11/09/22 01:29	1
Styrene	ND		1.0		ppb v/v			11/09/22 01:29	1
Tetrachloroethene	3.0		1.0		ppb v/v			11/09/22 01:29	1
Toluene	ND		5.0		ppb v/v			11/09/22 01:29	1
trans-1,2-Dichloroethene	ND		1.0		ppb v/v			11/09/22 01:29	1
trans-1,3-Dichloropropene	ND		1.0		ppb v/v			11/09/22 01:29	1
Trichloroethene	ND		1.0		ppb v/v			11/09/22 01:29	1
Trichlorofluoromethane	3.1		1.0		ppb v/v			11/09/22 01:29	1
Undecane	ND		5.0		ppb v/v			11/09/22 01:29	1
Vinyl acetate	ND		5.0		ppb v/v			11/09/22 01:29	1
Vinyl chloride	28		2.0		ppb v/v			11/09/22 01:29	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	330		5.5		ug/m3			11/09/22 01:29	1
1,1,1,2-Tetrachloroethane	ND		6.9		ug/m3			11/09/22 01:29	1
1,1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.7		ug/m3			11/09/22 01:29	1
1,1,2-Trichloroethane	ND		5.5		ug/m3			11/09/22 01:29	1
1,1-Dichloroethane	190		4.0		ug/m3			11/09/22 01:29	1
1,1-Dichloroethene	82		4.0		ug/m3			11/09/22 01:29	1
1,2,4-Trichlorobenzene	ND		37		ug/m3			11/09/22 01:29	1
1,2,4-Trimethylbenzene	ND		4.9		ug/m3			11/09/22 01:29	1
1,2-Dibromoethane (EDB)	ND		7.7		ug/m3			11/09/22 01:29	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	8.1		7.0		ug/m3			11/09/22 01:29	1
1,2-Dichlorobenzene	ND		12		ug/m3			11/09/22 01:29	1
1,2-Dichloroethane	ND		4.0		ug/m3			11/09/22 01:29	1
1,2-Dichloropropane	ND		4.6		ug/m3			11/09/22 01:29	1
1,3,5-Trimethylbenzene	ND		9.8		ug/m3			11/09/22 01:29	1
1,3-Butadiene	ND		4.4		ug/m3			11/09/22 01:29	1
1,3-Dichlorobenzene	ND		6.0		ug/m3			11/09/22 01:29	1
1,4-Dichlorobenzene	ND		6.0		ug/m3			11/09/22 01:29	1
2-Butanone (MEK)	ND		15		ug/m3			11/09/22 01:29	1
2-Hexanone	ND		10		ug/m3			11/09/22 01:29	1
3-Chloropropene	ND		3.1		ug/m3			11/09/22 01:29	1
4-Methyl-2-pentanone (MIBK)	ND		20		ug/m3			11/09/22 01:29	1
Acetone	ND		89		ug/m3			11/09/22 01:29	1
Acetonitrile	ND		8.4		ug/m3			11/09/22 01:29	1
Acrolein	ND		11		ug/m3			11/09/22 01:29	1
Acrylonitrile	ND		22		ug/m3			11/09/22 01:29	1
Alpha Methyl Styrene	ND		9.7		ug/m3			11/09/22 01:29	1
Benzene	ND		3.2		ug/m3			11/09/22 01:29	1
Benzyl chloride	ND		10		ug/m3			11/09/22 01:29	1
Bromodichloromethane	ND		6.7		ug/m3			11/09/22 01:29	1
Bromoform	ND		10		ug/m3			11/09/22 01:29	1
Bromomethane	ND		3.9		ug/m3			11/09/22 01:29	1
Butane	ND		12		ug/m3			11/09/22 01:29	1
Carbon disulfide	ND		6.2		ug/m3			11/09/22 01:29	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-004

Lab Sample ID: 140-29435-4

Date Collected: 10/27/22 14:25

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		6.3		ug/m3			11/09/22 01:29	1
Chlorobenzene	ND		4.6		ug/m3			11/09/22 01:29	1
Chlorodifluoromethane	ND		3.5		ug/m3			11/09/22 01:29	1
Chloroethane	4.0		2.6		ug/m3			11/09/22 01:29	1
Chloroform	92		4.9		ug/m3			11/09/22 01:29	1
Chloromethane	ND		10		ug/m3			11/09/22 01:29	1
cis-1,2-Dichloroethene	6.2		4.0		ug/m3			11/09/22 01:29	1
cis-1,3-Dichloropropene	ND		9.1		ug/m3			11/09/22 01:29	1
Cumene	ND		9.8		ug/m3			11/09/22 01:29	1
Cyclohexane	ND		6.9		ug/m3			11/09/22 01:29	1
Decane	ND		29		ug/m3			11/09/22 01:29	1
Dibromochloromethane	ND		8.5		ug/m3			11/09/22 01:29	1
Dibromomethane	ND		14		ug/m3			11/09/22 01:29	1
Dichlorodifluoromethane	43		4.9		ug/m3			11/09/22 01:29	1
Dodecane	ND		35		ug/m3			11/09/22 01:29	1
Ethyl ether	ND		30		ug/m3			11/09/22 01:29	1
Ethylbenzene	ND		4.3		ug/m3			11/09/22 01:29	1
Heptane	ND		8.2		ug/m3			11/09/22 01:29	1
Hexachlorobutadiene	ND		53		ug/m3			11/09/22 01:29	1
Hexane	ND		7.0		ug/m3			11/09/22 01:29	1
Methyl tert-butyl ether	ND		18		ug/m3			11/09/22 01:29	1
Methylene Chloride	ND		17		ug/m3			11/09/22 01:29	1
m-Xylene & p-Xylene	ND		4.3		ug/m3			11/09/22 01:29	1
Naphthalene	ND		10		ug/m3			11/09/22 01:29	1
Nonane	ND		10		ug/m3			11/09/22 01:29	1
Octane	ND		9.3		ug/m3			11/09/22 01:29	1
o-Xylene	ND		4.3		ug/m3			11/09/22 01:29	1
Pentane	ND		37		ug/m3			11/09/22 01:29	1
Propylbenzene	ND		9.8		ug/m3			11/09/22 01:29	1
Styrene	ND		4.3		ug/m3			11/09/22 01:29	1
Tetrachloroethene	20		6.8		ug/m3			11/09/22 01:29	1
Toluene	ND		19		ug/m3			11/09/22 01:29	1
trans-1,2-Dichloroethene	ND		4.0		ug/m3			11/09/22 01:29	1
trans-1,3-Dichloropropene	ND		4.5		ug/m3			11/09/22 01:29	1
Trichloroethene	ND		5.4		ug/m3			11/09/22 01:29	1
Trichlorofluoromethane	18		5.6		ug/m3			11/09/22 01:29	1
Undecane	ND		32		ug/m3			11/09/22 01:29	1
Vinyl acetate	ND		18		ug/m3			11/09/22 01:29	1
Vinyl chloride	71		5.1		ug/m3			11/09/22 01:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140		11/09/22 01:29	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-005

Lab Sample ID: 140-29435-5

Date Collected: 10/27/22 14:36

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	52		1.0		ppb v/v			11/09/22 10:31	1
1,1,1,2,2-Tetrachloroethane	ND		1.0		ppb v/v			11/09/22 10:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0		ppb v/v			11/09/22 10:31	1
1,1,2-Trichloroethane	ND		1.0		ppb v/v			11/09/22 10:31	1
1,1-Dichloroethane	61		1.0		ppb v/v			11/09/22 10:31	1
1,1-Dichloroethene	11		1.0		ppb v/v			11/09/22 10:31	1
1,2,4-Trichlorobenzene	ND		5.0		ppb v/v			11/09/22 10:31	1
1,2,4-Trimethylbenzene	ND		1.0		ppb v/v			11/09/22 10:31	1
1,2-Dibromoethane (EDB)	ND		1.0		ppb v/v			11/09/22 10:31	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.1		1.0		ppb v/v			11/09/22 10:31	1
1,2-Dichlorobenzene	ND		2.0		ppb v/v			11/09/22 10:31	1
1,2-Dichloroethane	ND		1.0		ppb v/v			11/09/22 10:31	1
1,2-Dichloropropane	ND		1.0		ppb v/v			11/09/22 10:31	1
1,3,5-Trimethylbenzene	ND		2.0		ppb v/v			11/09/22 10:31	1
1,3-Butadiene	ND		2.0		ppb v/v			11/09/22 10:31	1
1,3-Dichlorobenzene	ND		1.0		ppb v/v			11/09/22 10:31	1
1,4-Dichlorobenzene	ND		1.0		ppb v/v			11/09/22 10:31	1
2-Butanone (MEK)	ND		5.0		ppb v/v			11/09/22 10:31	1
2-Hexanone	ND		2.5		ppb v/v			11/09/22 10:31	1
3-Chloropropene	ND		1.0		ppb v/v			11/09/22 10:31	1
4-Methyl-2-pentanone (MIBK)	ND		5.0		ppb v/v			11/09/22 10:31	1
Acetone	ND		38		ppb v/v			11/09/22 10:31	1
Acetonitrile	ND		5.0		ppb v/v			11/09/22 10:31	1
Acrolein	ND		5.0		ppb v/v			11/09/22 10:31	1
Acrylonitrile	ND		10		ppb v/v			11/09/22 10:31	1
Alpha Methyl Styrene	ND		2.0		ppb v/v			11/09/22 10:31	1
Benzene	ND		1.0		ppb v/v			11/09/22 10:31	1
Benzyl chloride	ND		2.0		ppb v/v			11/09/22 10:31	1
Bromodichloromethane	ND		1.0		ppb v/v			11/09/22 10:31	1
Bromoform	ND		1.0		ppb v/v			11/09/22 10:31	1
Bromomethane	ND		1.0		ppb v/v			11/09/22 10:31	1
Butane	ND		5.0		ppb v/v			11/09/22 10:31	1
Carbon disulfide	ND		2.0		ppb v/v			11/09/22 10:31	1
Carbon tetrachloride	ND		1.0		ppb v/v			11/09/22 10:31	1
Chlorobenzene	ND		1.0		ppb v/v			11/09/22 10:31	1
Chlorodifluoromethane	1.3		1.0		ppb v/v			11/09/22 10:31	1
Chloroethane	3.7		1.0		ppb v/v			11/09/22 10:31	1
Chloroform	7.7		1.0		ppb v/v			11/09/22 10:31	1
Chloromethane	ND		5.0		ppb v/v			11/09/22 10:31	1
cis-1,2-Dichloroethene	2.0		1.0		ppb v/v			11/09/22 10:31	1
cis-1,3-Dichloropropene	ND		2.0		ppb v/v			11/09/22 10:31	1
Cumene	ND		2.0		ppb v/v			11/09/22 10:31	1
Cyclohexane	ND		2.0		ppb v/v			11/09/22 10:31	1
Decane	ND		5.0		ppb v/v			11/09/22 10:31	1
Dibromochloromethane	ND		1.0		ppb v/v			11/09/22 10:31	1
Dibromomethane	ND		2.0		ppb v/v			11/09/22 10:31	1
Dichlorodifluoromethane	ND		1.0		ppb v/v			11/09/22 10:31	1
Dodecane	ND		5.0		ppb v/v			11/09/22 10:31	1

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-005

Lab Sample ID: 140-29435-5

Date Collected: 10/27/22 14:36

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl ether	ND		10		ppb v/v			11/09/22 10:31	1
Ethylbenzene	ND		1.0		ppb v/v			11/09/22 10:31	1
Heptane	ND		2.0		ppb v/v			11/09/22 10:31	1
Hexachlorobutadiene	ND		5.0		ppb v/v			11/09/22 10:31	1
Hexane	ND		2.0		ppb v/v			11/09/22 10:31	1
Methyl tert-butyl ether	ND		5.0		ppb v/v			11/09/22 10:31	1
Methylene Chloride	ND		5.0		ppb v/v			11/09/22 10:31	1
m-Xylene & p-Xylene	ND		1.0		ppb v/v			11/09/22 10:31	1
Naphthalene	ND		2.0		ppb v/v			11/09/22 10:31	1
Nonane	ND		2.0		ppb v/v			11/09/22 10:31	1
Octane	ND		2.0		ppb v/v			11/09/22 10:31	1
o-Xylene	ND		1.0		ppb v/v			11/09/22 10:31	1
Pentane	ND		13		ppb v/v			11/09/22 10:31	1
Propylbenzene	ND		2.0		ppb v/v			11/09/22 10:31	1
Styrene	ND		1.0		ppb v/v			11/09/22 10:31	1
Tetrachloroethene	14		1.0		ppb v/v			11/09/22 10:31	1
Toluene	ND		5.0		ppb v/v			11/09/22 10:31	1
trans-1,2-Dichloroethene	ND		1.0		ppb v/v			11/09/22 10:31	1
trans-1,3-Dichloropropene	ND		1.0		ppb v/v			11/09/22 10:31	1
Trichloroethene	1.9		1.0		ppb v/v			11/09/22 10:31	1
Trichlorofluoromethane	3.9		1.0		ppb v/v			11/09/22 10:31	1
Undecane	ND		5.0		ppb v/v			11/09/22 10:31	1
Vinyl acetate	ND	*	5.0		ppb v/v			11/09/22 10:31	1
Vinyl chloride	ND		2.0		ppb v/v			11/09/22 10:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	280		5.5		ug/m3			11/09/22 10:31	1
1,1,2,2-Tetrachloroethane	ND		6.9		ug/m3			11/09/22 10:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.7		ug/m3			11/09/22 10:31	1
1,1,2-Trichloroethane	ND		5.5		ug/m3			11/09/22 10:31	1
1,1-Dichloroethane	250		4.0		ug/m3			11/09/22 10:31	1
1,1-Dichloroethene	44		4.0		ug/m3			11/09/22 10:31	1
1,2,4-Trichlorobenzene	ND		37		ug/m3			11/09/22 10:31	1
1,2,4-Trimethylbenzene	ND		4.9		ug/m3			11/09/22 10:31	1
1,2-Dibromoethane (EDB)	ND		7.7		ug/m3			11/09/22 10:31	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	22		7.0		ug/m3			11/09/22 10:31	1
1,2-Dichlorobenzene	ND		12		ug/m3			11/09/22 10:31	1
1,2-Dichloroethane	ND		4.0		ug/m3			11/09/22 10:31	1
1,2-Dichloropropane	ND		4.6		ug/m3			11/09/22 10:31	1
1,3,5-Trimethylbenzene	ND		9.8		ug/m3			11/09/22 10:31	1
1,3-Butadiene	ND		4.4		ug/m3			11/09/22 10:31	1
1,3-Dichlorobenzene	ND		6.0		ug/m3			11/09/22 10:31	1
1,4-Dichlorobenzene	ND		6.0		ug/m3			11/09/22 10:31	1
2-Butanone (MEK)	ND		15		ug/m3			11/09/22 10:31	1
2-Hexanone	ND		10		ug/m3			11/09/22 10:31	1
3-Chloropropene	ND		3.1		ug/m3			11/09/22 10:31	1
4-Methyl-2-pentanone (MIBK)	ND		20		ug/m3			11/09/22 10:31	1
Acetone	ND		89		ug/m3			11/09/22 10:31	1

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-005

Lab Sample ID: 140-29435-5

Date Collected: 10/27/22 14:36

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	ND		8.4		ug/m3			11/09/22 10:31	1
Acrolein	ND		11		ug/m3			11/09/22 10:31	1
Acrylonitrile	ND		22		ug/m3			11/09/22 10:31	1
Alpha Methyl Styrene	ND		9.7		ug/m3			11/09/22 10:31	1
Benzene	ND		3.2		ug/m3			11/09/22 10:31	1
Benzyl chloride	ND		10		ug/m3			11/09/22 10:31	1
Bromodichloromethane	ND		6.7		ug/m3			11/09/22 10:31	1
Bromoform	ND		10		ug/m3			11/09/22 10:31	1
Bromomethane	ND		3.9		ug/m3			11/09/22 10:31	1
Butane	ND		12		ug/m3			11/09/22 10:31	1
Carbon disulfide	ND		6.2		ug/m3			11/09/22 10:31	1
Carbon tetrachloride	ND		6.3		ug/m3			11/09/22 10:31	1
Chlorobenzene	ND		4.6		ug/m3			11/09/22 10:31	1
Chlorodifluoromethane	4.6		3.5		ug/m3			11/09/22 10:31	1
Chloroethane	9.8		2.6		ug/m3			11/09/22 10:31	1
Chloroform	37		4.9		ug/m3			11/09/22 10:31	1
Chloromethane	ND		10		ug/m3			11/09/22 10:31	1
cis-1,2-Dichloroethene	7.8		4.0		ug/m3			11/09/22 10:31	1
cis-1,3-Dichloropropene	ND		9.1		ug/m3			11/09/22 10:31	1
Cumene	ND		9.8		ug/m3			11/09/22 10:31	1
Cyclohexane	ND		6.9		ug/m3			11/09/22 10:31	1
Decane	ND		29		ug/m3			11/09/22 10:31	1
Dibromochloromethane	ND		8.5		ug/m3			11/09/22 10:31	1
Dibromomethane	ND		14		ug/m3			11/09/22 10:31	1
Dichlorodifluoromethane	ND		4.9		ug/m3			11/09/22 10:31	1
Dodecane	ND		35		ug/m3			11/09/22 10:31	1
Ethyl ether	ND		30		ug/m3			11/09/22 10:31	1
Ethylbenzene	ND		4.3		ug/m3			11/09/22 10:31	1
Heptane	ND		8.2		ug/m3			11/09/22 10:31	1
Hexachlorobutadiene	ND		53		ug/m3			11/09/22 10:31	1
Hexane	ND		7.0		ug/m3			11/09/22 10:31	1
Methyl tert-butyl ether	ND		18		ug/m3			11/09/22 10:31	1
Methylene Chloride	ND		17		ug/m3			11/09/22 10:31	1
m-Xylene & p-Xylene	ND		4.3		ug/m3			11/09/22 10:31	1
Naphthalene	ND		10		ug/m3			11/09/22 10:31	1
Nonane	ND		10		ug/m3			11/09/22 10:31	1
Octane	ND		9.3		ug/m3			11/09/22 10:31	1
o-Xylene	ND		4.3		ug/m3			11/09/22 10:31	1
Pentane	ND		37		ug/m3			11/09/22 10:31	1
Propylbenzene	ND		9.8		ug/m3			11/09/22 10:31	1
Styrene	ND		4.3		ug/m3			11/09/22 10:31	1
Tetrachloroethene	94		6.8		ug/m3			11/09/22 10:31	1
Toluene	ND		19		ug/m3			11/09/22 10:31	1
trans-1,2-Dichloroethene	ND		4.0		ug/m3			11/09/22 10:31	1
trans-1,3-Dichloropropene	ND		4.5		ug/m3			11/09/22 10:31	1
Trichloroethene	10		5.4		ug/m3			11/09/22 10:31	1
Trichlorofluoromethane	22		5.6		ug/m3			11/09/22 10:31	1
Undecane	ND		32		ug/m3			11/09/22 10:31	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-005

Lab Sample ID: 140-29435-5

Date Collected: 10/27/22 14:36

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl acetate	ND	+	18		ug/m3			11/09/22 10:31	1
Vinyl chloride	ND		5.1		ug/m3			11/09/22 10:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		60 - 140					11/09/22 10:31	1

Client Sample ID: G-221027-BZ-006

Lab Sample ID: 140-29435-6

Date Collected: 10/27/22 14:47

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	26		0.67		ppb v/v			11/09/22 11:14	1
1,1,2,2-Tetrachloroethane	ND		0.67		ppb v/v			11/09/22 11:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.67		ppb v/v			11/09/22 11:14	1
1,1,2-Trichloroethane	ND		0.67		ppb v/v			11/09/22 11:14	1
1,1-Dichloroethane	7.0		0.67		ppb v/v			11/09/22 11:14	1
1,1-Dichloroethene	4.7		0.67		ppb v/v			11/09/22 11:14	1
1,2,4-Trichlorobenzene	ND		3.3		ppb v/v			11/09/22 11:14	1
1,2,4-Trimethylbenzene	ND		0.67		ppb v/v			11/09/22 11:14	1
1,2-Dibromoethane (EDB)	ND		0.67		ppb v/v			11/09/22 11:14	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.6		0.67		ppb v/v			11/09/22 11:14	1
1,2-Dichlorobenzene	ND		1.3		ppb v/v			11/09/22 11:14	1
1,2-Dichloroethane	ND		0.67		ppb v/v			11/09/22 11:14	1
1,2-Dichloropropane	ND		0.67		ppb v/v			11/09/22 11:14	1
1,3,5-Trimethylbenzene	ND		1.3		ppb v/v			11/09/22 11:14	1
1,3-Butadiene	ND		1.3		ppb v/v			11/09/22 11:14	1
1,3-Dichlorobenzene	ND		0.67		ppb v/v			11/09/22 11:14	1
1,4-Dichlorobenzene	ND		0.67		ppb v/v			11/09/22 11:14	1
2-Butanone (MEK)	ND		3.3		ppb v/v			11/09/22 11:14	1
2-Hexanone	ND		1.7		ppb v/v			11/09/22 11:14	1
3-Chloropropene	ND		0.67		ppb v/v			11/09/22 11:14	1
4-Methyl-2-pentanone (MIBK)	ND		3.3		ppb v/v			11/09/22 11:14	1
Acetone	ND		25		ppb v/v			11/09/22 11:14	1
Acetonitrile	ND		3.3		ppb v/v			11/09/22 11:14	1
Acrolein	ND		3.3		ppb v/v			11/09/22 11:14	1
Acrylonitrile	ND		6.7		ppb v/v			11/09/22 11:14	1
Alpha Methyl Styrene	ND		1.3		ppb v/v			11/09/22 11:14	1
Benzene	ND		0.67		ppb v/v			11/09/22 11:14	1
Benzyl chloride	ND		1.3		ppb v/v			11/09/22 11:14	1
Bromodichloromethane	ND		0.67		ppb v/v			11/09/22 11:14	1
Bromoform	ND		0.67		ppb v/v			11/09/22 11:14	1
Bromomethane	ND		0.67		ppb v/v			11/09/22 11:14	1
Butane	5.2		3.3		ppb v/v			11/09/22 11:14	1
Carbon disulfide	ND		1.3		ppb v/v			11/09/22 11:14	1
Carbon tetrachloride	ND		0.67		ppb v/v			11/09/22 11:14	1
Chlorobenzene	ND		0.67		ppb v/v			11/09/22 11:14	1

Eurofins Knoxville

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-006

Lab Sample ID: 140-29435-6

Date Collected: 10/27/22 14:47

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodifluoromethane	3.6		0.67		ppb v/v			11/09/22 11:14	1
Chloroethane	ND		0.67		ppb v/v			11/09/22 11:14	1
Chloroform	15		0.67		ppb v/v			11/09/22 11:14	1
Chloromethane	ND		3.3		ppb v/v			11/09/22 11:14	1
cis-1,2-Dichloroethene	ND		0.67		ppb v/v			11/09/22 11:14	1
cis-1,3-Dichloropropene	ND		1.3		ppb v/v			11/09/22 11:14	1
Cumene	ND		1.3		ppb v/v			11/09/22 11:14	1
Cyclohexane	ND		1.3		ppb v/v			11/09/22 11:14	1
Decane	ND		3.3		ppb v/v			11/09/22 11:14	1
Dibromochloromethane	ND		0.67		ppb v/v			11/09/22 11:14	1
Dibromomethane	ND		1.3		ppb v/v			11/09/22 11:14	1
Dichlorodifluoromethane	57		0.67		ppb v/v			11/09/22 11:14	1
Dodecane	ND		3.3		ppb v/v			11/09/22 11:14	1
Ethyl ether	ND		6.7		ppb v/v			11/09/22 11:14	1
Ethylbenzene	ND		0.67		ppb v/v			11/09/22 11:14	1
Heptane	ND		1.3		ppb v/v			11/09/22 11:14	1
Hexachlorobutadiene	ND		3.3		ppb v/v			11/09/22 11:14	1
Hexane	ND		1.3		ppb v/v			11/09/22 11:14	1
Methyl tert-butyl ether	ND		3.3		ppb v/v			11/09/22 11:14	1
Methylene Chloride	ND		3.3		ppb v/v			11/09/22 11:14	1
m-Xylene & p-Xylene	ND		0.67		ppb v/v			11/09/22 11:14	1
Naphthalene	ND		1.3		ppb v/v			11/09/22 11:14	1
Nonane	ND		1.3		ppb v/v			11/09/22 11:14	1
Octane	ND		1.3		ppb v/v			11/09/22 11:14	1
o-Xylene	ND		0.67		ppb v/v			11/09/22 11:14	1
Pentane	ND		8.3		ppb v/v			11/09/22 11:14	1
Propylbenzene	ND		1.3		ppb v/v			11/09/22 11:14	1
Styrene	ND		0.67		ppb v/v			11/09/22 11:14	1
Tetrachloroethene	4.7		0.67		ppb v/v			11/09/22 11:14	1
Toluene	ND		3.3		ppb v/v			11/09/22 11:14	1
trans-1,2-Dichloroethene	ND		0.67		ppb v/v			11/09/22 11:14	1
trans-1,3-Dichloropropene	ND		0.67		ppb v/v			11/09/22 11:14	1
Trichloroethene	ND		0.67		ppb v/v			11/09/22 11:14	1
Trichlorofluoromethane	41		0.67		ppb v/v			11/09/22 11:14	1
Undecane	ND		3.3		ppb v/v			11/09/22 11:14	1
Vinyl acetate	ND	+	3.3		ppb v/v			11/09/22 11:14	1
Vinyl chloride	1.6		1.3		ppb v/v			11/09/22 11:14	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	140		3.6		ug/m3			11/09/22 11:14	1
1,1,2,2-Tetrachloroethane	ND		4.6		ug/m3			11/09/22 11:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.1		ug/m3			11/09/22 11:14	1
1,1,2-Trichloroethane	ND		3.6		ug/m3			11/09/22 11:14	1
1,1-Dichloroethane	28		2.7		ug/m3			11/09/22 11:14	1
1,1-Dichloroethene	19		2.6		ug/m3			11/09/22 11:14	1
1,2,4-Trichlorobenzene	ND		25		ug/m3			11/09/22 11:14	1
1,2,4-Trimethylbenzene	ND		3.3		ug/m3			11/09/22 11:14	1
1,2-Dibromoethane (EDB)	ND		5.1		ug/m3			11/09/22 11:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-006

Lab Sample ID: 140-29435-6

Date Collected: 10/27/22 14:47

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloro-1,1,2,2-tetrafluoroethane	18		4.7		ug/m3			11/09/22 11:14	1
1,2-Dichlorobenzene	ND		8.0		ug/m3			11/09/22 11:14	1
1,2-Dichloroethane	ND		2.7		ug/m3			11/09/22 11:14	1
1,2-Dichloropropane	ND		3.1		ug/m3			11/09/22 11:14	1
1,3,5-Trimethylbenzene	ND		6.6		ug/m3			11/09/22 11:14	1
1,3-Butadiene	ND		2.9		ug/m3			11/09/22 11:14	1
1,3-Dichlorobenzene	ND		4.0		ug/m3			11/09/22 11:14	1
1,4-Dichlorobenzene	ND		4.0		ug/m3			11/09/22 11:14	1
2-Butanone (MEK)	ND		9.8		ug/m3			11/09/22 11:14	1
2-Hexanone	ND		6.8		ug/m3			11/09/22 11:14	1
3-Chloropropene	ND		2.1		ug/m3			11/09/22 11:14	1
4-Methyl-2-pentanone (MIBK)	ND		14		ug/m3			11/09/22 11:14	1
Acetone	ND		59		ug/m3			11/09/22 11:14	1
Acetonitrile	ND		5.6		ug/m3			11/09/22 11:14	1
Acrolein	ND		7.6		ug/m3			11/09/22 11:14	1
Acrylonitrile	ND		14		ug/m3			11/09/22 11:14	1
Alpha Methyl Styrene	ND		6.4		ug/m3			11/09/22 11:14	1
Benzene	ND		2.1		ug/m3			11/09/22 11:14	1
Benzyl chloride	ND		6.9		ug/m3			11/09/22 11:14	1
Bromodichloromethane	ND		4.5		ug/m3			11/09/22 11:14	1
Bromoform	ND		6.9		ug/m3			11/09/22 11:14	1
Bromomethane	ND		2.6		ug/m3			11/09/22 11:14	1
Butane	12		7.9		ug/m3			11/09/22 11:14	1
Carbon disulfide	ND		4.2		ug/m3			11/09/22 11:14	1
Carbon tetrachloride	ND		4.2		ug/m3			11/09/22 11:14	1
Chlorobenzene	ND		3.1		ug/m3			11/09/22 11:14	1
Chlorodifluoromethane	13		2.4		ug/m3			11/09/22 11:14	1
Chloroethane	ND		1.8		ug/m3			11/09/22 11:14	1
Chloroform	73		3.3		ug/m3			11/09/22 11:14	1
Chloromethane	ND		6.9		ug/m3			11/09/22 11:14	1
cis-1,2-Dichloroethene	ND		2.6		ug/m3			11/09/22 11:14	1
cis-1,3-Dichloropropene	ND		6.1		ug/m3			11/09/22 11:14	1
Cumene	ND		6.6		ug/m3			11/09/22 11:14	1
Cyclohexane	ND		4.6		ug/m3			11/09/22 11:14	1
Decane	ND		19		ug/m3			11/09/22 11:14	1
Dibromochloromethane	ND		5.7		ug/m3			11/09/22 11:14	1
Dibromomethane	ND		9.5		ug/m3			11/09/22 11:14	1
Dichlorodifluoromethane	280		3.3		ug/m3			11/09/22 11:14	1
Dodecane	ND		23		ug/m3			11/09/22 11:14	1
Ethyl ether	ND		20		ug/m3			11/09/22 11:14	1
Ethylbenzene	ND		2.9		ug/m3			11/09/22 11:14	1
Heptane	ND		5.5		ug/m3			11/09/22 11:14	1
Hexachlorobutadiene	ND		36		ug/m3			11/09/22 11:14	1
Hexane	ND		4.7		ug/m3			11/09/22 11:14	1
Methyl tert-butyl ether	ND		12		ug/m3			11/09/22 11:14	1
Methylene Chloride	ND		12		ug/m3			11/09/22 11:14	1
m-Xylene & p-Xylene	ND		2.9		ug/m3			11/09/22 11:14	1
Naphthalene	ND		7.0		ug/m3			11/09/22 11:14	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-006

Lab Sample ID: 140-29435-6

Date Collected: 10/27/22 14:47

Matrix: Air

Date Received: 11/01/22 09:45

Sample Container: Summa Canister 6L

Method: EPA TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nonane	ND		7.0		ug/m3			11/09/22 11:14	1
Octane	ND		6.2		ug/m3			11/09/22 11:14	1
o-Xylene	ND		2.9		ug/m3			11/09/22 11:14	1
Pentane	ND		25		ug/m3			11/09/22 11:14	1
Propylbenzene	ND		6.6		ug/m3			11/09/22 11:14	1
Styrene	ND		2.8		ug/m3			11/09/22 11:14	1
Tetrachloroethene	32		4.5		ug/m3			11/09/22 11:14	1
Toluene	ND		13		ug/m3			11/09/22 11:14	1
trans-1,2-Dichloroethene	ND		2.6		ug/m3			11/09/22 11:14	1
trans-1,3-Dichloropropene	ND		3.0		ug/m3			11/09/22 11:14	1
Trichloroethene	ND		3.6		ug/m3			11/09/22 11:14	1
Trichlorofluoromethane	230		3.7		ug/m3			11/09/22 11:14	1
Undecane	ND		21		ug/m3			11/09/22 11:14	1
Vinyl acetate	ND	*+	12		ug/m3			11/09/22 11:14	1
Vinyl chloride	4.0		3.4		ug/m3			11/09/22 11:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		60 - 140					11/09/22 11:14	1

Default Detection Limits

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	RL	MDL	Units
1,1,1-Trichloroethane	0.20	0.072	ppb v/v
1,1,1-Trichloroethane	1.1	0.39	ug/m3
1,1,2,2-Tetrachloroethane	0.20	0.035	ppb v/v
1,1,2,2-Tetrachloroethane	1.4	0.24	ug/m3
1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	0.024	ppb v/v
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	0.18	ug/m3
1,1,2-Trichloroethane	0.20	0.038	ppb v/v
1,1,2-Trichloroethane	1.1	0.21	ug/m3
1,1-Dichloroethane	0.20	0.027	ppb v/v
1,1-Dichloroethane	0.81	0.11	ug/m3
1,1-Dichloroethene	0.20	0.032	ppb v/v
1,1-Dichloroethene	0.79	0.13	ug/m3
1,2,4-Trichlorobenzene	1.0	0.089	ppb v/v
1,2,4-Trichlorobenzene	7.4	0.66	ug/m3
1,2,4-Trimethylbenzene	0.20	0.050	ppb v/v
1,2,4-Trimethylbenzene	0.98	0.25	ug/m3
1,2-Dibromoethane (EDB)	0.20	0.031	ppb v/v
1,2-Dibromoethane (EDB)	1.5	0.24	ug/m3
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.20	0.030	ppb v/v
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.4	0.21	ug/m3
1,2-Dichlorobenzene	0.40	0.078	ppb v/v
1,2-Dichlorobenzene	2.4	0.47	ug/m3
1,2-Dichloroethane	0.20	0.025	ppb v/v
1,2-Dichloroethane	0.81	0.10	ug/m3
1,2-Dichloropropane	0.20	0.025	ppb v/v
1,2-Dichloropropane	0.92	0.12	ug/m3
1,3,5-Trimethylbenzene	0.40	0.16	ppb v/v
1,3,5-Trimethylbenzene	2.0	0.79	ug/m3
1,3-Butadiene	0.40	0.048	ppb v/v
1,3-Butadiene	0.88	0.11	ug/m3
1,3-Dichlorobenzene	0.20	0.040	ppb v/v
1,3-Dichlorobenzene	1.2	0.24	ug/m3
1,4-Dichlorobenzene	0.20	0.040	ppb v/v
1,4-Dichlorobenzene	1.2	0.24	ug/m3
2-Butanone (MEK)	1.0	0.18	ppb v/v
2-Butanone (MEK)	2.9	0.53	ug/m3
2-Hexanone	0.50	0.14	ppb v/v
2-Hexanone	2.0	0.57	ug/m3
3-Chloropropene	0.20	0.10	ppb v/v
3-Chloropropene	0.63	0.31	ug/m3
4-Methyl-2-pentanone (MIBK)	1.0	0.14	ppb v/v
4-Methyl-2-pentanone (MIBK)	4.1	0.57	ug/m3
Acetone	7.5	1.4	ppb v/v
Acetone	18	3.3	ug/m3
Acetonitrile	1.0	0.38	ppb v/v
Acetonitrile	1.7	0.64	ug/m3
Acrolein	1.0	0.25	ppb v/v
Acrolein	2.3	0.57	ug/m3
Acrylonitrile	2.0	0.27	ppb v/v
Acrylonitrile	4.3	0.59	ug/m3
Alpha Methyl Styrene	0.40	0.093	ppb v/v
Alpha Methyl Styrene	1.9	0.45	ug/m3
Benzene	0.20	0.033	ppb v/v

Default Detection Limits

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	RL	MDL	Units
Benzene	0.64	0.11	ug/m3
Benzyl chloride	0.40	0.095	ppb v/v
Benzyl chloride	2.1	0.49	ug/m3
Bromodichloromethane	0.20	0.044	ppb v/v
Bromodichloromethane	1.3	0.29	ug/m3
Bromoform	0.20	0.066	ppb v/v
Bromoform	2.1	0.68	ug/m3
Bromomethane	0.20	0.055	ppb v/v
Bromomethane	0.78	0.21	ug/m3
Butane	1.0	0.21	ppb v/v
Butane	2.4	0.50	ug/m3
Carbon disulfide	0.40	0.087	ppb v/v
Carbon disulfide	1.2	0.27	ug/m3
Carbon tetrachloride	0.20	0.032	ppb v/v
Carbon tetrachloride	1.3	0.20	ug/m3
Chlorobenzene	0.20	0.056	ppb v/v
Chlorobenzene	0.92	0.26	ug/m3
Chlorodifluoromethane	0.20	0.055	ppb v/v
Chlorodifluoromethane	0.71	0.19	ug/m3
Chloroethane	0.20	0.079	ppb v/v
Chloroethane	0.53	0.21	ug/m3
Chloroform	0.20	0.036	ppb v/v
Chloroform	0.98	0.18	ug/m3
Chloromethane	1.0	0.16	ppb v/v
Chloromethane	2.1	0.33	ug/m3
cis-1,2-Dichloroethene	0.20	0.025	ppb v/v
cis-1,2-Dichloroethene	0.79	0.099	ug/m3
cis-1,3-Dichloropropene	0.40	0.048	ppb v/v
cis-1,3-Dichloropropene	1.8	0.22	ug/m3
Cumene	0.40	0.043	ppb v/v
Cumene	2.0	0.21	ug/m3
Cyclohexane	0.40	0.093	ppb v/v
Cyclohexane	1.4	0.32	ug/m3
Decane	1.0	0.095	ppb v/v
Decane	5.8	0.55	ug/m3
Dibromochloromethane	0.20	0.034	ppb v/v
Dibromochloromethane	1.7	0.29	ug/m3
Dibromomethane	0.40	0.030	ppb v/v
Dibromomethane	2.8	0.21	ug/m3
Dichlorodifluoromethane	0.20	0.035	ppb v/v
Dichlorodifluoromethane	0.99	0.17	ug/m3
Dodecane	1.0	0.32	ppb v/v
Dodecane	7.0	2.2	ug/m3
Ethyl ether	2.0	0.085	ppb v/v
Ethyl ether	6.1	0.26	ug/m3
Ethylbenzene	0.20	0.033	ppb v/v
Ethylbenzene	0.87	0.14	ug/m3
Heptane	0.40	0.035	ppb v/v
Heptane	1.6	0.14	ug/m3
Hexachlorobutadiene	1.0	0.080	ppb v/v
Hexachlorobutadiene	11	0.85	ug/m3
Hexane	0.40	0.063	ppb v/v
Hexane	1.4	0.22	ug/m3

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Default Detection Limits

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	RL	MDL	Units
Methyl tert-butyl ether	1.0	0.13	ppb v/v
Methyl tert-butyl ether	3.6	0.47	ug/m3
Methylene Chloride	1.0	0.34	ppb v/v
Methylene Chloride	3.5	1.2	ug/m3
m-Xylene & p-Xylene	0.20	0.073	ppb v/v
m-Xylene & p-Xylene	0.87	0.32	ug/m3
Naphthalene	0.40	0.10	ppb v/v
Naphthalene	2.1	0.52	ug/m3
Nonane	0.40	0.11	ppb v/v
Nonane	2.1	0.58	ug/m3
Octane	0.40	0.11	ppb v/v
Octane	1.9	0.51	ug/m3
o-Xylene	0.20	0.038	ppb v/v
o-Xylene	0.87	0.17	ug/m3
Pentane	2.5	0.24	ppb v/v
Pentane	7.4	0.71	ug/m3
Propylbenzene	0.40	0.048	ppb v/v
Propylbenzene	2.0	0.24	ug/m3
Styrene	0.20	0.060	ppb v/v
Styrene	0.85	0.26	ug/m3
Tetrachloroethene	0.20	0.029	ppb v/v
Tetrachloroethene	1.4	0.20	ug/m3
Toluene	1.0	0.057	ppb v/v
Toluene	3.8	0.21	ug/m3
trans-1,2-Dichloroethene	0.20	0.033	ppb v/v
trans-1,2-Dichloroethene	0.79	0.13	ug/m3
trans-1,3-Dichloropropene	0.20	0.049	ppb v/v
trans-1,3-Dichloropropene	0.91	0.22	ug/m3
Trichloroethene	0.20	0.033	ppb v/v
Trichloroethene	1.1	0.18	ug/m3
Trichlorofluoromethane	0.20	0.028	ppb v/v
Trichlorofluoromethane	1.1	0.16	ug/m3
Undecane	1.0	0.12	ppb v/v
Undecane	6.4	0.77	ug/m3
Vinyl acetate	1.0	0.070	ppb v/v
Vinyl acetate	3.5	0.25	ug/m3
Vinyl chloride	0.40	0.065	ppb v/v
Vinyl chloride	1.0	0.17	ug/m3

Surrogate Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Matrix: Air

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (60-140)
140-29435-1	G-221027-BZ-001	97
140-29435-2	G-221027-BZ-002	97
140-29435-3	G-221027-BZ-003	97
140-29435-4	G-221027-BZ-004	97
140-29435-5	G-221027-BZ-005	97
140-29435-6	G-221027-BZ-006	99
LCS 140-67168/1002	Lab Control Sample	100
LCS 140-67239/1002	Lab Control Sample	106
MB 140-67168/12	Method Blank	95
MB 140-67239/4	Method Blank	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 140-67168/12
Matrix: Air
Analysis Batch: 67168

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,1,2,2-Tetrachloroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,1,2-Trichloroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,1-Dichloroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,1-Dichloroethene	ND		0.20		ppb v/v			11/08/22 10:30	1
1,2,4-Trichlorobenzene	ND		1.0		ppb v/v			11/08/22 10:30	1
1,2,4-Trimethylbenzene	ND		0.20		ppb v/v			11/08/22 10:30	1
1,2-Dibromoethane (EDB)	ND		0.20		ppb v/v			11/08/22 10:30	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,2-Dichlorobenzene	ND		0.40		ppb v/v			11/08/22 10:30	1
1,2-Dichloroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,2-Dichloropropane	ND		0.20		ppb v/v			11/08/22 10:30	1
1,3,5-Trimethylbenzene	ND		0.40		ppb v/v			11/08/22 10:30	1
1,3-Butadiene	ND		0.40		ppb v/v			11/08/22 10:30	1
1,3-Dichlorobenzene	ND		0.20		ppb v/v			11/08/22 10:30	1
1,4-Dichlorobenzene	ND		0.20		ppb v/v			11/08/22 10:30	1
2-Butanone (MEK)	ND		1.0		ppb v/v			11/08/22 10:30	1
2-Hexanone	ND		0.50		ppb v/v			11/08/22 10:30	1
3-Chloropropene	ND		0.20		ppb v/v			11/08/22 10:30	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		ppb v/v			11/08/22 10:30	1
Acetone	ND		7.5		ppb v/v			11/08/22 10:30	1
Acetonitrile	ND		1.0		ppb v/v			11/08/22 10:30	1
Acrolein	ND		1.0		ppb v/v			11/08/22 10:30	1
Acrylonitrile	ND		2.0		ppb v/v			11/08/22 10:30	1
Alpha Methyl Styrene	ND		0.40		ppb v/v			11/08/22 10:30	1
Benzene	ND		0.20		ppb v/v			11/08/22 10:30	1
Benzyl chloride	ND		0.40		ppb v/v			11/08/22 10:30	1
Bromodichloromethane	ND		0.20		ppb v/v			11/08/22 10:30	1
Bromoform	ND		0.20		ppb v/v			11/08/22 10:30	1
Bromomethane	ND		0.20		ppb v/v			11/08/22 10:30	1
Butane	ND		1.0		ppb v/v			11/08/22 10:30	1
Carbon disulfide	ND		0.40		ppb v/v			11/08/22 10:30	1
Carbon tetrachloride	ND		0.20		ppb v/v			11/08/22 10:30	1
Chlorobenzene	ND		0.20		ppb v/v			11/08/22 10:30	1
Chlorodifluoromethane	ND		0.20		ppb v/v			11/08/22 10:30	1
Chloroethane	ND		0.20		ppb v/v			11/08/22 10:30	1
Chloroform	ND		0.20		ppb v/v			11/08/22 10:30	1
Chloromethane	ND		1.0		ppb v/v			11/08/22 10:30	1
cis-1,2-Dichloroethene	ND		0.20		ppb v/v			11/08/22 10:30	1
cis-1,3-Dichloropropene	ND		0.40		ppb v/v			11/08/22 10:30	1
Cumene	ND		0.40		ppb v/v			11/08/22 10:30	1
Cyclohexane	ND		0.40		ppb v/v			11/08/22 10:30	1
Decane	ND		1.0		ppb v/v			11/08/22 10:30	1
Dibromochloromethane	ND		0.20		ppb v/v			11/08/22 10:30	1
Dibromomethane	ND		0.40		ppb v/v			11/08/22 10:30	1
Dichlorodifluoromethane	ND		0.20		ppb v/v			11/08/22 10:30	1
Dodecane	ND		1.0		ppb v/v			11/08/22 10:30	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-67168/12
Matrix: Air
Analysis Batch: 67168

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl ether	ND		2.0		ppb v/v			11/08/22 10:30	1
Ethylbenzene	ND		0.20		ppb v/v			11/08/22 10:30	1
Heptane	ND		0.40		ppb v/v			11/08/22 10:30	1
Hexachlorobutadiene	ND		1.0		ppb v/v			11/08/22 10:30	1
Hexane	ND		0.40		ppb v/v			11/08/22 10:30	1
Methyl tert-butyl ether	ND		1.0		ppb v/v			11/08/22 10:30	1
Methylene Chloride	ND		1.0		ppb v/v			11/08/22 10:30	1
m-Xylene & p-Xylene	ND		0.20		ppb v/v			11/08/22 10:30	1
Naphthalene	ND		0.40		ppb v/v			11/08/22 10:30	1
Nonane	ND		0.40		ppb v/v			11/08/22 10:30	1
Octane	ND		0.40		ppb v/v			11/08/22 10:30	1
o-Xylene	ND		0.20		ppb v/v			11/08/22 10:30	1
Pentane	ND		2.5		ppb v/v			11/08/22 10:30	1
Propylbenzene	ND		0.40		ppb v/v			11/08/22 10:30	1
Styrene	ND		0.20		ppb v/v			11/08/22 10:30	1
Tetrachloroethene	ND		0.20		ppb v/v			11/08/22 10:30	1
Toluene	ND		1.0		ppb v/v			11/08/22 10:30	1
trans-1,2-Dichloroethene	ND		0.20		ppb v/v			11/08/22 10:30	1
trans-1,3-Dichloropropene	ND		0.20		ppb v/v			11/08/22 10:30	1
Trichloroethene	ND		0.20		ppb v/v			11/08/22 10:30	1
Trichlorofluoromethane	ND		0.20		ppb v/v			11/08/22 10:30	1
Undecane	ND		1.0		ppb v/v			11/08/22 10:30	1
Vinyl acetate	ND		1.0		ppb v/v			11/08/22 10:30	1
Vinyl chloride	ND		0.40		ppb v/v			11/08/22 10:30	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.1		ug/m3			11/08/22 10:30	1
1,1,2,2-Tetrachloroethane	ND		1.4		ug/m3			11/08/22 10:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.5		ug/m3			11/08/22 10:30	1
1,1,2-Trichloroethane	ND		1.1		ug/m3			11/08/22 10:30	1
1,1-Dichloroethane	ND		0.81		ug/m3			11/08/22 10:30	1
1,1-Dichloroethene	ND		0.79		ug/m3			11/08/22 10:30	1
1,2,4-Trichlorobenzene	ND		7.4		ug/m3			11/08/22 10:30	1
1,2,4-Trimethylbenzene	ND		0.98		ug/m3			11/08/22 10:30	1
1,2-Dibromoethane (EDB)	ND		1.5		ug/m3			11/08/22 10:30	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		1.4		ug/m3			11/08/22 10:30	1
1,2-Dichlorobenzene	ND		2.4		ug/m3			11/08/22 10:30	1
1,2-Dichloroethane	ND		0.81		ug/m3			11/08/22 10:30	1
1,2-Dichloropropane	ND		0.92		ug/m3			11/08/22 10:30	1
1,3,5-Trimethylbenzene	ND		2.0		ug/m3			11/08/22 10:30	1
1,3-Butadiene	ND		0.88		ug/m3			11/08/22 10:30	1
1,3-Dichlorobenzene	ND		1.2		ug/m3			11/08/22 10:30	1
1,4-Dichlorobenzene	ND		1.2		ug/m3			11/08/22 10:30	1
2-Butanone (MEK)	ND		2.9		ug/m3			11/08/22 10:30	1
2-Hexanone	ND		2.0		ug/m3			11/08/22 10:30	1
3-Chloropropene	ND		0.63		ug/m3			11/08/22 10:30	1
4-Methyl-2-pentanone (MIBK)	ND		4.1		ug/m3			11/08/22 10:30	1
Acetone	ND		18		ug/m3			11/08/22 10:30	1
Acetonitrile	ND		1.7		ug/m3			11/08/22 10:30	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-67168/12
Matrix: Air
Analysis Batch: 67168

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		2.3		ug/m3			11/08/22 10:30	1
Acrylonitrile	ND		4.3		ug/m3			11/08/22 10:30	1
Alpha Methyl Styrene	ND		1.9		ug/m3			11/08/22 10:30	1
Benzene	ND		0.64		ug/m3			11/08/22 10:30	1
Benzyl chloride	ND		2.1		ug/m3			11/08/22 10:30	1
Bromodichloromethane	ND		1.3		ug/m3			11/08/22 10:30	1
Bromoform	ND		2.1		ug/m3			11/08/22 10:30	1
Bromomethane	ND		0.78		ug/m3			11/08/22 10:30	1
Butane	ND		2.4		ug/m3			11/08/22 10:30	1
Carbon disulfide	ND		1.2		ug/m3			11/08/22 10:30	1
Carbon tetrachloride	ND		1.3		ug/m3			11/08/22 10:30	1
Chlorobenzene	ND		0.92		ug/m3			11/08/22 10:30	1
Chlorodifluoromethane	ND		0.71		ug/m3			11/08/22 10:30	1
Chloroethane	ND		0.53		ug/m3			11/08/22 10:30	1
Chloroform	ND		0.98		ug/m3			11/08/22 10:30	1
Chloromethane	ND		2.1		ug/m3			11/08/22 10:30	1
cis-1,2-Dichloroethene	ND		0.79		ug/m3			11/08/22 10:30	1
cis-1,3-Dichloropropene	ND		1.8		ug/m3			11/08/22 10:30	1
Cumene	ND		2.0		ug/m3			11/08/22 10:30	1
Cyclohexane	ND		1.4		ug/m3			11/08/22 10:30	1
Decane	ND		5.8		ug/m3			11/08/22 10:30	1
Dibromochloromethane	ND		1.7		ug/m3			11/08/22 10:30	1
Dibromomethane	ND		2.8		ug/m3			11/08/22 10:30	1
Dichlorodifluoromethane	ND		0.99		ug/m3			11/08/22 10:30	1
Dodecane	ND		7.0		ug/m3			11/08/22 10:30	1
Ethyl ether	ND		6.1		ug/m3			11/08/22 10:30	1
Ethylbenzene	ND		0.87		ug/m3			11/08/22 10:30	1
Heptane	ND		1.6		ug/m3			11/08/22 10:30	1
Hexachlorobutadiene	ND		11		ug/m3			11/08/22 10:30	1
Hexane	ND		1.4		ug/m3			11/08/22 10:30	1
Methyl tert-butyl ether	ND		3.6		ug/m3			11/08/22 10:30	1
Methylene Chloride	ND		3.5		ug/m3			11/08/22 10:30	1
m-Xylene & p-Xylene	ND		0.87		ug/m3			11/08/22 10:30	1
Naphthalene	ND		2.1		ug/m3			11/08/22 10:30	1
Nonane	ND		2.1		ug/m3			11/08/22 10:30	1
Octane	ND		1.9		ug/m3			11/08/22 10:30	1
o-Xylene	ND		0.87		ug/m3			11/08/22 10:30	1
Pentane	ND		7.4		ug/m3			11/08/22 10:30	1
Propylbenzene	ND		2.0		ug/m3			11/08/22 10:30	1
Styrene	ND		0.85		ug/m3			11/08/22 10:30	1
Tetrachloroethene	ND		1.4		ug/m3			11/08/22 10:30	1
Toluene	ND		3.8		ug/m3			11/08/22 10:30	1
trans-1,2-Dichloroethene	ND		0.79		ug/m3			11/08/22 10:30	1
trans-1,3-Dichloropropene	ND		0.91		ug/m3			11/08/22 10:30	1
Trichloroethene	ND		1.1		ug/m3			11/08/22 10:30	1
Trichlorofluoromethane	ND		1.1		ug/m3			11/08/22 10:30	1
Undecane	ND		6.4		ug/m3			11/08/22 10:30	1
Vinyl acetate	ND		3.5		ug/m3			11/08/22 10:30	1
Vinyl chloride	ND		1.0		ug/m3			11/08/22 10:30	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

<u>Surrogate</u>	<u>MB</u> <u>%Recovery</u>	<u>MB</u> <u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
4-Bromofluorobenzene (Surr)	95		60 - 140		11/08/22 10:30	1

Lab Sample ID: LCS 140-67168/1002
Matrix: Air
Analysis Batch: 67168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

<u>Analyte</u>	<u>Spike</u> <u>Added</u>	<u>LCS</u> <u>Result</u>	<u>LCS</u> <u>Qualifier</u>	<u>Unit</u>	<u>D</u>	<u>%Rec</u>	<u>%Rec</u> <u>Limits</u>
1,1,1-Trichloroethane	1.60	1.64		ppb v/v		103	70 - 130
1,1,1,2-Tetrachloroethane	1.60	1.69		ppb v/v		106	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	1.60	1.67		ppb v/v		104	70 - 130
1,1,2-Trichloroethane	1.60	1.76		ppb v/v		110	70 - 130
1,1-Dichloroethane	1.60	1.70		ppb v/v		106	70 - 130
1,1-Dichloroethene	1.60	1.65		ppb v/v		103	70 - 130
1,2,4-Trichlorobenzene	1.60	1.50		ppb v/v		94	60 - 140
1,2,4-Trimethylbenzene	1.60	1.70		ppb v/v		106	70 - 130
1,2-Dibromoethane (EDB)	1.60	1.77		ppb v/v		111	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.60	1.64		ppb v/v		102	60 - 140
1,2-Dichlorobenzene	1.60	1.64		ppb v/v		102	70 - 130
1,2-Dichloroethane	1.60	1.71		ppb v/v		107	70 - 130
1,2-Dichloropropane	1.60	1.70		ppb v/v		106	70 - 130
1,3,5-Trimethylbenzene	1.60	1.92		ppb v/v		120	70 - 130
1,3-Butadiene	1.60	1.64		ppb v/v		103	60 - 140
1,3-Dichlorobenzene	1.60	1.68		ppb v/v		105	70 - 130
1,4-Dichlorobenzene	1.60	1.65		ppb v/v		103	70 - 130
2-Butanone (MEK)	1.60	1.69		ppb v/v		106	60 - 140
2-Hexanone	1.60	1.78		ppb v/v		111	60 - 140
3-Chloropropene	1.60	1.62		ppb v/v		101	60 - 140
4-Methyl-2-pentanone (MIBK)	1.60	1.80		ppb v/v		112	60 - 140
Acetone	1.60	1.74	J	ppb v/v		109	60 - 140
Acetonitrile	1.60	1.60		ppb v/v		100	60 - 140
Acrolein	1.60	1.90		ppb v/v		119	60 - 140
Acrylonitrile	1.60	1.75		ppb v/v		109	60 - 140
Alpha Methyl Styrene	1.60	1.81		ppb v/v		113	60 - 140
Benzene	1.60	1.76		ppb v/v		110	70 - 130
Benzyl chloride	1.60	1.74		ppb v/v		109	70 - 130
Bromodichloromethane	1.60	1.74		ppb v/v		108	70 - 130
Bromoform	1.60	1.73		ppb v/v		108	60 - 140
Bromomethane	1.60	1.60		ppb v/v		100	70 - 130
Butane	1.60	1.63		ppb v/v		102	60 - 140
Carbon disulfide	1.60	1.70		ppb v/v		106	70 - 130
Carbon tetrachloride	1.60	1.76		ppb v/v		110	70 - 130
Chlorobenzene	1.60	1.76		ppb v/v		110	70 - 130
Chlorodifluoromethane	1.60	1.57		ppb v/v		98	60 - 140
Chloroethane	1.60	1.66		ppb v/v		104	70 - 130
Chloroform	1.60	1.70		ppb v/v		107	70 - 130
Chloromethane	1.60	1.52		ppb v/v		95	60 - 140
cis-1,2-Dichloroethene	1.60	1.71		ppb v/v		107	70 - 130
cis-1,3-Dichloropropene	1.60	1.77		ppb v/v		110	70 - 130
Cumene	1.60	1.75		ppb v/v		109	70 - 130
Cyclohexane	1.60	1.78		ppb v/v		111	70 - 130

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-67168/1002
Matrix: Air
Analysis Batch: 67168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Decane	1.60	1.73		ppb v/v		108	60 - 140
Dibromochloromethane	1.60	1.78		ppb v/v		111	70 - 130
Dibromomethane	1.60	1.73		ppb v/v		108	70 - 130
Dichlorodifluoromethane	1.60	1.70		ppb v/v		106	60 - 140
Dodecane	1.60	1.39		ppb v/v		87	60 - 140
Ethyl ether	1.60	1.67		ppb v/v		105	60 - 140
Ethylbenzene	1.60	1.75		ppb v/v		109	70 - 130
Heptane	1.60	1.81		ppb v/v		113	70 - 130
Hexachlorobutadiene	1.60	1.33		ppb v/v		83	60 - 140
Hexane	1.60	1.68		ppb v/v		105	70 - 130
Methyl tert-butyl ether	1.60	1.73		ppb v/v		108	60 - 140
Methylene Chloride	1.60	1.67		ppb v/v		105	70 - 130
m-Xylene & p-Xylene	3.20	3.62		ppb v/v		113	70 - 130
Naphthalene	1.60	1.57		ppb v/v		98	60 - 140
Nonane	1.60	1.78		ppb v/v		111	60 - 140
Octane	1.60	1.80		ppb v/v		112	70 - 130
o-Xylene	1.60	1.72		ppb v/v		107	70 - 130
Pentane	1.60	1.82		ppb v/v		114	70 - 130
Propylbenzene	1.60	1.79		ppb v/v		112	70 - 130
Styrene	1.60	1.79		ppb v/v		112	70 - 130
Tetrachloroethene	1.60	1.69		ppb v/v		106	70 - 130
Toluene	1.60	1.74		ppb v/v		109	70 - 130
trans-1,2-Dichloroethene	1.60	1.69		ppb v/v		105	70 - 130
trans-1,3-Dichloropropene	1.60	1.75		ppb v/v		109	70 - 130
Trichloroethene	1.60	1.70		ppb v/v		106	70 - 130
Trichlorofluoromethane	1.60	1.68		ppb v/v		105	60 - 140
Undecane	1.60	1.59		ppb v/v		100	60 - 140
Vinyl acetate	1.60	1.70		ppb v/v		106	60 - 140
Vinyl chloride	1.60	1.68		ppb v/v		105	70 - 130
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	8.7	8.95		ug/m3		103	70 - 130
1,1,2,2-Tetrachloroethane	11	11.6		ug/m3		106	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	12	12.8		ug/m3		104	70 - 130
1,1,2-Trichloroethane	8.7	9.60		ug/m3		110	70 - 130
1,1-Dichloroethane	6.5	6.88		ug/m3		106	70 - 130
1,1-Dichloroethene	6.3	6.53		ug/m3		103	70 - 130
1,2,4-Trichlorobenzene	12	11.1		ug/m3		94	60 - 140
1,2,4-Trimethylbenzene	7.9	8.38		ug/m3		106	70 - 130
1,2-Dibromoethane (EDB)	12	13.6		ug/m3		111	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	11	11.5		ug/m3		102	60 - 140
1,2-Dichlorobenzene	9.6	9.83		ug/m3		102	70 - 130
1,2-Dichloroethane	6.5	6.93		ug/m3		107	70 - 130
1,2-Dichloropropane	7.4	7.83		ug/m3		106	70 - 130
1,3,5-Trimethylbenzene	7.9	9.44		ug/m3		120	70 - 130
1,3-Butadiene	3.5	3.63		ug/m3		103	60 - 140
1,3-Dichlorobenzene	9.6	10.1		ug/m3		105	70 - 130

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-67168/1002
Matrix: Air
Analysis Batch: 67168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	9.6	9.90		ug/m3		103	70 - 130
2-Butanone (MEK)	4.7	4.98		ug/m3		106	60 - 140
2-Hexanone	6.6	7.31		ug/m3		111	60 - 140
3-Chloropropene	5.0	5.07		ug/m3		101	60 - 140
4-Methyl-2-pentanone (MIBK)	6.6	7.36		ug/m3		112	60 - 140
Acetone	3.8	4.14	J	ug/m3		109	60 - 140
Acetonitrile	2.7	2.69		ug/m3		100	60 - 140
Acrolein	3.7	4.36		ug/m3		119	60 - 140
Acrylonitrile	3.5	3.79		ug/m3		109	60 - 140
Alpha Methyl Styrene	7.7	8.74		ug/m3		113	60 - 140
Benzene	5.1	5.61		ug/m3		110	70 - 130
Benzyl chloride	8.3	9.03		ug/m3		109	70 - 130
Bromodichloromethane	11	11.6		ug/m3		108	70 - 130
Bromoform	17	17.8		ug/m3		108	60 - 140
Bromomethane	6.2	6.21		ug/m3		100	70 - 130
Butane	3.8	3.87		ug/m3		102	60 - 140
Carbon disulfide	5.0	5.30		ug/m3		106	70 - 130
Carbon tetrachloride	10	11.1		ug/m3		110	70 - 130
Chlorobenzene	7.4	8.10		ug/m3		110	70 - 130
Chlorodifluoromethane	5.7	5.55		ug/m3		98	60 - 140
Chloroethane	4.2	4.39		ug/m3		104	70 - 130
Chloroform	7.8	8.32		ug/m3		107	70 - 130
Chloromethane	3.3	3.13		ug/m3		95	60 - 140
cis-1,2-Dichloroethene	6.3	6.78		ug/m3		107	70 - 130
cis-1,3-Dichloropropene	7.3	8.02		ug/m3		110	70 - 130
Cumene	7.9	8.59		ug/m3		109	70 - 130
Cyclohexane	5.5	6.12		ug/m3		111	70 - 130
Decane	9.3	10.1		ug/m3		108	60 - 140
Dibromochloromethane	14	15.2		ug/m3		111	70 - 130
Dibromomethane	11	12.3		ug/m3		108	70 - 130
Dichlorodifluoromethane	7.9	8.43		ug/m3		106	60 - 140
Dodecane	11	9.70		ug/m3		87	60 - 140
Ethyl ether	4.9	5.08		ug/m3		105	60 - 140
Ethylbenzene	6.9	7.60		ug/m3		109	70 - 130
Heptane	6.6	7.41		ug/m3		113	70 - 130
Hexachlorobutadiene	17	14.2		ug/m3		83	60 - 140
Hexane	5.6	5.93		ug/m3		105	70 - 130
Methyl tert-butyl ether	5.8	6.23		ug/m3		108	60 - 140
Methylene Chloride	5.6	5.81		ug/m3		105	70 - 130
m-Xylene & p-Xylene	14	15.7		ug/m3		113	70 - 130
Naphthalene	8.4	8.23		ug/m3		98	60 - 140
Nonane	8.4	9.34		ug/m3		111	60 - 140
Octane	7.5	8.41		ug/m3		112	70 - 130
o-Xylene	6.9	7.46		ug/m3		107	70 - 130
Pentane	4.7	5.36		ug/m3		114	70 - 130
Propylbenzene	7.9	8.81		ug/m3		112	70 - 130
Styrene	6.8	7.61		ug/m3		112	70 - 130
Tetrachloroethene	11	11.5		ug/m3		106	70 - 130
Toluene	6.0	6.55		ug/m3		109	70 - 130

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-67168/1002
Matrix: Air
Analysis Batch: 67168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,2-Dichloroethene	6.3	6.69		ug/m3		105	70 - 130
trans-1,3-Dichloropropene	7.3	7.94		ug/m3		109	70 - 130
Trichloroethene	8.6	9.13		ug/m3		106	70 - 130
Trichlorofluoromethane	9.0	9.42		ug/m3		105	60 - 140
Undecane	10	10.2		ug/m3		100	60 - 140
Vinyl acetate	5.6	5.99		ug/m3		106	60 - 140
Vinyl chloride	4.1	4.29		ug/m3		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		60 - 140

Lab Sample ID: MB 140-67239/4
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,1,2,2-Tetrachloroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,1,2-Trichloroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,1-Dichloroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,1-Dichloroethene	ND		0.20		ppb v/v			11/09/22 09:06	1
1,2,4-Trichlorobenzene	ND		1.0		ppb v/v			11/09/22 09:06	1
1,2,4-Trimethylbenzene	ND		0.20		ppb v/v			11/09/22 09:06	1
1,2-Dibromoethane (EDB)	ND		0.20		ppb v/v			11/09/22 09:06	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,2-Dichlorobenzene	ND		0.40		ppb v/v			11/09/22 09:06	1
1,2-Dichloroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,2-Dichloropropane	ND		0.20		ppb v/v			11/09/22 09:06	1
1,3,5-Trimethylbenzene	ND		0.40		ppb v/v			11/09/22 09:06	1
1,3-Butadiene	ND		0.40		ppb v/v			11/09/22 09:06	1
1,3-Dichlorobenzene	ND		0.20		ppb v/v			11/09/22 09:06	1
1,4-Dichlorobenzene	ND		0.20		ppb v/v			11/09/22 09:06	1
2-Butanone (MEK)	ND		1.0		ppb v/v			11/09/22 09:06	1
2-Hexanone	ND		0.50		ppb v/v			11/09/22 09:06	1
3-Chloropropene	ND		0.20		ppb v/v			11/09/22 09:06	1
4-Methyl-2-pentanone (MIBK)	ND		1.0		ppb v/v			11/09/22 09:06	1
Acetone	ND		7.5		ppb v/v			11/09/22 09:06	1
Acetonitrile	ND		1.0		ppb v/v			11/09/22 09:06	1
Acrolein	ND		1.0		ppb v/v			11/09/22 09:06	1
Acrylonitrile	ND		2.0		ppb v/v			11/09/22 09:06	1
Alpha Methyl Styrene	ND		0.40		ppb v/v			11/09/22 09:06	1
Benzene	ND		0.20		ppb v/v			11/09/22 09:06	1
Benzyl chloride	ND		0.40		ppb v/v			11/09/22 09:06	1
Bromodichloromethane	ND		0.20		ppb v/v			11/09/22 09:06	1
Bromoform	ND		0.20		ppb v/v			11/09/22 09:06	1
Bromomethane	ND		0.20		ppb v/v			11/09/22 09:06	1
Butane	ND		1.0		ppb v/v			11/09/22 09:06	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-67239/4
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		0.40		ppb v/v			11/09/22 09:06	1
Carbon tetrachloride	ND		0.20		ppb v/v			11/09/22 09:06	1
Chlorobenzene	ND		0.20		ppb v/v			11/09/22 09:06	1
Chlorodifluoromethane	ND		0.20		ppb v/v			11/09/22 09:06	1
Chloroethane	ND		0.20		ppb v/v			11/09/22 09:06	1
Chloroform	ND		0.20		ppb v/v			11/09/22 09:06	1
Chloromethane	ND		1.0		ppb v/v			11/09/22 09:06	1
cis-1,2-Dichloroethene	ND		0.20		ppb v/v			11/09/22 09:06	1
cis-1,3-Dichloropropene	ND		0.40		ppb v/v			11/09/22 09:06	1
Cumene	ND		0.40		ppb v/v			11/09/22 09:06	1
Cyclohexane	ND		0.40		ppb v/v			11/09/22 09:06	1
Decane	ND		1.0		ppb v/v			11/09/22 09:06	1
Dibromochloromethane	ND		0.20		ppb v/v			11/09/22 09:06	1
Dibromomethane	ND		0.40		ppb v/v			11/09/22 09:06	1
Dichlorodifluoromethane	ND		0.20		ppb v/v			11/09/22 09:06	1
Dodecane	ND		1.0		ppb v/v			11/09/22 09:06	1
Ethyl ether	ND		2.0		ppb v/v			11/09/22 09:06	1
Ethylbenzene	ND		0.20		ppb v/v			11/09/22 09:06	1
Heptane	ND		0.40		ppb v/v			11/09/22 09:06	1
Hexachlorobutadiene	ND		1.0		ppb v/v			11/09/22 09:06	1
Hexane	ND		0.40		ppb v/v			11/09/22 09:06	1
Methyl tert-butyl ether	ND		1.0		ppb v/v			11/09/22 09:06	1
Methylene Chloride	ND		1.0		ppb v/v			11/09/22 09:06	1
m-Xylene & p-Xylene	ND		0.20		ppb v/v			11/09/22 09:06	1
Naphthalene	ND		0.40		ppb v/v			11/09/22 09:06	1
Nonane	ND		0.40		ppb v/v			11/09/22 09:06	1
Octane	ND		0.40		ppb v/v			11/09/22 09:06	1
o-Xylene	ND		0.20		ppb v/v			11/09/22 09:06	1
Pentane	ND		2.5		ppb v/v			11/09/22 09:06	1
Propylbenzene	ND		0.40		ppb v/v			11/09/22 09:06	1
Styrene	ND		0.20		ppb v/v			11/09/22 09:06	1
Tetrachloroethene	ND		0.20		ppb v/v			11/09/22 09:06	1
Toluene	ND		1.0		ppb v/v			11/09/22 09:06	1
trans-1,2-Dichloroethene	ND		0.20		ppb v/v			11/09/22 09:06	1
trans-1,3-Dichloropropene	ND		0.20		ppb v/v			11/09/22 09:06	1
Trichloroethene	ND		0.20		ppb v/v			11/09/22 09:06	1
Trichlorofluoromethane	ND		0.20		ppb v/v			11/09/22 09:06	1
Undecane	ND		1.0		ppb v/v			11/09/22 09:06	1
Vinyl acetate	ND		1.0		ppb v/v			11/09/22 09:06	1
Vinyl chloride	ND		0.40		ppb v/v			11/09/22 09:06	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.1		ug/m3			11/09/22 09:06	1
1,1,2,2-Tetrachloroethane	ND		1.4		ug/m3			11/09/22 09:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.5		ug/m3			11/09/22 09:06	1
1,1,2-Trichloroethane	ND		1.1		ug/m3			11/09/22 09:06	1
1,1-Dichloroethane	ND		0.81		ug/m3			11/09/22 09:06	1
1,1-Dichloroethene	ND		0.79		ug/m3			11/09/22 09:06	1
1,2,4-Trichlorobenzene	ND		7.4		ug/m3			11/09/22 09:06	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-67239/4
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		0.98		ug/m3			11/09/22 09:06	1
1,2-Dibromoethane (EDB)	ND		1.5		ug/m3			11/09/22 09:06	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND		1.4		ug/m3			11/09/22 09:06	1
1,2-Dichlorobenzene	ND		2.4		ug/m3			11/09/22 09:06	1
1,2-Dichloroethane	ND		0.81		ug/m3			11/09/22 09:06	1
1,2-Dichloropropane	ND		0.92		ug/m3			11/09/22 09:06	1
1,3,5-Trimethylbenzene	ND		2.0		ug/m3			11/09/22 09:06	1
1,3-Butadiene	ND		0.88		ug/m3			11/09/22 09:06	1
1,3-Dichlorobenzene	ND		1.2		ug/m3			11/09/22 09:06	1
1,4-Dichlorobenzene	ND		1.2		ug/m3			11/09/22 09:06	1
2-Butanone (MEK)	ND		2.9		ug/m3			11/09/22 09:06	1
2-Hexanone	ND		2.0		ug/m3			11/09/22 09:06	1
3-Chloropropene	ND		0.63		ug/m3			11/09/22 09:06	1
4-Methyl-2-pentanone (MIBK)	ND		4.1		ug/m3			11/09/22 09:06	1
Acetone	ND		18		ug/m3			11/09/22 09:06	1
Acetonitrile	ND		1.7		ug/m3			11/09/22 09:06	1
Acrolein	ND		2.3		ug/m3			11/09/22 09:06	1
Acrylonitrile	ND		4.3		ug/m3			11/09/22 09:06	1
Alpha Methyl Styrene	ND		1.9		ug/m3			11/09/22 09:06	1
Benzene	ND		0.64		ug/m3			11/09/22 09:06	1
Benzyl chloride	ND		2.1		ug/m3			11/09/22 09:06	1
Bromodichloromethane	ND		1.3		ug/m3			11/09/22 09:06	1
Bromoform	ND		2.1		ug/m3			11/09/22 09:06	1
Bromomethane	ND		0.78		ug/m3			11/09/22 09:06	1
Butane	ND		2.4		ug/m3			11/09/22 09:06	1
Carbon disulfide	ND		1.2		ug/m3			11/09/22 09:06	1
Carbon tetrachloride	ND		1.3		ug/m3			11/09/22 09:06	1
Chlorobenzene	ND		0.92		ug/m3			11/09/22 09:06	1
Chlorodifluoromethane	ND		0.71		ug/m3			11/09/22 09:06	1
Chloroethane	ND		0.53		ug/m3			11/09/22 09:06	1
Chloroform	ND		0.98		ug/m3			11/09/22 09:06	1
Chloromethane	ND		2.1		ug/m3			11/09/22 09:06	1
cis-1,2-Dichloroethene	ND		0.79		ug/m3			11/09/22 09:06	1
cis-1,3-Dichloropropene	ND		1.8		ug/m3			11/09/22 09:06	1
Cumene	ND		2.0		ug/m3			11/09/22 09:06	1
Cyclohexane	ND		1.4		ug/m3			11/09/22 09:06	1
Decane	ND		5.8		ug/m3			11/09/22 09:06	1
Dibromochloromethane	ND		1.7		ug/m3			11/09/22 09:06	1
Dibromomethane	ND		2.8		ug/m3			11/09/22 09:06	1
Dichlorodifluoromethane	ND		0.99		ug/m3			11/09/22 09:06	1
Dodecane	ND		7.0		ug/m3			11/09/22 09:06	1
Ethyl ether	ND		6.1		ug/m3			11/09/22 09:06	1
Ethylbenzene	ND		0.87		ug/m3			11/09/22 09:06	1
Heptane	ND		1.6		ug/m3			11/09/22 09:06	1
Hexachlorobutadiene	ND		11		ug/m3			11/09/22 09:06	1
Hexane	ND		1.4		ug/m3			11/09/22 09:06	1
Methyl tert-butyl ether	ND		3.6		ug/m3			11/09/22 09:06	1
Methylene Chloride	ND		3.5		ug/m3			11/09/22 09:06	1
m-Xylene & p-Xylene	ND		0.87		ug/m3			11/09/22 09:06	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-67239/4
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		2.1		ug/m3			11/09/22 09:06	1
Nonane	ND		2.1		ug/m3			11/09/22 09:06	1
Octane	ND		1.9		ug/m3			11/09/22 09:06	1
o-Xylene	ND		0.87		ug/m3			11/09/22 09:06	1
Pentane	ND		7.4		ug/m3			11/09/22 09:06	1
Propylbenzene	ND		2.0		ug/m3			11/09/22 09:06	1
Styrene	ND		0.85		ug/m3			11/09/22 09:06	1
Tetrachloroethene	ND		1.4		ug/m3			11/09/22 09:06	1
Toluene	ND		3.8		ug/m3			11/09/22 09:06	1
trans-1,2-Dichloroethene	ND		0.79		ug/m3			11/09/22 09:06	1
trans-1,3-Dichloropropene	ND		0.91		ug/m3			11/09/22 09:06	1
Trichloroethene	ND		1.1		ug/m3			11/09/22 09:06	1
Trichlorofluoromethane	ND		1.1		ug/m3			11/09/22 09:06	1
Undecane	ND		6.4		ug/m3			11/09/22 09:06	1
Vinyl acetate	ND		3.5		ug/m3			11/09/22 09:06	1
Vinyl chloride	ND		1.0		ug/m3			11/09/22 09:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		60 - 140		11/09/22 09:06	1

Lab Sample ID: LCS 140-67239/1002
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	2.00	2.15		ppb v/v		108	70 - 130
1,1,1,2-Tetrachloroethane	2.00	2.18		ppb v/v		109	70 - 130
1,1,1,2-Trichloro-1,1,2,2-trifluoroethane	2.00	2.08		ppb v/v		104	70 - 130
1,1,2-Trichloroethane	2.00	2.17		ppb v/v		108	70 - 130
1,1-Dichloroethane	2.00	2.18		ppb v/v		109	70 - 130
1,1-Dichloroethene	2.00	1.97		ppb v/v		98	70 - 130
1,2,4-Trichlorobenzene	2.00	1.95		ppb v/v		97	60 - 140
1,2,4-Trimethylbenzene	2.00	2.24		ppb v/v		112	70 - 130
1,2-Dibromoethane (EDB)	2.00	2.20		ppb v/v		110	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.00	1.97		ppb v/v		99	60 - 140
1,2-Dichlorobenzene	2.00	2.11		ppb v/v		105	70 - 130
1,2-Dichloroethane	2.00	2.37		ppb v/v		118	70 - 130
1,2-Dichloropropane	2.00	2.21		ppb v/v		110	70 - 130
1,3,5-Trimethylbenzene	2.00	2.42		ppb v/v		121	70 - 130
1,3-Butadiene	2.00	2.04		ppb v/v		102	60 - 140
1,3-Dichlorobenzene	2.00	2.15		ppb v/v		108	70 - 130
1,4-Dichlorobenzene	2.00	2.09		ppb v/v		105	70 - 130
2-Butanone (MEK)	2.00	2.18		ppb v/v		109	60 - 140
2-Hexanone	2.00	2.25		ppb v/v		112	60 - 140
3-Chloropropene	2.00	2.20		ppb v/v		110	60 - 140
4-Methyl-2-pentanone (MIBK)	2.00	2.33		ppb v/v		116	60 - 140
Acetone	2.00	2.11	J	ppb v/v		106	60 - 140

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-67239/1002
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetonitrile	2.00	2.20		ppb v/v		110	60 - 140
Acrolein	2.00	2.29		ppb v/v		115	60 - 140
Acrylonitrile	2.00	2.21		ppb v/v		111	60 - 140
Alpha Methyl Styrene	2.00	2.28		ppb v/v		114	60 - 140
Benzene	2.00	2.21		ppb v/v		111	70 - 130
Benzyl chloride	2.00	2.37		ppb v/v		118	70 - 130
Bromodichloromethane	2.00	2.36		ppb v/v		118	70 - 130
Bromoform	2.00	2.23		ppb v/v		112	60 - 140
Bromomethane	2.00	1.94		ppb v/v		97	70 - 130
Butane	2.00	2.09		ppb v/v		104	60 - 140
Carbon disulfide	2.00	2.09		ppb v/v		104	70 - 130
Carbon tetrachloride	2.00	2.42		ppb v/v		121	70 - 130
Chlorobenzene	2.00	2.14		ppb v/v		107	70 - 130
Chlorodifluoromethane	2.00	2.15		ppb v/v		108	60 - 140
Chloroethane	2.00	2.08		ppb v/v		104	70 - 130
Chloroform	2.00	2.20		ppb v/v		110	70 - 130
Chloromethane	2.00	1.99		ppb v/v		99	60 - 140
cis-1,2-Dichloroethene	2.00	2.03		ppb v/v		101	70 - 130
cis-1,3-Dichloropropene	2.00	2.31		ppb v/v		115	70 - 130
Cumene	2.00	2.20		ppb v/v		110	70 - 130
Cyclohexane	2.00	2.12		ppb v/v		106	70 - 130
Decane	2.00	2.32		ppb v/v		116	60 - 140
Dibromochloromethane	2.00	2.27		ppb v/v		114	70 - 130
Dibromomethane	2.00	2.29		ppb v/v		114	70 - 130
Dichlorodifluoromethane	2.00	2.22		ppb v/v		111	60 - 140
Dodecane	2.00	1.90		ppb v/v		95	60 - 140
Ethyl ether	2.00	2.22		ppb v/v		111	60 - 140
Ethylbenzene	2.00	2.18		ppb v/v		109	70 - 130
Heptane	2.00	2.20		ppb v/v		110	70 - 130
Hexachlorobutadiene	2.00	1.69		ppb v/v		85	60 - 140
Hexane	2.00	2.22		ppb v/v		111	70 - 130
Methyl tert-butyl ether	2.00	2.14		ppb v/v		107	60 - 140
Methylene Chloride	2.00	2.09		ppb v/v		104	70 - 130
m-Xylene & p-Xylene	4.00	4.65		ppb v/v		116	70 - 130
Naphthalene	2.00	2.06		ppb v/v		103	60 - 140
Nonane	2.00	2.33		ppb v/v		117	60 - 140
Octane	2.00	2.16		ppb v/v		108	70 - 130
o-Xylene	2.00	2.18		ppb v/v		109	70 - 130
Pentane	2.00	2.15		ppb v/v		107	70 - 130
Propylbenzene	2.00	2.20		ppb v/v		110	70 - 130
Styrene	2.00	2.24		ppb v/v		112	70 - 130
Tetrachloroethene	2.00	2.10		ppb v/v		105	70 - 130
Toluene	2.00	2.15		ppb v/v		107	70 - 130
trans-1,2-Dichloroethene	2.00	2.01		ppb v/v		100	70 - 130
trans-1,3-Dichloropropene	2.00	2.21		ppb v/v		110	70 - 130
Trichloroethene	2.00	2.13		ppb v/v		107	70 - 130
Trichlorofluoromethane	2.00	2.19		ppb v/v		109	60 - 140
Undecane	2.00	2.13		ppb v/v		107	60 - 140
Vinyl acetate	2.00	2.90	*+	ppb v/v		145	60 - 140

Eurofins Knoxville

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-67239/1002
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	2.00	2.07		ppb v/v		104	70 - 130
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	11	11.8		ug/m3		108	70 - 130
1,1,2,2-Tetrachloroethane	14	15.0		ug/m3		109	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	15	15.9		ug/m3		104	70 - 130
1,1,2-Trichloroethane	11	11.8		ug/m3		108	70 - 130
1,1-Dichloroethane	8.1	8.84		ug/m3		109	70 - 130
1,1-Dichloroethene	7.9	7.81		ug/m3		98	70 - 130
1,2,4-Trichlorobenzene	15	14.4		ug/m3		97	60 - 140
1,2,4-Trimethylbenzene	9.8	11.0		ug/m3		112	70 - 130
1,2-Dibromoethane (EDB)	15	16.9		ug/m3		110	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	14	13.8		ug/m3		99	60 - 140
1,2-Dichlorobenzene	12	12.7		ug/m3		105	70 - 130
1,2-Dichloroethane	8.1	9.59		ug/m3		118	70 - 130
1,2-Dichloropropane	9.2	10.2		ug/m3		110	70 - 130
1,3,5-Trimethylbenzene	9.8	11.9		ug/m3		121	70 - 130
1,3-Butadiene	4.4	4.52		ug/m3		102	60 - 140
1,3-Dichlorobenzene	12	12.9		ug/m3		108	70 - 130
1,4-Dichlorobenzene	12	12.6		ug/m3		105	70 - 130
2-Butanone (MEK)	5.9	6.43		ug/m3		109	60 - 140
2-Hexanone	8.2	9.22		ug/m3		112	60 - 140
3-Chloropropene	6.3	6.89		ug/m3		110	60 - 140
4-Methyl-2-pentanone (MIBK)	8.2	9.54		ug/m3		116	60 - 140
Acetone	4.8	5.01	J	ug/m3		106	60 - 140
Acetonitrile	3.4	3.70		ug/m3		110	60 - 140
Acrolein	4.6	5.26		ug/m3		115	60 - 140
Acrylonitrile	4.3	4.81		ug/m3		111	60 - 140
Alpha Methyl Styrene	9.7	11.0		ug/m3		114	60 - 140
Benzene	6.4	7.07		ug/m3		111	70 - 130
Benzyl chloride	10	12.3		ug/m3		118	70 - 130
Bromodichloromethane	13	15.8		ug/m3		118	70 - 130
Bromoform	21	23.1		ug/m3		112	60 - 140
Bromomethane	7.8	7.54		ug/m3		97	70 - 130
Butane	4.8	4.96		ug/m3		104	60 - 140
Carbon disulfide	6.2	6.50		ug/m3		104	70 - 130
Carbon tetrachloride	13	15.2		ug/m3		121	70 - 130
Chlorobenzene	9.2	9.85		ug/m3		107	70 - 130
Chlorodifluoromethane	7.1	7.61		ug/m3		108	60 - 140
Chloroethane	5.3	5.48		ug/m3		104	70 - 130
Chloroform	9.8	10.7		ug/m3		110	70 - 130
Chloromethane	4.1	4.10		ug/m3		99	60 - 140
cis-1,2-Dichloroethene	7.9	8.03		ug/m3		101	70 - 130
cis-1,3-Dichloropropene	9.1	10.5		ug/m3		115	70 - 130
Cumene	9.8	10.8		ug/m3		110	70 - 130
Cyclohexane	6.9	7.28		ug/m3		106	70 - 130
Decane	12	13.5		ug/m3		116	60 - 140

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-67239/1002
Matrix: Air
Analysis Batch: 67239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromochloromethane	17	19.4		ug/m3		114	70 - 130
Dibromomethane	14	16.3		ug/m3		114	70 - 130
Dichlorodifluoromethane	9.9	11.0		ug/m3		111	60 - 140
Dodecane	14	13.2		ug/m3		95	60 - 140
Ethyl ether	6.1	6.72		ug/m3		111	60 - 140
Ethylbenzene	8.7	9.47		ug/m3		109	70 - 130
Heptane	8.2	9.00		ug/m3		110	70 - 130
Hexachlorobutadiene	21	18.1		ug/m3		85	60 - 140
Hexane	7.0	7.83		ug/m3		111	70 - 130
Methyl tert-butyl ether	7.2	7.72		ug/m3		107	60 - 140
Methylene Chloride	6.9	7.24		ug/m3		104	70 - 130
m-Xylene & p-Xylene	17	20.2		ug/m3		116	70 - 130
Naphthalene	10	10.8		ug/m3		103	60 - 140
Nonane	10	12.2		ug/m3		117	60 - 140
Octane	9.3	10.1		ug/m3		108	70 - 130
o-Xylene	8.7	9.45		ug/m3		109	70 - 130
Pentane	5.9	6.34		ug/m3		107	70 - 130
Propylbenzene	9.8	10.8		ug/m3		110	70 - 130
Styrene	8.5	9.55		ug/m3		112	70 - 130
Tetrachloroethene	14	14.3		ug/m3		105	70 - 130
Toluene	7.5	8.09		ug/m3		107	70 - 130
trans-1,2-Dichloroethene	7.9	7.96		ug/m3		100	70 - 130
trans-1,3-Dichloropropene	9.1	10.0		ug/m3		110	70 - 130
Trichloroethene	11	11.5		ug/m3		107	70 - 130
Trichlorofluoromethane	11	12.3		ug/m3		109	60 - 140
Undecane	13	13.6		ug/m3		107	60 - 140
Vinyl acetate	7.0	10.2	+	ug/m3		145	60 - 140
Vinyl chloride	5.1	5.30		ug/m3		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		60 - 140

QC Association Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Air - GC/MS VOA

Analysis Batch: 67168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29435-1	G-221027-BZ-001	Total/NA	Air	TO-15	
140-29435-2	G-221027-BZ-002	Total/NA	Air	TO-15	
140-29435-3	G-221027-BZ-003	Total/NA	Air	TO-15	
140-29435-4	G-221027-BZ-004	Total/NA	Air	TO-15	
MB 140-67168/12	Method Blank	Total/NA	Air	TO-15	
LCS 140-67168/1002	Lab Control Sample	Total/NA	Air	TO-15	

Analysis Batch: 67239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29435-5	G-221027-BZ-005	Total/NA	Air	TO-15	
140-29435-6	G-221027-BZ-006	Total/NA	Air	TO-15	
MB 140-67239/4	Method Blank	Total/NA	Air	TO-15	
LCS 140-67239/1002	Lab Control Sample	Total/NA	Air	TO-15	

Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: G-221027-BZ-001

Lab Sample ID: 140-29435-1

Date Collected: 10/27/22 13:43

Matrix: Air

Date Received: 11/01/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1.55	150 mL	500 mL	67168	11/08/22 23:21	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: G-221027-BZ-002

Lab Sample ID: 140-29435-2

Date Collected: 10/27/22 14:06

Matrix: Air

Date Received: 11/01/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1.89	100 mL	500 mL	67168	11/09/22 00:04	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: G-221027-BZ-003

Lab Sample ID: 140-29435-3

Date Collected: 10/27/22 14:15

Matrix: Air

Date Received: 11/01/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	25 mL	500 mL	67168	11/09/22 00:47	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: G-221027-BZ-004

Lab Sample ID: 140-29435-4

Date Collected: 10/27/22 14:25

Matrix: Air

Date Received: 11/01/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	40 mL	500 mL	67168	11/09/22 01:29	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: G-221027-BZ-005

Lab Sample ID: 140-29435-5

Date Collected: 10/27/22 14:36

Matrix: Air

Date Received: 11/01/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	40 mL	500 mL	67239	11/09/22 10:31	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: G-221027-BZ-006

Lab Sample ID: 140-29435-6

Date Collected: 10/27/22 14:47

Matrix: Air

Date Received: 11/01/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	60 mL	500 mL	67239	11/09/22 11:14	S1K	EET KNX
Instrument ID: MR										

Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Client Sample ID: Method Blank

Lab Sample ID: MB 140-67168/12

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	200 mL	500 mL	67168	11/08/22 10:30	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-67239/4

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	200 mL	500 mL	67239	11/09/22 09:06	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-67168/1002

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	500 mL	500 mL	67168	11/08/22 05:26	S1K	EET KNX
Instrument ID: MR										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-67239/1002

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	500 mL	500 mL	67239	11/09/22 07:32	S1K	EET KNX
Instrument ID: MR										

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: GHD Services Inc.
 Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Laboratory: Eurofins Knoxville

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998044300	08-31-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
TO-15		Air	1,1,1-Trichloroethane
TO-15		Air	1,1,2,2-Tetrachloroethane
TO-15		Air	1,1,2-Trichloro-1,2,2-trifluoroethane
TO-15		Air	1,1,2-Trichloroethane
TO-15		Air	1,1-Dichloroethane
TO-15		Air	1,1-Dichloroethene
TO-15		Air	1,2,4-Trichlorobenzene
TO-15		Air	1,2,4-Trimethylbenzene
TO-15		Air	1,2-Dibromoethane (EDB)
TO-15		Air	1,2-Dichloro-1,1,2,2-tetrafluoroethane
TO-15		Air	1,2-Dichlorobenzene
TO-15		Air	1,2-Dichloroethane
TO-15		Air	1,2-Dichloropropane
TO-15		Air	1,3,5-Trimethylbenzene
TO-15		Air	1,3-Butadiene
TO-15		Air	1,3-Dichlorobenzene
TO-15		Air	1,4-Dichlorobenzene
TO-15		Air	2-Butanone (MEK)
TO-15		Air	2-Hexanone
TO-15		Air	3-Chloropropene
TO-15		Air	4-Methyl-2-pentanone (MIBK)
TO-15		Air	Acetone
TO-15		Air	Acetonitrile
TO-15		Air	Acrolein
TO-15		Air	Acrylonitrile
TO-15		Air	Alpha Methyl Styrene
TO-15		Air	Benzene
TO-15		Air	Benzyl chloride
TO-15		Air	Bromodichloromethane
TO-15		Air	Bromoform
TO-15		Air	Bromomethane
TO-15		Air	Butane
TO-15		Air	Carbon disulfide
TO-15		Air	Carbon tetrachloride
TO-15		Air	Chlorobenzene
TO-15		Air	Chlorodifluoromethane
TO-15		Air	Chloroethane
TO-15		Air	Chloroform
TO-15		Air	Chloromethane
TO-15		Air	cis-1,2-Dichloroethene
TO-15		Air	cis-1,3-Dichloropropene
TO-15		Air	Cumene
TO-15		Air	Cyclohexane
TO-15		Air	Decane
TO-15		Air	Dibromochloromethane

Method Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	EET KNX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

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Sample Summary

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job ID: 140-29435-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
140-29435-1	G-221027-BZ-001	Air	10/27/22 13:43	11/01/22 09:45	Air Canister (6-Liter) #11028
140-29435-2	G-221027-BZ-002	Air	10/27/22 14:06	11/01/22 09:45	Air Canister (6-Liter) #34001428
140-29435-3	G-221027-BZ-003	Air	10/27/22 14:15	11/01/22 09:45	Air Canister (6-Liter) #34000724
140-29435-4	G-221027-BZ-004	Air	10/27/22 14:25	11/01/22 09:45	Air Canister (6-Liter) #09537
140-29435-5	G-221027-BZ-005	Air	10/27/22 14:36	11/01/22 09:45	Air Canister (6-Liter) #10529
140-29435-6	G-221027-BZ-006	Air	10/27/22 14:47	11/01/22 09:45	Air Canister (6-Liter) #10566

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EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Take.
1. Are the shipping containers intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Containers, Broken	
2. Were ambient air containers received intact?			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Checked in lab	
3. The coolers/containers custody seal if present, is it intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Yes <input type="checkbox"/> NA	
4. Is the cooler temperature within limits? (> freezing temp. of water to 6°C, VOST: 10°C) Thermometer ID : _____ Correction factor: _____			<input checked="" type="checkbox"/>	<input type="checkbox"/> Cooler Out of Temp, Client Contacted, Proceed/Cancel <input type="checkbox"/> Cooler Out of Temp, Same Day Receipt	
5. Were all of the sample containers received intact?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Containers, Broken	
6. Were samples received in appropriate containers?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Containers, Improper; Client Contacted; Proceed/Cancel	
7. Do sample container labels match COC? (IDs, Dates, Times)	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC & Samples Do Not Match <input type="checkbox"/> COC Incorrect/Incomplete <input type="checkbox"/> COC Not Received	
8. Were all of the samples listed on the COC received?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Sample Received, Not on COC <input type="checkbox"/> Sample on COC, Not Received	
9. Is the date/time of sample collection noted?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC; No Date/Time; Client Contacted	
10. Was the sampler identified on the COC?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Sampler Not Listed on COC	
11. Is the client and project name/# identified?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC Incorrect/Incomplete	
12. Are tests/parameters listed for each sample?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC No tests on COC	
13. Is the matrix of the samples noted?	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	<input checked="" type="checkbox"/>			<input type="checkbox"/> COC Incorrect/Incomplete	
15. Were samples received within holding time?	<input checked="" type="checkbox"/>			<input type="checkbox"/> Holding Time - Receipt	
16. Were samples received with correct chemical preservative (excluding Encore)?			<input checked="" type="checkbox"/>	<input type="checkbox"/> pH Adjusted, pH Included (See box 16A) <input type="checkbox"/> Incorrect Preservative	
17. Were VOA samples received without headspace?			<input checked="" type="checkbox"/>	<input type="checkbox"/> Headspace (VOA only) <input type="checkbox"/> Residual Chlorine	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number: _____			<input checked="" type="checkbox"/>		
19. For 1613B water samples is pH<9?			<input checked="" type="checkbox"/>	<input type="checkbox"/> If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?			<input checked="" type="checkbox"/>	<input type="checkbox"/> Project missing info	
Project #: <u>1400 1850</u> PM Instructions: _____					
Labeling Verified by: _____ Date: _____ pH test strip lot number: _____ Box 16A: pH Preservation Box 18A: Residual Chlorine Preservative: _____ Lot Number: _____ Exp Date: _____ Analyst: _____ Date: _____ Time: _____					

QA026R32.doc, 062719

Date: 11.01.22

Sample Receiving Associate: 



Summa Canister Dilution Worksheet

Client: GHD Services Inc.
Project/Site: New Richmond Landfill

Job No.: 140-29435-1

Lab Sample ID	Canister Volume (L)	Preadjusted Pressure ("Hg)	Preadjusted Pressure (atm)	Preadjusted Volume (L)	Adjusted Pressure (psig)	Adjusted Pressure (atm)	Adjusted Volume (L)	Initial Volume (mL)	Dilution Factor	Final Dilution Factor	Final Pressure Gauge ID	Date	Analyst Initials
140-29435-1	6	-10.6	0.65	3.87	0.0	1.00	6.00		1.55	1.55	G5	11/01/22 14:01	BRS
140-29435-2	6	-14.1	0.53	3.17	0.0	1.00	6.00		1.89	1.89	G5	11/01/22 14:01	BRS

Formulae:

- Preadjusted Volume (L) = ((Preadjusted Pressure ("Hg) + 29.92 "Hg) * Vol L) / 29.92 "Hg
- Adjusted Volume (L) = ((Adjusted Pressure (psig) + 14.7 psig) * Vol L) / 14.7 psig
- Dilution Factor = Adjusted Volume (L) / Preadjusted Volume (L)

Where:

- 29.92 "Hg = Standard atmospheric pressure in inches of Mercury ("Hg)
- 14.7 psig = Standard atmospheric pressure in pounds per square inch gauge (psig)



Water Data

Technical Memorandum

July 19, 2022

To	Ryan Aamot, GHD	Tel	612-524-6836
		Email	grant.anderson@ghd.com
From	Grant Anderson/lg/5	Ref. No.	048038-70-01
Subject	Analytical Results and Reduced Validation Groundwater and Residential Well Sampling Event New Richmond Landfill Site New Richmond, Wisconsin May 2022		

1. Introduction

This document details a reduced validation of analytical results for groundwater and residential well samples collected at the New Richmond Landfill Site during May 2022. Samples were submitted to Eurofins Environment Testing America (EETA), located in University Park, Illinois. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD Services Inc. (GHD) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS), and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i. "Quality Assurance Project Plan (QAPP), New Richmond Landfill, WDNR License #2492"; April 2008, Conestoga Rovers & Associates, Report 7.
- ii. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999, United States Environmental Protection Agency (USEPA) 540/R 99/008.

Item ii. will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding time.

The samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

Laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

With the exception of chloroform and methylene chloride, all method blank results were non-detect or yielded detections that did result in qualification of sample data. Table 4 lists the method blank detections. Associated sample data are qualified as noted in the table.

4. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for volatile organic compounds (VOCs) are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. With the exception of 1,2-dichloroethane-d4 in samples W-220527-KJ-12 and W-220526-KJ-07, all surrogate recoveries met the above criteria. Table 5 lists the outlying surrogate recoveries. Associated sample data are qualified as noted in the table.

5. Laboratory Control Sample (LCS) Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all compounds of interest. With the exception of tetrahydrofuran, all LCS recoveries were within the laboratory control limits. Table 6 lists the outlying LCS result. Associated sample data are qualified as noted in the table.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The relative percent difference (RPD) between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD samples were spiked with all compounds of interest. With the exception of tetrahydrofuran, all MS/MSD recoveries were within the laboratory control limits. Table 7 lists the outlying MS/MSD recoveries. Associated sample data are qualified as noted in the table.

7. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, one rinsate blank sample and one field duplicate sample set.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank sample was submitted to the laboratory for VOC analysis. All results were non-detect for the analytes of interest.

Rinsate Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site and cleanliness of sample containers, one rinsate blank sample was submitted for analysis, as identified in Table 1. Acetone and chloroform were detected in the rinsate blank. Associated chloroform sample results were previously qualified based on detection in the method blank. Table 7 lists the acetone detection. Associated sample results are qualified as noted in the table.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

9. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Regards,



Grant Anderson
Chemist

Encl.

Table 1

**Sample Collection and Analysis Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
May 2022**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters	Comments
W-220526-KJ-01	MW16A	water	05/26/2022	09:37	VOC	
W-220526-KJ-02	MW16A	water	05/26/2022	09:38	VOC	Duplicate (KJ-01)
W-220526-KJ-03	MW16	water	05/26/2022	10:15	VOC	
W-220526-KJ-04	MW1	water	05/26/2022	10:30	VOC	
W-220526-KJ-05	MW17	water	05/26/2022	12:02	VOC	MS/MSD
W-220526-KJ-06	MW17A	water	05/26/2022	12:45	VOC	
W-220526-KJ-07	2056 Cty Rd C	water	05/26/2022	13:38	VOC	
W-220527-KJ-08	MW10A	water	05/26/2022	09:07	VOC	Rinsate Blank
W-220527-KJ-09	MW10A	water	05/27/2022	09:46	VOC	
W-220527-KJ-10	MW10	water	05/27/2022	09:48	VOC	
W-220527-KJ-11	MW18	water	05/27/2022	11:00	VOC	
W-220527-KJ-12	2055 Cty Rd C	water	05/27/2022	10:35	VOC	
TRIP BLANK	Lab	water	05/27/2022	00:00	VOC	Trip Blank

Notes:

VOC - Volatile Organic Compounds

MS/MSD - Matrix Spike/Matrix Spike Duplicate

Table 2
Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
May 2022

Location ID:	2055 Cty Rd C	2056 Cty Rd C	MW1	MW10	MW10A	MW16	MW16A	MW16A	MW16A	MW17	MW17A	MW18
Sample Name:	W-220527-KJ-12	W-220526-KJ-07	W-220526-KJ-04	W-220527-KJ-10	W-220527-KJ-09	W-220526-KJ-03	W-220526-KJ-01	W-220526-KJ-02	W-220526-KJ-02	W-220526-KJ-05	W-220526-KJ-06	W-220527-KJ-11
Sample Date:	05/27/2022	05/26/2022	05/26/2022	05/27/2022	05/27/2022	05/26/2022	05/26/2022	05/26/2022	Duplicate	05/26/2022	05/26/2022	05/27/2022
Parameters	Unit											
Volatile Organic Compounds												
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	3.3	2.6	8.1	9.3	1.0 U	1.0 U	6.3	3.5	10
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	0.81 J	1.0 U	10	1.2	10	9.0	1.0 U	1.0 U	8.1	4.7	3.7
1,1-Dichloroethene	µg/L	0.48 J	1.0 U	0.93 J	1.0 U	1.7	2.4	1.0 U	1.0 U	1.7	0.78 J	3.2
1,2,3-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Carbon disulfide	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobromomethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.55 J	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	0.73 J	0.72 J	1.0 U	1.0 U	0.51 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Ethylbenzene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.7 U
o-Xylene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.3	1.2	1.0 U	1.0 U	1.0	0.64 J	1.0 U
Tetrahydrofuran	µg/L	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U
Toluene	µg/L	0.50 U	0.48 J	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.20 J
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	0.50 U	0.50 U	0.20 J	0.50 U	0.24 J	0.18 J	0.50 U	0.50 U	0.17 J	0.50 U	0.50 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:
 U – Not detected at the associated reporting limit
 J – Estimated concentration
 UJ – Not detected; associated reporting limit is estimated

Table 3

**Analytical Method and Holding Time
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
May 2022**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	SW-846 8260B	Water	-	14

Notes:

Method Reference:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

**Qualified Sample Results Due to Analyte Concentrations in the Method Blanks
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
May 2022**

Parameter	Analyte	Analysis Batch	Blank Result *	Sample ID	Original Result	Qualified Result	Units
VOC	Chloroform	500-660100	0.389J	W-220527-KJ-10	0.75 J	2.0 U	ug/L
				W-220526-KJ-03	0.89 J	2.0 U	ug/L
				W-220526-KJ-04	1.8 J	2.0 U	ug/L
				W-220526-KJ-05	0.60 J	2.0 U	ug/L
				W-220527-KJ-09	0.71 J	2.0 U	ug/L
VOC	Methylene Chloride	500-660525	8.70	W-220527-KJ-11	5.7	5.7 U	ug/L

Notes:

- * - Blank result adjusted for sample factors where applicable
- VOC - Volatile Organic Compounds
- U - Not detected at the associated reporting limit
- J - Estimated concentration

Table 5

**Qualified Sample Data Due to Outlying Surrogate Recoveries
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
May 2022**

Parameter	Sample ID	Surrogate	Surrogate % Recovery	Control Limits % Recovery	Analyte	Qualified Result	Units
VOC	W-220527-KJ-12	1,2-Dichloroethane-d4	128	75-126	1,1-Dichloroethane 1,1-Dichloroethene	0.81 J 0.48 J	ug/L ug/L
VOC	W-220526-KJ-07	1,2-Dichloroethane-d4	127	75-126	Toluene	0.48 J	ug/L

Notes:

VOC - Volatile Organic Compounds

J - Estimated concentration

Table 6

**Qualified Sample Results Due to Outlying Laboratory Control Sample Results
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
May 2022**

Parameter	Analyte	LCS Batch	LCS % Recovery	<u>Control Limits</u> % Recovery	Associated Sample ID	Qualified Results	Units
VOC	Tetrahydrofuran	500-660100	53	59-139	W-220526-KJ-01	10 UJ	ug/L
					W-220527-KJ-10	10 UJ	ug/L
					W-220527-KJ-12	10 UJ	ug/L
					W-220526-KJ-02	10 UJ	ug/L
					W-220526-KJ-03	10 UJ	ug/L
					W-220526-KJ-04	10 UJ	ug/L
					W-220526-KJ-05	10 UJ	ug/L
					W-220526-KJ-06	10 UJ	ug/L
					W-220526-KJ-07	10 UJ	ug/L
				W-220527-KJ-09	10 UJ	ug/L	

Notes:

LCS - Laboratory Control Sample

VOC - Volatile Organic Compounds

UJ - Not detected; associated reporting limit is estimated

Table 7

**Qualified Sample Results Due to Outlying MS/MSD Results
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
May 2022**

Parameter	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits		Qualified Result	Units
						% Recovery	RPD		
VOC	W-220526-KJ-05	Tetrahydrofuran	53	53	1	59-139	20	10 UJ	ug/L

Notes:

- MS - Matrix Spike
- MSD - Matrix Spike Duplicate
- RPD - Relative Percent Difference
- VOC - Volatile Organic Compounds
- UJ - Not detected; associated reporting limit is estimated

Technical Memorandum

December 15, 2022

To	Tom Hobday, GHD	Tel	612-524-6836
Copy To	Ryan Aamot	Email	grant.anderson@ghd.com
From	Grant Anderson/mg/8	Ref. No.	048038-70-01
Subject	Analytical Results and Reduced Validation Groundwater and Residential Well Sampling Event New Richmond Landfill Site New Richmond, Wisconsin November 2022		

1. Introduction

This document details a reduced validation of analytical results for groundwater and residential well samples collected at the New Richmond Landfill Site during November 2022. Samples were submitted to Eurofins Environment Testing America (EETA), located in University Park, Illinois. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD Services Inc. (GHD) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS), and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i. "Quality Assurance Project Plan (QAPP), New Richmond Landfill, WDNR License #2492"; April 2008, Conestoga Rovers & Associates, Report 7.
- ii. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999, United States Environmental Protection Agency (USEPA) 540/R 99/008.

Item ii. will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding time.

The samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

Laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for volatile organic compounds (VOCs) are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries were within the laboratory control limits.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all compounds of interest. Acetone yielded a recovery above the control limits in batch 480-650396. However, all associated sample results were non-detect; therefore, no qualification of data was necessary. The remaining LCS recoveries were within the laboratory control limits.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The relative percent difference (RPD) between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed. If only the MS or MSD recovery was outside of control limits, no qualification of the data was performed based on the acceptable recovery of the companion spike and the acceptable RPD.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

7. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, two rinsate blank sample and two field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank sample was submitted to the laboratory for VOC analysis. Tetrahydrofuran was detected in the trip blank. However, all associated sample results were non-detect for tetrahydrofuran; therefore, no qualification of data was necessary.

Rinsate Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site and cleanliness of sample containers, two rinsate blank samples were submitted for analysis, as identified in Table 1. All results were non-detect for the analytes of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, two field duplicate sample sets were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

9. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Regards,



Grant Anderson
Chemist

Encl.

Table 1

**Sample Collection and Analysis Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters	Comments
W-221108-TS-01	MW9	water	11/08/2022	10:30	VOC	
W-221108-TS-02	2055 Cty Rd C	water	11/08/2022	11:35	VOC	
W-221108-TS-03	MW18	water	11/08/2022	11:25	VOC	
W-221108-TS-04	MW11A	water	11/08/2022	12:13	VOC	
W-221108-TS-05	MW15A	water	11/08/2022	12:58	VOC	
W-221108-TS-06	MW19A	water	11/08/2022	12:36	VOC	
W-221108-TS-07	MW19	water	11/08/2022	13:14	VOC	
W-221108-TS-08	MW19	water	11/08/2022	13:15	VOC	Duplicate (TS-07)
W-221108-TS-09	MW14	water	11/08/2022	15:04	VOC	MS/MSD
W-221109-TS-10	MW17A	water	11/09/2022	09:53	VOC	
W-221109-TS-11	MW17A	water	11/09/2022	10:07	VOC	Rinsate Blank
W-221109-TS-12	MW17	water	11/09/2022	10:38	VOC	
W-221109-TS-13	MW17	water	11/09/2022	10:34	VOC	Duplicate (TS-12)
W-221109-TS-14	MW10A	water	11/09/2022	11:43	VOC	
W-221109-TS-15	MW10	water	11/09/2022	11:57	VOC	
W-221109-TS-16	MW16	water	11/09/2022	13:28	VOC	
W-221109-TS-17	MW13	water	11/09/2022	15:03	VOC	
W-221109-TS-18	MW1	water	11/09/2022	16:25	VOC	
W-221109-TS-19	MW2R	water	11/09/2022	16:45	VOC	
W-221110-TS-21	MW16A*	water	11/10/2022	10:15	VOC	Rinsate Blank
TRIP BLANK	Lab	water	11/08/2022	00:00	VOC	Trip Blank

Notes:

VOC - Volatile Organic Compounds

MS/MSD - Matrix Spike/Matrix Spike Duplicate

* - No associated sample collected at MW16A due to blockage in the well

Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022

Location ID:	2055 Cty Rd C	MW1	MW2R	MW9	MW10	
Sample Name:	W-221108-TS-02	W-221109-TS-18	W-221109-TS-19	W-221108-TS-01	W-221109-TS-15	
Sample Date:	11/08/2022	11/09/2022	11/09/2022	11/08/2022	11/09/2022	
Parameters	Unit					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	1.0 U	3.4	1.4	4.0	1.1
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.1	9.2	2.8	4.0	1.3
1,1-Dichloroethene	µg/L	0.80 J	0.88 J	0.60 J	0.72 J	1.0 U
1,2,3-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	10 U	10 U	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobromomethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.4	1.7	0.70 J	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022

Location ID:	2055 Cty Rd C	MW1	MW2R	MW9	MW10
Sample Name:	W-221108-TS-02	W-221109-TS-18	W-221109-TS-19	W-221108-TS-01	W-221109-TS-15
Sample Date:	11/08/2022	11/09/2022	11/09/2022	11/08/2022	11/09/2022

Parameters	Unit					
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.1	1.0 U
Tetrahydrofuran	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

U – Not detected at the associated reporting limit

J – Estimated concentration

Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022

Location ID:	MW10A	MW11A	MW13	MW14	MW15A
Sample Name:	W-221109-TS-14	W-221108-TS-04	W-221109-TS-17	W-221108-TS-09	W-221108-TS-05
Sample Date:	11/09/2022	11/08/2022	11/09/2022	11/08/2022	11/08/2022
Parameters	Unit				
Volatile Organic Compounds					
1,1,1-Trichloroethane	µg/L	6.6	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	8.9	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.7	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	10 U	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobromomethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U

**Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022**

Location ID:	MW10A	MW11A	MW13	MW14	MW15A
Sample Name:	W-221109-TS-14	W-221108-TS-04	W-221109-TS-17	W-221108-TS-09	W-221108-TS-05
Sample Date:	11/09/2022	11/08/2022	11/09/2022	11/08/2022	11/08/2022

Parameters	Unit					
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	µg/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.3	1.0 U	1.0 U	1.0 U	1.0 U
Tetrahydrofuran	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

U – Not detected at the associated reporting limit

J – Estimated concentration

Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022

Location ID:	MW16	MW17	MW17	MW17A	MW18	
Sample Name:	W-221109-TS-16	W-221109-TS-12	W-221109-TS-13	W-221109-TS-10	W-221108-TS-03	
Sample Date:	11/09/2022	11/09/2022	11/09/2022 Duplicate	11/09/2022	11/08/2022	
Parameters	Unit					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	8.8	5.2	5.2	1.1	14
1,1,1,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	9.8	7.5	7.3	3.3	4.5
1,1-Dichloroethene	µg/L	2.2	1.5	1.5	1.0 U	3.9
1,2,3-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	10 U	10 U	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobromomethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	0.46 J	0.42 J	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	0.61 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 3

**Analytical Method and Holding Time
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOC)	SW-846 8260C	Water	-	14

Note:

Method Reference:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

**Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022**

Location ID:	MW16	MW17	MW17	MW17A	MW18
Sample Name:	W-221109-TS-16	W-221109-TS-12	W-221109-TS-13	W-221109-TS-10	W-221108-TS-03
Sample Date:	11/09/2022	11/09/2022	11/09/2022 Duplicate	11/09/2022	11/08/2022
Parameters	Unit				
cis-1,2-Dichloroethene	µg/L	0.84 J	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.2	0.95 J	0.94 J	1.0 U
Tetrahydrofuran	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

U – Not detected at the associated reporting limit

J – Estimated concentration

**Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022**

Location ID:	MW19	MW19	MW19A
Sample Name:	W-221108-TS-07	W-221108-TS-08	W-221108-TS-06
Sample Date:	11/08/2022	11/08/2022 Duplicate	11/08/2022

Parameters	Unit			
Volatile Organic Compounds				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U
Acetone	µg/L	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chlorobromomethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U

Validated Analytical Results Summary
Groundwater and Residential Well Sampling Event
New Richmond Landfill Site
New Richmond, Wisconsin
November 2022

Location ID:	MW19	MW19	MW19A
Sample Name:	W-221108-TS-07	W-221108-TS-08	W-221108-TS-06
Sample Date:	11/08/2022	11/08/2022 Duplicate	11/08/2022

Parameters	Unit			
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U
m&p-Xylenes	µg/L	2.0 U	2.0 U	2.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	1.0 U	1.0 U	1.0 U
o-Xylene	µg/L	1.0 U	1.0 U	1.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
Tetrahydrofuran	µg/L	5.0 U	5.0 U	5.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U

Notes:

U – Not detected at the associated reporting limit

J – Estimated concentration

ANALYTICAL REPORT

Eurofins Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-217321-1
Client Project/Site: New Richmond - 048038

For:
GHD Services Inc.
900 Long Lake Road
Suite 200
New Brighton, Minnesota 55112

Attn: Mr. Grant Anderson



Authorized for release by:
6/16/2022 1:38:50 PM

Richard Wright, Senior Project Manager
(708)746-0045

Richard.Wright@et.eurofinsus.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Job ID: 500-217321-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-217321-1

Receipt

The samples were received on 5/28/2022 10:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.4° C.

GC/MS VOA

Method 8260B: Surrogate recovery for the following samples were outside the upper control limit: W-220526-KJ-07 (500-217321-7) and W-220527-KJ-12 (500-217321-12). This sample did not contain any target analytes above the reporting limit, therefore, re-extraction and/or re-analysis was not performed.

Method 8260B: Acetone/ Methylene chloride were detected in the following items: W-220526-KJ-01 (500-217321-1), W-220526-KJ-07 (500-217321-7), W-220527-KJ-11 (500-217321-11) and (MB 500-660525/6). Methylene chloride and Acetone are known lab contaminants; therefore all low level detects for this compound could be suspected as lab contamination.

Method 8260B: The laboratory control sample (LCS) for analytical batch 500-660100 recovered outside control limits for the following analytes: Tetrahydrofuran. These analytes were biased low in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 500-660100 were outside control limits.

Method 8260B: The laboratory control sample (LCS) for 660100 recovered outside control limits for the following analytes: Tetrahydrofuran. These analytes were biased low in the LCS and were not detected in the associated samples. The data have been reported. W-220526-KJ-01 (500-217321-1), W-220526-KJ-02 (500-217321-2), W-220526-KJ-03 (500-217321-3), W-220526-KJ-04 (500-217321-4), W-220526-KJ-05 (500-217321-5), W-220526-KJ-06 (500-217321-6), W-220526-KJ-07 (500-217321-7), W-220527-KJ-08 (500-217321-8), W-220527-KJ-09 (500-217321-9), W-220527-KJ-10 (500-217321-10), W-220527-KJ-12 (500-217321-12) and TRIP BLANK (500-217321-13)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-01

Lab Sample ID: 500-217321-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.7	J	10	1.7	ug/L	1		8260B	Total/NA

Client Sample ID: W-220526-KJ-02

Lab Sample ID: 500-217321-2

No Detections.

Client Sample ID: W-220526-KJ-03

Lab Sample ID: 500-217321-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	9.3		1.0	0.38	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	9.0		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	2.4		1.0	0.39	ug/L	1		8260B	Total/NA
Chloroform	0.89	J B	2.0	0.37	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.72	J	1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.2		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.18	J	0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W-220526-KJ-04

Lab Sample ID: 500-217321-4

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	3.3		1.0	0.38	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	10		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.93	J	1.0	0.39	ug/L	1		8260B	Total/NA
Chloroform	1.8	J B	2.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.20	J	0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W-220526-KJ-05

Lab Sample ID: 500-217321-5

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	6.3		1.0	0.38	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	8.1		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	1.7		1.0	0.39	ug/L	1		8260B	Total/NA
Chloroethane	0.55	J	1.0	0.51	ug/L	1		8260B	Total/NA
Chloroform	0.60	J B	2.0	0.37	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.51	J	1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.0		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.17	J	0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W-220526-KJ-06

Lab Sample ID: 500-217321-6

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	3.5		1.0	0.38	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	4.7		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.78	J	1.0	0.39	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.64	J	1.0	0.37	ug/L	1		8260B	Total/NA

Client Sample ID: W-220526-KJ-07

Lab Sample ID: 500-217321-7

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.3	J	10	1.7	ug/L	1		8260B	Total/NA
Toluene	0.48	J	0.50	0.15	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-08

Lab Sample ID: 500-217321-8

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	25		10	1.7	ug/L	1		8260B	Total/NA
Chloroform	0.47	J B	2.0	0.37	ug/L	1		8260B	Total/NA

Client Sample ID: W-220527-KJ-09

Lab Sample ID: 500-217321-9

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	8.1		1.0	0.38	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	10		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	1.7		1.0	0.39	ug/L	1		8260B	Total/NA
Chloroform	0.71	J B	2.0	0.37	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.73	J	1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.3		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	0.24	J	0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W-220527-KJ-10

Lab Sample ID: 500-217321-10

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.6		1.0	0.38	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	1.2		1.0	0.41	ug/L	1		8260B	Total/NA
Chloroform	0.75	J B	2.0	0.37	ug/L	1		8260B	Total/NA

Client Sample ID: W-220527-KJ-11

Lab Sample ID: 500-217321-11

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	10		1.0	0.38	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	3.7		1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	3.2		1.0	0.39	ug/L	1		8260B	Total/NA
Methylene Chloride	5.7	B	5.0	1.6	ug/L	1		8260B	Total/NA
Toluene	0.20	J	0.50	0.15	ug/L	1		8260B	Total/NA

Client Sample ID: W-220527-KJ-12

Lab Sample ID: 500-217321-12

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.81	J	1.0	0.41	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.48	J	1.0	0.39	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-217321-13

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Sample Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-217321-1	W-220526-KJ-01	Water	05/26/22 09:37	05/28/22 10:50
500-217321-2	W-220526-KJ-02	Water	05/26/22 09:38	05/28/22 10:50
500-217321-3	W-220526-KJ-03	Water	05/26/22 10:15	05/28/22 10:50
500-217321-4	W-220526-KJ-04	Water	05/26/22 10:30	05/28/22 10:50
500-217321-5	W-220526-KJ-05	Water	05/26/22 12:02	05/28/22 10:50
500-217321-6	W-220526-KJ-06	Water	05/26/22 12:45	05/28/22 10:50
500-217321-7	W-220526-KJ-07	Water	05/26/22 13:38	05/28/22 10:50
500-217321-8	W-220527-KJ-08	Water	05/26/22 09:07	05/28/22 10:50
500-217321-9	W-220527-KJ-09	Water	05/27/22 09:46	05/28/22 10:50
500-217321-10	W-220527-KJ-10	Water	05/27/22 09:48	05/28/22 10:50
500-217321-11	W-220527-KJ-11	Water	05/27/22 11:00	05/28/22 10:50
500-217321-12	W-220527-KJ-12	Water	05/27/22 10:35	05/28/22 10:50
500-217321-13	TRIP BLANK	Water	05/27/22 00:00	05/28/22 10:50

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-01

Lab Sample ID: 500-217321-1

Date Collected: 05/26/22 09:37

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/22 13:57	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 13:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 13:57	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 13:57	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/22 13:57	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/22 13:57	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 13:57	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 13:57	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 13:57	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 13:57	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 13:57	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 13:57	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 13:57	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 13:57	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 13:57	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 13:57	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 13:57	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 13:57	1
Acetone	1.7 J		10	1.7	ug/L			06/07/22 13:57	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 13:57	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 13:57	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 13:57	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 13:57	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 13:57	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 13:57	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 13:57	1
Chloroform	<0.37		2.0	0.37	ug/L			06/07/22 13:57	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 13:57	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 13:57	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 13:57	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 13:57	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 13:57	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 13:57	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 13:57	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 13:57	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 13:57	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 13:57	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 13:57	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 13:57	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 13:57	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 13:57	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 13:57	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 13:57	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 13:57	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 13:57	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 13:57	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 13:57	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 13:57	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 13:57	1

Eurofins Chicago

Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-01

Lab Sample ID: 500-217321-1

Date Collected: 05/26/22 09:37

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 13:57	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 13:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		75 - 126					06/07/22 13:57	1
4-Bromofluorobenzene (Surr)	112		72 - 124					06/07/22 13:57	1
Dibromofluoromethane (Surr)	112		75 - 120					06/07/22 13:57	1
Toluene-d8 (Surr)	100		75 - 120					06/07/22 13:57	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-02

Lab Sample ID: 500-217321-2

Date Collected: 05/26/22 09:38

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/22 14:24	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 14:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 14:24	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 14:24	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/22 14:24	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/22 14:24	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 14:24	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 14:24	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 14:24	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 14:24	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 14:24	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 14:24	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 14:24	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 14:24	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 14:24	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 14:24	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 14:24	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 14:24	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 14:24	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 14:24	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 14:24	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 14:24	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 14:24	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 14:24	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 14:24	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 14:24	1
Chloroform	<0.37		2.0	0.37	ug/L			06/07/22 14:24	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 14:24	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 14:24	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 14:24	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 14:24	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 14:24	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 14:24	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 14:24	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 14:24	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 14:24	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 14:24	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 14:24	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 14:24	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 14:24	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 14:24	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 14:24	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 14:24	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 14:24	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 14:24	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 14:24	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 14:24	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 14:24	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 14:24	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-02

Lab Sample ID: 500-217321-2

Date Collected: 05/26/22 09:38

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 14:24	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 14:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		75 - 126					06/07/22 14:24	1
4-Bromofluorobenzene (Surr)	112		72 - 124					06/07/22 14:24	1
Dibromofluoromethane (Surr)	112		75 - 120					06/07/22 14:24	1
Toluene-d8 (Surr)	99		75 - 120					06/07/22 14:24	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-03

Lab Sample ID: 500-217321-3

Date Collected: 05/26/22 10:15

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	9.3		1.0	0.38	ug/L			06/07/22 14:50	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 14:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 14:50	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 14:50	1
1,1-Dichloroethane	9.0		1.0	0.41	ug/L			06/07/22 14:50	1
1,1-Dichloroethene	2.4		1.0	0.39	ug/L			06/07/22 14:50	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 14:50	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 14:50	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 14:50	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 14:50	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 14:50	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 14:50	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 14:50	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 14:50	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 14:50	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 14:50	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 14:50	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 14:50	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 14:50	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 14:50	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 14:50	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 14:50	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 14:50	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 14:50	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 14:50	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 14:50	1
Chloroform	0.89	J B	2.0	0.37	ug/L			06/07/22 14:50	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 14:50	1
cis-1,2-Dichloroethene	0.72	J	1.0	0.41	ug/L			06/07/22 14:50	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 14:50	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 14:50	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 14:50	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 14:50	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 14:50	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 14:50	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 14:50	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 14:50	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 14:50	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 14:50	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 14:50	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 14:50	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 14:50	1
Tetrachloroethene	1.2		1.0	0.37	ug/L			06/07/22 14:50	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 14:50	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 14:50	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 14:50	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 14:50	1
Trichloroethene	0.18	J	0.50	0.16	ug/L			06/07/22 14:50	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 14:50	1

Eurofins Chicago

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-03

Lab Sample ID: 500-217321-3

Date Collected: 05/26/22 10:15

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 14:50	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 14:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		75 - 126					06/07/22 14:50	1
4-Bromofluorobenzene (Surr)	111		72 - 124					06/07/22 14:50	1
Dibromofluoromethane (Surr)	112		75 - 120					06/07/22 14:50	1
Toluene-d8 (Surr)	100		75 - 120					06/07/22 14:50	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-04

Lab Sample ID: 500-217321-4

Date Collected: 05/26/22 10:30

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3.3		1.0	0.38	ug/L			06/07/22 15:17	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 15:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 15:17	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 15:17	1
1,1-Dichloroethane	10		1.0	0.41	ug/L			06/07/22 15:17	1
1,1-Dichloroethene	0.93 J		1.0	0.39	ug/L			06/07/22 15:17	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 15:17	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 15:17	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 15:17	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 15:17	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 15:17	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 15:17	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 15:17	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 15:17	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 15:17	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 15:17	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 15:17	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 15:17	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 15:17	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 15:17	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 15:17	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 15:17	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 15:17	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 15:17	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 15:17	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 15:17	1
Chloroform	1.8 J B		2.0	0.37	ug/L			06/07/22 15:17	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 15:17	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 15:17	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 15:17	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 15:17	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 15:17	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 15:17	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 15:17	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 15:17	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 15:17	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 15:17	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 15:17	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 15:17	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 15:17	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 15:17	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 15:17	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 15:17	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 15:17	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 15:17	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 15:17	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 15:17	1
Trichloroethene	0.20 J		0.50	0.16	ug/L			06/07/22 15:17	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 15:17	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-04

Lab Sample ID: 500-217321-4

Date Collected: 05/26/22 10:30

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 15:17	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 15:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		75 - 126					06/07/22 15:17	1
4-Bromofluorobenzene (Surr)	112		72 - 124					06/07/22 15:17	1
Dibromofluoromethane (Surr)	111		75 - 120					06/07/22 15:17	1
Toluene-d8 (Surr)	100		75 - 120					06/07/22 15:17	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-05

Lab Sample ID: 500-217321-5

Date Collected: 05/26/22 12:02

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6.3		1.0	0.38	ug/L			06/07/22 15:44	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 15:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 15:44	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 15:44	1
1,1-Dichloroethane	8.1		1.0	0.41	ug/L			06/07/22 15:44	1
1,1-Dichloroethene	1.7		1.0	0.39	ug/L			06/07/22 15:44	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 15:44	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 15:44	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 15:44	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 15:44	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 15:44	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 15:44	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 15:44	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 15:44	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 15:44	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 15:44	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 15:44	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 15:44	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 15:44	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 15:44	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 15:44	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 15:44	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 15:44	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 15:44	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 15:44	1
Chloroethane	0.55 J		1.0	0.51	ug/L			06/07/22 15:44	1
Chloroform	0.60 J B		2.0	0.37	ug/L			06/07/22 15:44	1
Chloromethane	<0.32	F1	1.0	0.32	ug/L			06/07/22 15:44	1
cis-1,2-Dichloroethene	0.51 J		1.0	0.41	ug/L			06/07/22 15:44	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 15:44	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 15:44	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 15:44	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 15:44	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 15:44	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 15:44	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 15:44	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 15:44	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 15:44	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 15:44	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 15:44	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 15:44	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 15:44	1
Tetrachloroethene	1.0		1.0	0.37	ug/L			06/07/22 15:44	1
Tetrahydrofuran	<1.9	F1 *	10	1.9	ug/L			06/07/22 15:44	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 15:44	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 15:44	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 15:44	1
Trichloroethene	0.17 J		0.50	0.16	ug/L			06/07/22 15:44	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 15:44	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-05

Lab Sample ID: 500-217321-5

Date Collected: 05/26/22 12:02

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 15:44	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 15:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		75 - 126					06/07/22 15:44	1
4-Bromofluorobenzene (Surr)	112		72 - 124					06/07/22 15:44	1
Dibromofluoromethane (Surr)	111		75 - 120					06/07/22 15:44	1
Toluene-d8 (Surr)	99		75 - 120					06/07/22 15:44	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-06

Lab Sample ID: 500-217321-6

Date Collected: 05/26/22 12:45

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3.5		1.0	0.38	ug/L			06/07/22 16:11	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 16:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 16:11	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 16:11	1
1,1-Dichloroethane	4.7		1.0	0.41	ug/L			06/07/22 16:11	1
1,1-Dichloroethene	0.78 J		1.0	0.39	ug/L			06/07/22 16:11	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 16:11	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 16:11	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 16:11	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 16:11	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 16:11	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 16:11	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 16:11	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 16:11	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 16:11	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 16:11	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 16:11	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 16:11	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 16:11	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 16:11	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 16:11	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 16:11	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 16:11	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 16:11	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 16:11	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 16:11	1
Chloroform	<0.37		2.0	0.37	ug/L			06/07/22 16:11	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 16:11	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 16:11	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 16:11	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 16:11	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 16:11	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 16:11	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 16:11	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 16:11	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 16:11	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 16:11	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 16:11	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 16:11	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 16:11	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 16:11	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 16:11	1
Tetrachloroethene	0.64 J		1.0	0.37	ug/L			06/07/22 16:11	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 16:11	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 16:11	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 16:11	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 16:11	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 16:11	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 16:11	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-06

Lab Sample ID: 500-217321-6

Date Collected: 05/26/22 12:45

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 16:11	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 16:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		75 - 126					06/07/22 16:11	1
4-Bromofluorobenzene (Surr)	111		72 - 124					06/07/22 16:11	1
Dibromofluoromethane (Surr)	111		75 - 120					06/07/22 16:11	1
Toluene-d8 (Surr)	100		75 - 120					06/07/22 16:11	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-07

Lab Sample ID: 500-217321-7

Date Collected: 05/26/22 13:38

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/22 16:38	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 16:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 16:38	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 16:38	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/22 16:38	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/22 16:38	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 16:38	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 16:38	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 16:38	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 16:38	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 16:38	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 16:38	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 16:38	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 16:38	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 16:38	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 16:38	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 16:38	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 16:38	1
Acetone	4.3 J		10	1.7	ug/L			06/07/22 16:38	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 16:38	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 16:38	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 16:38	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 16:38	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 16:38	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 16:38	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 16:38	1
Chloroform	<0.37		2.0	0.37	ug/L			06/07/22 16:38	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 16:38	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 16:38	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 16:38	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 16:38	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 16:38	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 16:38	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 16:38	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 16:38	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 16:38	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 16:38	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 16:38	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 16:38	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 16:38	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 16:38	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 16:38	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 16:38	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 16:38	1
Toluene	0.48 J		0.50	0.15	ug/L			06/07/22 16:38	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 16:38	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 16:38	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 16:38	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 16:38	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-07

Lab Sample ID: 500-217321-7

Date Collected: 05/26/22 13:38

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 16:38	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 16:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	127	X	75 - 126					06/07/22 16:38	1
4-Bromofluorobenzene (Surr)	112		72 - 124					06/07/22 16:38	1
Dibromofluoromethane (Surr)	115		75 - 120					06/07/22 16:38	1
Toluene-d8 (Surr)	98		75 - 120					06/07/22 16:38	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-08

Lab Sample ID: 500-217321-8

Date Collected: 05/26/22 09:07

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/22 17:04	1
1,1,1,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 17:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 17:04	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 17:04	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/22 17:04	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/22 17:04	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 17:04	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 17:04	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 17:04	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 17:04	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 17:04	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 17:04	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 17:04	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 17:04	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 17:04	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 17:04	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 17:04	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 17:04	1
Acetone	25		10	1.7	ug/L			06/07/22 17:04	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 17:04	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 17:04	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 17:04	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 17:04	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 17:04	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 17:04	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 17:04	1
Chloroform	0.47	J B	2.0	0.37	ug/L			06/07/22 17:04	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 17:04	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 17:04	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 17:04	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 17:04	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 17:04	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 17:04	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 17:04	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 17:04	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 17:04	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 17:04	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 17:04	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 17:04	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 17:04	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 17:04	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 17:04	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 17:04	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 17:04	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 17:04	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 17:04	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 17:04	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 17:04	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 17:04	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-08

Lab Sample ID: 500-217321-8

Date Collected: 05/26/22 09:07

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 17:04	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 17:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		75 - 126					06/07/22 17:04	1
4-Bromofluorobenzene (Surr)	111		72 - 124					06/07/22 17:04	1
Dibromofluoromethane (Surr)	113		75 - 120					06/07/22 17:04	1
Toluene-d8 (Surr)	100		75 - 120					06/07/22 17:04	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-09

Lab Sample ID: 500-217321-9

Date Collected: 05/27/22 09:46

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.1		1.0	0.38	ug/L			06/07/22 17:31	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 17:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 17:31	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 17:31	1
1,1-Dichloroethane	10		1.0	0.41	ug/L			06/07/22 17:31	1
1,1-Dichloroethene	1.7		1.0	0.39	ug/L			06/07/22 17:31	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 17:31	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 17:31	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 17:31	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 17:31	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 17:31	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 17:31	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 17:31	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 17:31	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 17:31	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 17:31	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 17:31	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 17:31	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 17:31	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 17:31	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 17:31	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 17:31	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 17:31	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 17:31	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 17:31	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 17:31	1
Chloroform	0.71	J B	2.0	0.37	ug/L			06/07/22 17:31	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 17:31	1
cis-1,2-Dichloroethene	0.73	J	1.0	0.41	ug/L			06/07/22 17:31	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 17:31	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 17:31	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 17:31	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 17:31	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 17:31	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 17:31	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 17:31	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 17:31	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 17:31	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 17:31	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 17:31	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 17:31	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 17:31	1
Tetrachloroethene	1.3		1.0	0.37	ug/L			06/07/22 17:31	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 17:31	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 17:31	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 17:31	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 17:31	1
Trichloroethene	0.24	J	0.50	0.16	ug/L			06/07/22 17:31	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 17:31	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-09

Lab Sample ID: 500-217321-9

Date Collected: 05/27/22 09:46

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 17:31	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 17:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126		75 - 126					06/07/22 17:31	1
4-Bromofluorobenzene (Surr)	111		72 - 124					06/07/22 17:31	1
Dibromofluoromethane (Surr)	115		75 - 120					06/07/22 17:31	1
Toluene-d8 (Surr)	99		75 - 120					06/07/22 17:31	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-10

Lab Sample ID: 500-217321-10

Date Collected: 05/27/22 09:48

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.6		1.0	0.38	ug/L			06/07/22 17:58	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 17:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 17:58	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 17:58	1
1,1-Dichloroethane	1.2		1.0	0.41	ug/L			06/07/22 17:58	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/22 17:58	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 17:58	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 17:58	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 17:58	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 17:58	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 17:58	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 17:58	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 17:58	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 17:58	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 17:58	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 17:58	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 17:58	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 17:58	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 17:58	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 17:58	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 17:58	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 17:58	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 17:58	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 17:58	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 17:58	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 17:58	1
Chloroform	0.75	J B	2.0	0.37	ug/L			06/07/22 17:58	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 17:58	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 17:58	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 17:58	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 17:58	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 17:58	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 17:58	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 17:58	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 17:58	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 17:58	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 17:58	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 17:58	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 17:58	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 17:58	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 17:58	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 17:58	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 17:58	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 17:58	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 17:58	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 17:58	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 17:58	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 17:58	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 17:58	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-10

Lab Sample ID: 500-217321-10

Date Collected: 05/27/22 09:48

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 17:58	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 17:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		75 - 126					06/07/22 17:58	1
4-Bromofluorobenzene (Surr)	112		72 - 124					06/07/22 17:58	1
Dibromofluoromethane (Surr)	114		75 - 120					06/07/22 17:58	1
Toluene-d8 (Surr)	99		75 - 120					06/07/22 17:58	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-11

Lab Sample ID: 500-217321-11

Date Collected: 05/27/22 11:00

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	10		1.0	0.38	ug/L			06/09/22 15:43	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/09/22 15:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/09/22 15:43	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/09/22 15:43	1
1,1-Dichloroethane	3.7		1.0	0.41	ug/L			06/09/22 15:43	1
1,1-Dichloroethene	3.2		1.0	0.39	ug/L			06/09/22 15:43	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/09/22 15:43	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/09/22 15:43	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/09/22 15:43	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/09/22 15:43	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/09/22 15:43	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/09/22 15:43	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/09/22 15:43	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/09/22 15:43	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/09/22 15:43	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/09/22 15:43	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/09/22 15:43	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/09/22 15:43	1
Acetone	<1.7		10	1.7	ug/L			06/09/22 15:43	1
Benzene	<0.15		0.50	0.15	ug/L			06/09/22 15:43	1
Bromoform	<0.48		1.0	0.48	ug/L			06/09/22 15:43	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/09/22 15:43	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/09/22 15:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/09/22 15:43	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/09/22 15:43	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/09/22 15:43	1
Chloroform	<0.37		2.0	0.37	ug/L			06/09/22 15:43	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/09/22 15:43	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/09/22 15:43	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/09/22 15:43	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/09/22 15:43	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/09/22 15:43	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/09/22 15:43	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/09/22 15:43	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/09/22 15:43	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/09/22 15:43	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/09/22 15:43	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/09/22 15:43	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/09/22 15:43	1
Methylene Chloride	5.7 B		5.0	1.6	ug/L			06/09/22 15:43	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/09/22 15:43	1
Styrene	<0.39		1.0	0.39	ug/L			06/09/22 15:43	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/09/22 15:43	1
Tetrahydrofuran	<1.9		10	1.9	ug/L			06/09/22 15:43	1
Toluene	0.20 J		0.50	0.15	ug/L			06/09/22 15:43	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/09/22 15:43	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/09/22 15:43	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/09/22 15:43	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/09/22 15:43	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-11

Lab Sample ID: 500-217321-11

Date Collected: 05/27/22 11:00

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/09/22 15:43	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/09/22 15:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 126					06/09/22 15:43	1
4-Bromofluorobenzene (Surr)	86		72 - 124					06/09/22 15:43	1
Dibromofluoromethane (Surr)	98		75 - 120					06/09/22 15:43	1
Toluene-d8 (Surr)	96		75 - 120					06/09/22 15:43	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-12

Lab Sample ID: 500-217321-12

Date Collected: 05/27/22 10:35

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/22 18:52	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 18:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 18:52	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 18:52	1
1,1-Dichloroethane	0.81	J	1.0	0.41	ug/L			06/07/22 18:52	1
1,1-Dichloroethene	0.48	J	1.0	0.39	ug/L			06/07/22 18:52	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 18:52	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 18:52	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 18:52	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 18:52	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 18:52	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 18:52	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 18:52	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 18:52	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 18:52	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 18:52	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 18:52	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 18:52	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 18:52	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 18:52	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 18:52	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 18:52	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 18:52	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 18:52	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 18:52	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 18:52	1
Chloroform	<0.37		2.0	0.37	ug/L			06/07/22 18:52	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 18:52	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 18:52	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 18:52	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 18:52	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 18:52	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 18:52	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 18:52	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 18:52	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 18:52	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 18:52	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 18:52	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 18:52	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 18:52	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 18:52	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 18:52	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 18:52	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 18:52	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 18:52	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 18:52	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 18:52	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 18:52	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 18:52	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-12

Lab Sample ID: 500-217321-12

Date Collected: 05/27/22 10:35

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 18:52	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 18:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	128	X	75 - 126					06/07/22 18:52	1
4-Bromofluorobenzene (Surr)	113		72 - 124					06/07/22 18:52	1
Dibromofluoromethane (Surr)	114		75 - 120					06/07/22 18:52	1
Toluene-d8 (Surr)	99		75 - 120					06/07/22 18:52	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-217321-13

Date Collected: 05/27/22 00:00

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/22 13:30	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 13:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 13:30	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 13:30	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/22 13:30	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/22 13:30	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 13:30	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 13:30	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 13:30	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 13:30	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 13:30	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 13:30	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 13:30	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 13:30	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 13:30	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 13:30	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 13:30	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 13:30	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 13:30	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 13:30	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 13:30	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 13:30	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 13:30	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 13:30	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 13:30	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 13:30	1
Chloroform	<0.37		2.0	0.37	ug/L			06/07/22 13:30	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 13:30	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 13:30	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 13:30	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 13:30	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 13:30	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 13:30	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 13:30	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 13:30	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 13:30	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 13:30	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 13:30	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 13:30	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 13:30	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 13:30	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 13:30	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 13:30	1
Tetrahydrofuran	<1.9 *		10	1.9	ug/L			06/07/22 13:30	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 13:30	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 13:30	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 13:30	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 13:30	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 13:30	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-217321-13

Date Collected: 05/27/22 00:00

Matrix: Water

Date Received: 05/28/22 10:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 13:30	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 13:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		75 - 126		06/07/22 13:30	1
4-Bromofluorobenzene (Surr)	111		72 - 124		06/07/22 13:30	1
Dibromofluoromethane (Surr)	110		75 - 120		06/07/22 13:30	1
Toluene-d8 (Surr)	100		75 - 120		06/07/22 13:30	1

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Reported value was between the limit of detection and the limit of quantitation.
X	Surrogate recovery exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

GC/MS VOA

Analysis Batch: 660100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-217321-1	W-220526-KJ-01	Total/NA	Water	8260B	
500-217321-2	W-220526-KJ-02	Total/NA	Water	8260B	
500-217321-3	W-220526-KJ-03	Total/NA	Water	8260B	
500-217321-4	W-220526-KJ-04	Total/NA	Water	8260B	
500-217321-5	W-220526-KJ-05	Total/NA	Water	8260B	
500-217321-6	W-220526-KJ-06	Total/NA	Water	8260B	
500-217321-7	W-220526-KJ-07	Total/NA	Water	8260B	
500-217321-8	W-220527-KJ-08	Total/NA	Water	8260B	
500-217321-9	W-220527-KJ-09	Total/NA	Water	8260B	
500-217321-10	W-220527-KJ-10	Total/NA	Water	8260B	
500-217321-12	W-220527-KJ-12	Total/NA	Water	8260B	
500-217321-13	TRIP BLANK	Total/NA	Water	8260B	
MB 500-660100/6	Method Blank	Total/NA	Water	8260B	
LCS 500-660100/4	Lab Control Sample	Total/NA	Water	8260B	
500-217321-5 MS	W-220526-KJ-05	Total/NA	Water	8260B	
500-217321-5 MSD	W-220526-KJ-05	Total/NA	Water	8260B	

Analysis Batch: 660525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-217321-11	W-220527-KJ-11	Total/NA	Water	8260B	
MB 500-660525/6	Method Blank	Total/NA	Water	8260B	
LCS 500-660525/4	Lab Control Sample	Total/NA	Water	8260B	

Surrogate Summary

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-126)	BFB (72-124)	DBFM (75-120)	TOL (75-120)
500-217321-1	W-220526-KJ-01	122	112	112	100
500-217321-2	W-220526-KJ-02	124	112	112	99
500-217321-3	W-220526-KJ-03	124	111	112	100
500-217321-4	W-220526-KJ-04	122	112	111	100
500-217321-5	W-220526-KJ-05	124	112	111	99
500-217321-5 MS	W-220526-KJ-05	125	110	106	102
500-217321-5 MSD	W-220526-KJ-05	124	110	106	102
500-217321-6	W-220526-KJ-06	124	111	111	100
500-217321-7	W-220526-KJ-07	127 X	112	115	98
500-217321-8	W-220527-KJ-08	125	111	113	100
500-217321-9	W-220527-KJ-09	126	111	115	99
500-217321-10	W-220527-KJ-10	125	112	114	99
500-217321-11	W-220527-KJ-11	92	86	98	96
500-217321-12	W-220527-KJ-12	128 X	113	114	99
500-217321-13	TRIP BLANK	119	111	110	100
LCS 500-660100/4	Lab Control Sample	121	107	103	103
LCS 500-660525/4	Lab Control Sample	85	91	90	101
MB 500-660100/6	Method Blank	122	113	111	101
MB 500-660525/6	Method Blank	90	88	95	97

Surrogate Legend

- DCA = 1,2-Dichloroethane-d4 (Surr)
- BFB = 4-Bromofluorobenzene (Surr)
- DBFM = Dibromofluoromethane (Surr)
- TOL = Toluene-d8 (Surr)

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-660100/6
Matrix: Water
Analysis Batch: 660100

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/07/22 13:03	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/07/22 13:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/07/22 13:03	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/07/22 13:03	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/07/22 13:03	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/07/22 13:03	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/07/22 13:03	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			06/07/22 13:03	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/07/22 13:03	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/07/22 13:03	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/07/22 13:03	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/07/22 13:03	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/07/22 13:03	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/07/22 13:03	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/07/22 13:03	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/07/22 13:03	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/07/22 13:03	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/07/22 13:03	1
Acetone	<1.7		10	1.7	ug/L			06/07/22 13:03	1
Benzene	<0.15		0.50	0.15	ug/L			06/07/22 13:03	1
Bromoform	<0.48		1.0	0.48	ug/L			06/07/22 13:03	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/07/22 13:03	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/07/22 13:03	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/07/22 13:03	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/07/22 13:03	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/07/22 13:03	1
Chloroform	0.389 J		2.0	0.37	ug/L			06/07/22 13:03	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/07/22 13:03	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/07/22 13:03	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/07/22 13:03	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/07/22 13:03	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/07/22 13:03	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/07/22 13:03	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/07/22 13:03	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/07/22 13:03	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/07/22 13:03	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/07/22 13:03	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/07/22 13:03	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/07/22 13:03	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			06/07/22 13:03	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/07/22 13:03	1
Styrene	<0.39		1.0	0.39	ug/L			06/07/22 13:03	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/07/22 13:03	1
Tetrahydrofuran	<1.9		10	1.9	ug/L			06/07/22 13:03	1
Toluene	<0.15		0.50	0.15	ug/L			06/07/22 13:03	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/07/22 13:03	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/07/22 13:03	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/07/22 13:03	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-660100/6
Matrix: Water
Analysis Batch: 660100

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/07/22 13:03	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/07/22 13:03	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/07/22 13:03	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	122		75 - 126		06/07/22 13:03	1
4-Bromofluorobenzene (Surr)	113		72 - 124		06/07/22 13:03	1
Dibromofluoromethane (Surr)	111		75 - 120		06/07/22 13:03	1
Toluene-d8 (Surr)	101		75 - 120		06/07/22 13:03	1

Lab Sample ID: LCS 500-660100/4
Matrix: Water
Analysis Batch: 660100

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1,1-Trichloroethane	40.0	42.1		ug/L		105	70 - 125
1,1,1,2-Tetrachloroethane	40.0	33.2		ug/L		83	62 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	42.2		ug/L		106	70 - 123
1,1,2-Trichloroethane	40.0	34.1		ug/L		85	71 - 130
1,1-Dichloroethane	40.0	36.4		ug/L		91	70 - 125
1,1-Dichloroethene	40.0	38.3		ug/L		96	67 - 122
1,2,3-Trichlorobenzene	40.0	33.9		ug/L		85	51 - 145
1,2,4-Trichlorobenzene	40.0	34.6		ug/L		87	57 - 137
1,2,4-Trimethylbenzene	40.0	37.1		ug/L		93	70 - 123
1,2-Dibromo-3-Chloropropane	40.0	39.6		ug/L		99	56 - 123
1,2-Dichlorobenzene	40.0	39.0		ug/L		98	70 - 125
1,2-Dichloroethane	40.0	36.7		ug/L		92	68 - 127
1,2-Dichloropropane	40.0	35.2		ug/L		88	67 - 130
1,3,5-Trimethylbenzene	40.0	36.7		ug/L		92	70 - 123
1,3-Dichlorobenzene	40.0	39.0		ug/L		98	70 - 125
1,4-Dichlorobenzene	40.0	37.6		ug/L		94	70 - 120
2-Hexanone	40.0	24.1		ug/L		60	54 - 146
Bromochloromethane	40.0	36.3		ug/L		91	65 - 122
Acetone	40.0	25.9		ug/L		65	40 - 143
Benzene	40.0	36.1		ug/L		90	70 - 120
Bromoform	40.0	42.0		ug/L		105	56 - 132
Bromomethane	40.0	32.7		ug/L		82	40 - 152
Carbon disulfide	40.0	36.7		ug/L		92	66 - 120
Carbon tetrachloride	40.0	48.8		ug/L		122	59 - 133
Chlorobenzene	40.0	36.9		ug/L		92	70 - 120
Chloroethane	40.0	37.8		ug/L		94	48 - 136
Chloroform	40.0	39.0		ug/L		97	70 - 120
Chloromethane	40.0	23.7		ug/L		59	56 - 152
cis-1,2-Dichloroethene	40.0	37.5		ug/L		94	70 - 125
cis-1,3-Dichloropropene	40.0	39.7		ug/L		99	64 - 127
Dichlorobromomethane	40.0	40.7		ug/L		102	69 - 120
Dichlorodifluoromethane	40.0	49.6		ug/L		124	40 - 159
Ethylbenzene	40.0	35.5		ug/L		89	70 - 123

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-660100/4
Matrix: Water
Analysis Batch: 660100

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylene Dibromide	40.0	36.1		ug/L		90	70 - 125
m-Xylene & p-Xylene	40.0	35.5		ug/L		89	70 - 125
Isopropylbenzene	40.0	35.2		ug/L		88	70 - 126
2-Butanone (MEK)	40.0	27.3		ug/L		68	46 - 144
4-Methyl-2-pentanone (MIBK)	40.0	25.2		ug/L		63	55 - 139
Methyl tert-butyl ether	40.0	37.3		ug/L		93	55 - 123
Methylene Chloride	40.0	35.5		ug/L		89	69 - 125
o-Xylene	40.0	37.0		ug/L		93	70 - 120
Styrene	40.0	37.6		ug/L		94	70 - 120
Tetrachloroethene	40.0	40.2		ug/L		100	70 - 128
Tetrahydrofuran	80.0	42.1	*	ug/L		53	59 - 139
Toluene	40.0	37.2		ug/L		93	70 - 125
trans-1,2-Dichloroethene	40.0	37.1		ug/L		93	70 - 125
trans-1,3-Dichloropropene	40.0	42.2		ug/L		106	62 - 128
Trichloroethene	40.0	34.6		ug/L		87	70 - 125
Trichlorofluoromethane	40.0	49.9		ug/L		125	55 - 128
Vinyl chloride	40.0	33.0		ug/L		83	64 - 126
Chlorodibromomethane	40.0	41.0		ug/L		103	68 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	121		75 - 126
4-Bromofluorobenzene (Surr)	107		72 - 124
Dibromofluoromethane (Surr)	103		75 - 120
Toluene-d8 (Surr)	103		75 - 120

Lab Sample ID: 500-217321-5 MS
Matrix: Water
Analysis Batch: 660100

Client Sample ID: W-220526-KJ-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	6.3		40.0	47.7		ug/L		103	70 - 125
1,1,2,2-Tetrachloroethane	<0.40		40.0	38.1		ug/L		95	62 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		40.0	41.0		ug/L		102	70 - 123
1,1,2-Trichloroethane	<0.35		40.0	37.5		ug/L		94	71 - 130
1,1-Dichloroethane	8.1		40.0	44.4		ug/L		91	70 - 125
1,1-Dichloroethene	1.7		40.0	38.6		ug/L		92	67 - 122
1,2,3-Trichlorobenzene	<0.46		40.0	34.2		ug/L		86	51 - 145
1,2,4-Trichlorobenzene	<0.34		40.0	33.4		ug/L		84	57 - 137
1,2,4-Trimethylbenzene	<0.36		40.0	39.2		ug/L		98	70 - 123
1,2-Dibromo-3-Chloropropane	<2.0		40.0	44.7		ug/L		112	56 - 123
1,2-Dichlorobenzene	<0.33		40.0	42.7		ug/L		107	70 - 125
1,2-Dichloroethane	<0.39		40.0	40.2		ug/L		100	68 - 127
1,2-Dichloropropane	<0.43		40.0	35.6		ug/L		89	67 - 130
1,3,5-Trimethylbenzene	<0.25		40.0	38.0		ug/L		95	70 - 123
1,3-Dichlorobenzene	<0.40		40.0	40.8		ug/L		102	70 - 125
1,4-Dichlorobenzene	<0.36		40.0	39.3		ug/L		98	70 - 120
2-Hexanone	<1.6		40.0	28.8		ug/L		72	54 - 146
Bromochloromethane	<0.43		40.0	39.3		ug/L		98	65 - 122

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-217321-5 MS

Client Sample ID: W-220526-KJ-05

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 660100

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	<1.7		40.0	26.2		ug/L		65	40 - 143
Benzene	<0.15		40.0	37.3		ug/L		93	70 - 120
Bromoform	<0.48		40.0	46.5		ug/L		116	56 - 132
Bromomethane	<0.80		40.0	33.1		ug/L		83	40 - 152
Carbon disulfide	<0.45		40.0	35.7		ug/L		89	66 - 120
Carbon tetrachloride	<0.38		40.0	48.7		ug/L		122	59 - 133
Chlorobenzene	<0.39		40.0	38.2		ug/L		95	70 - 120
Chloroethane	0.55	J	40.0	34.5		ug/L		85	48 - 136
Chloroform	0.60	J B	40.0	40.7		ug/L		100	70 - 120
Chloromethane	<0.32	F1	40.0	23.8		ug/L		59	56 - 152
cis-1,2-Dichloroethene	0.51	J	40.0	39.0		ug/L		96	70 - 125
cis-1,3-Dichloropropene	<0.42		40.0	40.2		ug/L		100	64 - 127
Dichlorobromomethane	<0.37		40.0	42.5		ug/L		106	69 - 120
Dichlorodifluoromethane	<0.67		40.0	43.3		ug/L		108	40 - 159
Ethylbenzene	<0.18		40.0	35.7		ug/L		89	70 - 123
Ethylene Dibromide	<0.39		40.0	38.7		ug/L		97	70 - 125
m-Xylene & p-Xylene	<0.18		40.0	35.6		ug/L		89	70 - 125
Isopropylbenzene	<0.39		40.0	37.0		ug/L		93	70 - 126
2-Butanone (MEK)	<2.1		40.0	28.0		ug/L		70	46 - 144
4-Methyl-2-pentanone (MIBK)	<2.2		40.0	28.8		ug/L		72	55 - 139
Methyl tert-butyl ether	<0.39		40.0	39.0		ug/L		97	55 - 123
Methylene Chloride	<1.6		40.0	36.7		ug/L		92	69 - 125
o-Xylene	<0.22		40.0	37.7		ug/L		94	70 - 120
Styrene	<0.39		40.0	37.9		ug/L		95	70 - 120
Tetrachloroethene	1.0		40.0	41.0		ug/L		100	70 - 128
Tetrahydrofuran	<1.9	F1 *	80.0	42.7	F1	ug/L		53	59 - 139
Toluene	<0.15		40.0	37.9		ug/L		95	70 - 125
trans-1,2-Dichloroethene	<0.35		40.0	37.7		ug/L		94	70 - 125
trans-1,3-Dichloropropene	<0.36		40.0	43.7		ug/L		109	62 - 128
Trichloroethene	0.17	J	40.0	35.3		ug/L		88	70 - 125
Trichlorofluoromethane	<0.43		40.0	45.3		ug/L		113	55 - 128
Vinyl chloride	<0.20		40.0	29.3		ug/L		73	64 - 126
Chlorodibromomethane	<0.49		40.0	45.8		ug/L		114	68 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	125		75 - 126
4-Bromofluorobenzene (Surr)	110		72 - 124
Dibromofluoromethane (Surr)	106		75 - 120
Toluene-d8 (Surr)	102		75 - 120

Lab Sample ID: 500-217321-5 MSD

Client Sample ID: W-220526-KJ-05

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 660100

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	6.3		40.0	48.3		ug/L		105	70 - 125	1	20
1,1,1,2-Tetrachloroethane	<0.40		40.0	35.6		ug/L		89	62 - 140	7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		40.0	40.4		ug/L		101	70 - 123	1	20

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-217321-5 MSD

Client Sample ID: W-220526-KJ-05

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 660100

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,2-Trichloroethane	<0.35		40.0	37.6		ug/L		94	71 - 130	0	20
1,1-Dichloroethane	8.1		40.0	45.1		ug/L		93	70 - 125	2	20
1,1-Dichloroethene	1.7		40.0	38.7		ug/L		92	67 - 122	0	20
1,2,3-Trichlorobenzene	<0.46		40.0	35.4		ug/L		89	51 - 145	3	20
1,2,4-Trichlorobenzene	<0.34		40.0	33.9		ug/L		85	57 - 137	1	20
1,2,4-Trimethylbenzene	<0.36		40.0	37.4		ug/L		93	70 - 123	5	20
1,2-Dibromo-3-Chloropropane	<2.0		40.0	44.7		ug/L		112	56 - 123	0	20
1,2-Dichlorobenzene	<0.33		40.0	41.1		ug/L		103	70 - 125	4	20
1,2-Dichloroethane	<0.39		40.0	40.0		ug/L		100	68 - 127	0	20
1,2-Dichloropropane	<0.43		40.0	36.7		ug/L		92	67 - 130	3	20
1,3,5-Trimethylbenzene	<0.25		40.0	36.8		ug/L		92	70 - 123	3	20
1,3-Dichlorobenzene	<0.40		40.0	39.7		ug/L		99	70 - 125	3	20
1,4-Dichlorobenzene	<0.36		40.0	38.6		ug/L		97	70 - 120	2	20
2-Hexanone	<1.6		40.0	25.8		ug/L		64	54 - 146	11	20
Bromochloromethane	<0.43		40.0	38.2		ug/L		96	65 - 122	3	20
Acetone	<1.7		40.0	27.3		ug/L		68	40 - 143	4	20
Benzene	<0.15		40.0	37.1		ug/L		93	70 - 120	1	20
Bromoform	<0.48		40.0	45.2		ug/L		113	56 - 132	3	20
Bromomethane	<0.80		40.0	30.5		ug/L		76	40 - 152	8	20
Carbon disulfide	<0.45		40.0	35.6		ug/L		89	66 - 120	0	20
Carbon tetrachloride	<0.38		40.0	47.9		ug/L		120	59 - 133	2	20
Chlorobenzene	<0.39		40.0	37.5		ug/L		94	70 - 120	2	20
Chloroethane	0.55	J	40.0	34.5		ug/L		85	48 - 136	0	20
Chloroform	0.60	J B	40.0	40.7		ug/L		100	70 - 120	0	20
Chloromethane	<0.32	F1	40.0	20.9	F1	ug/L		52	56 - 152	13	20
cis-1,2-Dichloroethene	0.51	J	40.0	38.4		ug/L		95	70 - 125	1	20
cis-1,3-Dichloropropene	<0.42		40.0	39.2		ug/L		98	64 - 127	3	20
Dichlorobromomethane	<0.37		40.0	42.0		ug/L		105	69 - 120	1	20
Dichlorodifluoromethane	<0.67		40.0	43.5		ug/L		109	40 - 159	1	20
Ethylbenzene	<0.18		40.0	34.8		ug/L		87	70 - 123	3	20
Ethylene Dibromide	<0.39		40.0	38.4		ug/L		96	70 - 125	1	20
m-Xylene & p-Xylene	<0.18		40.0	34.5		ug/L		86	70 - 125	3	20
Isopropylbenzene	<0.39		40.0	35.6		ug/L		89	70 - 126	4	20
2-Butanone (MEK)	<2.1		40.0	24.8		ug/L		62	46 - 144	12	20
4-Methyl-2-pentanone (MIBK)	<2.2		40.0	27.2		ug/L		68	55 - 139	6	20
Methyl tert-butyl ether	<0.39		40.0	38.9		ug/L		97	55 - 123	0	20
Methylene Chloride	<1.6		40.0	36.5		ug/L		91	69 - 125	1	20
o-Xylene	<0.22		40.0	36.7		ug/L		92	70 - 120	3	20
Styrene	<0.39		40.0	37.5		ug/L		94	70 - 120	1	20
Tetrachloroethene	1.0		40.0	40.0		ug/L		98	70 - 128	2	20
Tetrahydrofuran	<1.9	F1 *	80.0	42.2	F1	ug/L		53	59 - 139	1	20
Toluene	<0.15		40.0	37.4		ug/L		93	70 - 125	1	20
trans-1,2-Dichloroethene	<0.35		40.0	37.9		ug/L		95	70 - 125	0	20
trans-1,3-Dichloropropene	<0.36		40.0	43.2		ug/L		108	62 - 128	1	20
Trichloroethene	0.17	J	40.0	34.8		ug/L		87	70 - 125	2	20
Trichlorofluoromethane	<0.43		40.0	45.0		ug/L		113	55 - 128	1	20
Vinyl chloride	<0.20		40.0	29.6		ug/L		74	64 - 126	1	20
Chlorodibromomethane	<0.49		40.0	44.3		ug/L		111	68 - 125	3	20

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-217321-5 MSD
Matrix: Water
Analysis Batch: 660100

Client Sample ID: W-220526-KJ-05
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	124		75 - 126
4-Bromofluorobenzene (Surr)	110		72 - 124
Dibromofluoromethane (Surr)	106		75 - 120
Toluene-d8 (Surr)	102		75 - 120

Lab Sample ID: MB 500-660525/6
Matrix: Water
Analysis Batch: 660525

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			06/09/22 14:11	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			06/09/22 14:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.46		1.0	0.46	ug/L			06/09/22 14:11	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			06/09/22 14:11	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			06/09/22 14:11	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			06/09/22 14:11	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			06/09/22 14:11	1
1,2,4-Trichlorobenzene	0.392	J	1.0	0.34	ug/L			06/09/22 14:11	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			06/09/22 14:11	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			06/09/22 14:11	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			06/09/22 14:11	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			06/09/22 14:11	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			06/09/22 14:11	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			06/09/22 14:11	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			06/09/22 14:11	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			06/09/22 14:11	1
2-Hexanone	<1.6		5.0	1.6	ug/L			06/09/22 14:11	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			06/09/22 14:11	1
Acetone	6.21	J	10	1.7	ug/L			06/09/22 14:11	1
Benzene	<0.15		0.50	0.15	ug/L			06/09/22 14:11	1
Bromoform	<0.48		1.0	0.48	ug/L			06/09/22 14:11	1
Bromomethane	<0.80		3.0	0.80	ug/L			06/09/22 14:11	1
Carbon disulfide	<0.45		2.0	0.45	ug/L			06/09/22 14:11	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			06/09/22 14:11	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			06/09/22 14:11	1
Chloroethane	<0.51		1.0	0.51	ug/L			06/09/22 14:11	1
Chloroform	<0.37		2.0	0.37	ug/L			06/09/22 14:11	1
Chloromethane	<0.32		1.0	0.32	ug/L			06/09/22 14:11	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			06/09/22 14:11	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			06/09/22 14:11	1
Dichlorobromomethane	<0.37		1.0	0.37	ug/L			06/09/22 14:11	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			06/09/22 14:11	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			06/09/22 14:11	1
Ethylene Dibromide	<0.39		1.0	0.39	ug/L			06/09/22 14:11	1
m-Xylene & p-Xylene	<0.18		1.0	0.18	ug/L			06/09/22 14:11	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			06/09/22 14:11	1
2-Butanone (MEK)	<2.1		5.0	2.1	ug/L			06/09/22 14:11	1
4-Methyl-2-pentanone (MIBK)	<2.2		5.0	2.2	ug/L			06/09/22 14:11	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-660525/6
Matrix: Water
Analysis Batch: 660525

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			06/09/22 14:11	1
Methylene Chloride	8.70		5.0	1.6	ug/L			06/09/22 14:11	1
o-Xylene	<0.22		0.50	0.22	ug/L			06/09/22 14:11	1
Styrene	<0.39		1.0	0.39	ug/L			06/09/22 14:11	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			06/09/22 14:11	1
Tetrahydrofuran	<1.9		10	1.9	ug/L			06/09/22 14:11	1
Toluene	<0.15		0.50	0.15	ug/L			06/09/22 14:11	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			06/09/22 14:11	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			06/09/22 14:11	1
Trichloroethene	<0.16		0.50	0.16	ug/L			06/09/22 14:11	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			06/09/22 14:11	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			06/09/22 14:11	1
Chlorodibromomethane	<0.49		1.0	0.49	ug/L			06/09/22 14:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 126		06/09/22 14:11	1
4-Bromofluorobenzene (Surr)	88		72 - 124		06/09/22 14:11	1
Dibromofluoromethane (Surr)	95		75 - 120		06/09/22 14:11	1
Toluene-d8 (Surr)	97		75 - 120		06/09/22 14:11	1

Lab Sample ID: LCS 500-660525/4
Matrix: Water
Analysis Batch: 660525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	50.0	43.9		ug/L		88	70 - 125
1,1,1,2-Tetrachloroethane	50.0	40.5		ug/L		81	62 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.5		ug/L		101	70 - 123
1,1,2-Trichloroethane	50.0	42.1		ug/L		84	71 - 130
1,1-Dichloroethane	50.0	41.4		ug/L		83	70 - 125
1,1-Dichloroethene	50.0	48.1		ug/L		96	67 - 122
1,2,3-Trichlorobenzene	50.0	40.6		ug/L		81	51 - 145
1,2,4-Trichlorobenzene	50.0	44.1		ug/L		88	57 - 137
1,2,4-Trimethylbenzene	50.0	49.6		ug/L		99	70 - 123
1,2-Dibromo-3-Chloropropane	50.0	35.4		ug/L		71	56 - 123
1,2-Dichlorobenzene	50.0	45.2		ug/L		90	70 - 125
1,2-Dichloroethane	50.0	39.3		ug/L		79	68 - 127
1,2-Dichloropropane	50.0	41.5		ug/L		83	67 - 130
1,3,5-Trimethylbenzene	50.0	49.2		ug/L		98	70 - 123
1,3-Dichlorobenzene	50.0	45.8		ug/L		92	70 - 125
1,4-Dichlorobenzene	50.0	45.6		ug/L		91	70 - 120
2-Hexanone	50.0	32.8		ug/L		66	54 - 146
Bromochloromethane	50.0	41.8		ug/L		84	65 - 122
Acetone	50.0	40.8		ug/L		82	40 - 143
Benzene	50.0	46.2		ug/L		92	70 - 120
Bromoform	50.0	40.0		ug/L		80	56 - 132
Bromomethane	50.0	38.3		ug/L		77	40 - 152
Carbon disulfide	50.0	47.0		ug/L		94	66 - 120

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-660525/4
Matrix: Water
Analysis Batch: 660525

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Carbon tetrachloride	50.0	46.3		ug/L		93	59 - 133
Chlorobenzene	50.0	43.6		ug/L		87	70 - 120
Chloroethane	50.0	52.7		ug/L		105	48 - 136
Chloroform	50.0	41.1		ug/L		82	70 - 120
Chloromethane	50.0	42.9		ug/L		86	56 - 152
cis-1,2-Dichloroethene	50.0	43.5		ug/L		87	70 - 125
cis-1,3-Dichloropropene	50.0	41.0		ug/L		82	64 - 127
Dichlorobromomethane	50.0	41.3		ug/L		83	69 - 120
Dichlorodifluoromethane	50.0	48.3		ug/L		97	40 - 159
Ethylbenzene	50.0	42.8		ug/L		86	70 - 123
Ethylene Dibromide	50.0	37.8		ug/L		76	70 - 125
m-Xylene & p-Xylene	50.0	45.6		ug/L		91	70 - 125
Isopropylbenzene	50.0	50.4		ug/L		101	70 - 126
2-Butanone (MEK)	50.0	37.1		ug/L		74	46 - 144
4-Methyl-2-pentanone (MIBK)	50.0	33.9		ug/L		68	55 - 139
Methyl tert-butyl ether	50.0	36.7		ug/L		73	55 - 123
Methylene Chloride	50.0	50.4		ug/L		101	69 - 125
o-Xylene	50.0	44.2		ug/L		88	70 - 120
Styrene	50.0	43.5		ug/L		87	70 - 120
Tetrachloroethene	50.0	50.5		ug/L		101	70 - 128
Tetrahydrofuran	100	70.3		ug/L		70	59 - 139
Toluene	50.0	44.7		ug/L		89	70 - 125
trans-1,2-Dichloroethene	50.0	45.1		ug/L		90	70 - 125
trans-1,3-Dichloropropene	50.0	37.4		ug/L		75	62 - 128
Trichloroethene	50.0	45.4		ug/L		91	70 - 125
Trichlorofluoromethane	50.0	47.4		ug/L		95	55 - 128
Vinyl chloride	50.0	47.3		ug/L		95	64 - 126
Chlorodibromomethane	50.0	42.3		ug/L		85	68 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		75 - 126
4-Bromofluorobenzene (Surr)	91		72 - 124
Dibromofluoromethane (Surr)	90		75 - 120
Toluene-d8 (Surr)	101		75 - 120

Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220526-KJ-01

Date Collected: 05/26/22 09:37

Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 13:57	W1T	TAL CHI

Client Sample ID: W-220526-KJ-02

Date Collected: 05/26/22 09:38

Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 14:24	W1T	TAL CHI

Client Sample ID: W-220526-KJ-03

Date Collected: 05/26/22 10:15

Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 14:50	W1T	TAL CHI

Client Sample ID: W-220526-KJ-04

Date Collected: 05/26/22 10:30

Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 15:17	W1T	TAL CHI

Client Sample ID: W-220526-KJ-05

Date Collected: 05/26/22 12:02

Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 15:44	W1T	TAL CHI

Client Sample ID: W-220526-KJ-06

Date Collected: 05/26/22 12:45

Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 16:11	W1T	TAL CHI

Client Sample ID: W-220526-KJ-07

Date Collected: 05/26/22 13:38

Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 16:38	W1T	TAL CHI

Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Client Sample ID: W-220527-KJ-08
Date Collected: 05/26/22 09:07
Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 17:04	W1T	TAL CHI

Client Sample ID: W-220527-KJ-09
Date Collected: 05/27/22 09:46
Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 17:31	W1T	TAL CHI

Client Sample ID: W-220527-KJ-10
Date Collected: 05/27/22 09:48
Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 17:58	W1T	TAL CHI

Client Sample ID: W-220527-KJ-11
Date Collected: 05/27/22 11:00
Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660525	06/09/22 15:43	PSP	TAL CHI

Client Sample ID: W-220527-KJ-12
Date Collected: 05/27/22 10:35
Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 18:52	W1T	TAL CHI

Client Sample ID: TRIP BLANK
Date Collected: 05/27/22 00:00
Date Received: 05/28/22 10:50

Lab Sample ID: 500-217321-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	660100	06/07/22 13:30	W1T	TAL CHI

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-217321-1

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-22

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 500-217321-1

Login Number: 217321

List Source: Eurofins Chicago

List Number: 1

Creator: Buckley, Paula M

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received Trip Blank(s) not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Mr. Grant Anderson
GHD Services Inc.
900 Long Lake Road
Suite 200
New Brighton Minnesota 55112

Generated 11/22/2022 11:12:47 AM

JOB DESCRIPTION

New Richmond - 048038

JOB NUMBER

500-225372-1



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Case Narrative

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Job ID: 500-225372-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-225372-1

Receipt

The samples were received on 11/12/2022 11:04 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.4° C.

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-650396 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: W-221108-TS-01 (500-225372-1), W-221108-TS-02 (500-225372-2), W-221108-TS-03 (500-225372-3), W-221108-TS-04 (500-225372-4), W-221108-TS-05 (500-225372-5) and W-221108-TS-06 (500-225372-6).

Method 8260C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 480-650396 recovered outside control limits for the following analytes: Acetone. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The associated samples are impacted: W-221108-TS-01 (500-225372-1), W-221108-TS-02 (500-225372-2), W-221108-TS-03 (500-225372-3), W-221108-TS-04 (500-225372-4), W-221108-TS-05 (500-225372-5) and W-221108-TS-06 (500-225372-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-01

Lab Sample ID: 500-225372-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	4.0		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	4.0		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	0.72	J	1.0	0.29	ug/L	1		8260C	Total/NA
Chloroform	0.70	J	1.0	0.34	ug/L	1		8260C	Total/NA
Tetrachloroethene	1.1		1.0	0.36	ug/L	1		8260C	Total/NA

Client Sample ID: W-221108-TS-02

Lab Sample ID: 500-225372-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.1		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	0.80	J	1.0	0.29	ug/L	1		8260C	Total/NA

Client Sample ID: W-221108-TS-03

Lab Sample ID: 500-225372-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	14		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	4.5		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	3.9		1.0	0.29	ug/L	1		8260C	Total/NA

Client Sample ID: W-221108-TS-04

Lab Sample ID: 500-225372-4

No Detections.

Client Sample ID: W-221108-TS-05

Lab Sample ID: 500-225372-5

No Detections.

Client Sample ID: W-221108-TS-06

Lab Sample ID: 500-225372-6

No Detections.

Client Sample ID: W-221108-TS-07

Lab Sample ID: 500-225372-7

No Detections.

Client Sample ID: W-221108-TS-08

Lab Sample ID: 500-225372-8

No Detections.

Client Sample ID: W-221108-TS-09

Lab Sample ID: 500-225372-9

No Detections.

Client Sample ID: W-221109-TS-10

Lab Sample ID: 500-225372-10

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1.1		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	3.3		1.0	0.38	ug/L	1		8260C	Total/NA

Client Sample ID: W-221109-TS-11

Lab Sample ID: 500-225372-11

No Detections.

Client Sample ID: W-221109-TS-12

Lab Sample ID: 500-225372-12

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	5.2		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	7.5		1.0	0.38	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-12 (Continued)

Lab Sample ID: 500-225372-12

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	1.5		1.0	0.29	ug/L	1		8260C	Total/NA
Chloroethane	0.46	J	1.0	0.32	ug/L	1		8260C	Total/NA
Tetrachloroethene	0.95	J	1.0	0.36	ug/L	1		8260C	Total/NA

Client Sample ID: W-221109-TS-13

Lab Sample ID: 500-225372-13

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	5.2		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	7.3		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	1.5		1.0	0.29	ug/L	1		8260C	Total/NA
Chloroethane	0.42	J	1.0	0.32	ug/L	1		8260C	Total/NA
Tetrachloroethene	0.94	J	1.0	0.36	ug/L	1		8260C	Total/NA

Client Sample ID: W-221109-TS-14

Lab Sample ID: 500-225372-14

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	6.6		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	8.9		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	1.7		1.0	0.29	ug/L	1		8260C	Total/NA
Tetrachloroethene	1.3		1.0	0.36	ug/L	1		8260C	Total/NA

Client Sample ID: W-221109-TS-15

Lab Sample ID: 500-225372-15

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1.1		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	1.3		1.0	0.38	ug/L	1		8260C	Total/NA

Client Sample ID: W-221109-TS-16

Lab Sample ID: 500-225372-16

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	8.8		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	9.8		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	2.2		1.0	0.29	ug/L	1		8260C	Total/NA
Chloroform	0.61	J	1.0	0.34	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	0.84	J	1.0	0.81	ug/L	1		8260C	Total/NA
Tetrachloroethene	1.2		1.0	0.36	ug/L	1		8260C	Total/NA

Client Sample ID: W-221109-TS-17

Lab Sample ID: 500-225372-17

No Detections.

Client Sample ID: W-221109-TS-18

Lab Sample ID: 500-225372-18

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	3.4		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	9.2		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	0.88	J	1.0	0.29	ug/L	1		8260C	Total/NA
Chloroform	1.4		1.0	0.34	ug/L	1		8260C	Total/NA

Client Sample ID: W-221109-TS-19

Lab Sample ID: 500-225372-19

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1.4		1.0	0.82	ug/L	1		8260C	Total/NA
1,1-Dichloroethane	2.8		1.0	0.38	ug/L	1		8260C	Total/NA
1,1-Dichloroethene	0.60	J	1.0	0.29	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Detection Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-19 (Continued)

Lab Sample ID: 500-225372-19

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Chloroform	1.7		1.0	0.34	ug/L	1		8260C	Total/NA

Client Sample ID: W-221110-TS-21

Lab Sample ID: 500-225372-20

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-225372-21

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Tetrahydrofuran	2.9	J	5.0	1.3	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Chicago



Method Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET BUF
5030C	Purge and Trap	SW846	EET BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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- 14
- 15
- 16

Sample Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-225372-1	W-221108-TS-01	Water	11/08/22 10:30	11/12/22 11:04
500-225372-2	W-221108-TS-02	Water	11/08/22 11:35	11/12/22 11:04
500-225372-3	W-221108-TS-03	Water	11/08/22 11:25	11/12/22 11:04
500-225372-4	W-221108-TS-04	Water	11/08/22 12:13	11/12/22 11:04
500-225372-5	W-221108-TS-05	Water	11/08/22 12:58	11/12/22 11:04
500-225372-6	W-221108-TS-06	Water	11/08/22 12:36	11/12/22 11:04
500-225372-7	W-221108-TS-07	Water	11/08/22 13:14	11/12/22 11:04
500-225372-8	W-221108-TS-08	Water	11/08/22 13:15	11/12/22 11:04
500-225372-9	W-221108-TS-09	Water	11/08/22 15:04	11/12/22 11:04
500-225372-10	W-221109-TS-10	Water	11/09/22 09:53	11/12/22 11:04
500-225372-11	W-221109-TS-11	Water	11/09/22 10:07	11/12/22 11:04
500-225372-12	W-221109-TS-12	Water	11/09/22 10:38	11/12/22 11:04
500-225372-13	W-221109-TS-13	Water	11/09/22 10:34	11/12/22 11:04
500-225372-14	W-221109-TS-14	Water	11/09/22 11:43	11/12/22 11:04
500-225372-15	W-221109-TS-15	Water	11/09/22 11:57	11/12/22 11:04
500-225372-16	W-221109-TS-16	Water	11/09/22 13:28	11/12/22 11:04
500-225372-17	W-221109-TS-17	Water	11/09/22 15:03	11/12/22 11:04
500-225372-18	W-221109-TS-18	Water	11/09/22 16:25	11/12/22 11:04
500-225372-19	W-221109-TS-19	Water	11/09/22 16:45	11/12/22 11:04
500-225372-20	W-221110-TS-21	Water	11/10/22 10:15	11/12/22 11:04
500-225372-21	TRIP BLANK	Water	11/08/22 00:00	11/12/22 11:04



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-01

Lab Sample ID: 500-225372-1

Date Collected: 11/08/22 10:30

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4.0		1.0	0.82	ug/L			11/17/22 15:42	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/17/22 15:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/17/22 15:42	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/17/22 15:42	1
1,1-Dichloroethane	4.0		1.0	0.38	ug/L			11/17/22 15:42	1
1,1-Dichloroethene	0.72 J		1.0	0.29	ug/L			11/17/22 15:42	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 15:42	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 15:42	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/17/22 15:42	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/17/22 15:42	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/17/22 15:42	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/17/22 15:42	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/17/22 15:42	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/17/22 15:42	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/17/22 15:42	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/17/22 15:42	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/17/22 15:42	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/17/22 15:42	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/17/22 15:42	1
Acetone	<3.0 *		10	3.0	ug/L			11/17/22 15:42	1
Benzene	<0.41		1.0	0.41	ug/L			11/17/22 15:42	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/17/22 15:42	1
Bromoform	<0.26		1.0	0.26	ug/L			11/17/22 15:42	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/17/22 15:42	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/17/22 15:42	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/17/22 15:42	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/17/22 15:42	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/17/22 15:42	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/17/22 15:42	1
Chloroform	0.70 J		1.0	0.34	ug/L			11/17/22 15:42	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/17/22 15:42	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/17/22 15:42	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/17/22 15:42	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/17/22 15:42	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/17/22 15:42	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/17/22 15:42	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/17/22 15:42	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/17/22 15:42	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/17/22 15:42	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/17/22 15:42	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/17/22 15:42	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/17/22 15:42	1
Styrene	<0.73		1.0	0.73	ug/L			11/17/22 15:42	1
Tetrachloroethene	1.1		1.0	0.36	ug/L			11/17/22 15:42	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/17/22 15:42	1
Toluene	<0.51		1.0	0.51	ug/L			11/17/22 15:42	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/17/22 15:42	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/17/22 15:42	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/17/22 15:42	1

Eurofins Chicago

Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-01

Lab Sample ID: 500-225372-1

Date Collected: 11/08/22 10:30

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88	^c	1.0	0.88	ug/L			11/17/22 15:42	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/17/22 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/17/22 15:42	1
4-Bromofluorobenzene (Surr)	111		73 - 120		11/17/22 15:42	1
Dibromofluoromethane (Surr)	102		75 - 123		11/17/22 15:42	1
Toluene-d8 (Surr)	95		80 - 120		11/17/22 15:42	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-02

Lab Sample ID: 500-225372-2

Date Collected: 11/08/22 11:35

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/17/22 16:06	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/17/22 16:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/17/22 16:06	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/17/22 16:06	1
1,1-Dichloroethane	1.1		1.0	0.38	ug/L			11/17/22 16:06	1
1,1-Dichloroethene	0.80 J		1.0	0.29	ug/L			11/17/22 16:06	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 16:06	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 16:06	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/17/22 16:06	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/17/22 16:06	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/17/22 16:06	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/17/22 16:06	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/17/22 16:06	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/17/22 16:06	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/17/22 16:06	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/17/22 16:06	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/17/22 16:06	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/17/22 16:06	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/17/22 16:06	1
Acetone	<3.0 *		10	3.0	ug/L			11/17/22 16:06	1
Benzene	<0.41		1.0	0.41	ug/L			11/17/22 16:06	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/17/22 16:06	1
Bromoform	<0.26		1.0	0.26	ug/L			11/17/22 16:06	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/17/22 16:06	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/17/22 16:06	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/17/22 16:06	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/17/22 16:06	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/17/22 16:06	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/17/22 16:06	1
Chloroform	<0.34		1.0	0.34	ug/L			11/17/22 16:06	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/17/22 16:06	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/17/22 16:06	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/17/22 16:06	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/17/22 16:06	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/17/22 16:06	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/17/22 16:06	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/17/22 16:06	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/17/22 16:06	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/17/22 16:06	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/17/22 16:06	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/17/22 16:06	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/17/22 16:06	1
Styrene	<0.73		1.0	0.73	ug/L			11/17/22 16:06	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/17/22 16:06	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/17/22 16:06	1
Toluene	<0.51		1.0	0.51	ug/L			11/17/22 16:06	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/17/22 16:06	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/17/22 16:06	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/17/22 16:06	1

Eurofins Chicago

Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-02

Lab Sample ID: 500-225372-2

Date Collected: 11/08/22 11:35

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88	^c	1.0	0.88	ug/L			11/17/22 16:06	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/17/22 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/17/22 16:06	1
4-Bromofluorobenzene (Surr)	109		73 - 120		11/17/22 16:06	1
Dibromofluoromethane (Surr)	104		75 - 123		11/17/22 16:06	1
Toluene-d8 (Surr)	96		80 - 120		11/17/22 16:06	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-03

Lab Sample ID: 500-225372-3

Date Collected: 11/08/22 11:25

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	14		1.0	0.82	ug/L			11/17/22 16:29	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/17/22 16:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/17/22 16:29	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/17/22 16:29	1
1,1-Dichloroethane	4.5		1.0	0.38	ug/L			11/17/22 16:29	1
1,1-Dichloroethene	3.9		1.0	0.29	ug/L			11/17/22 16:29	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 16:29	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 16:29	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/17/22 16:29	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/17/22 16:29	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/17/22 16:29	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/17/22 16:29	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/17/22 16:29	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/17/22 16:29	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/17/22 16:29	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/17/22 16:29	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/17/22 16:29	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/17/22 16:29	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/17/22 16:29	1
Acetone	<3.0 *		10	3.0	ug/L			11/17/22 16:29	1
Benzene	<0.41		1.0	0.41	ug/L			11/17/22 16:29	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/17/22 16:29	1
Bromoform	<0.26		1.0	0.26	ug/L			11/17/22 16:29	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/17/22 16:29	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/17/22 16:29	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/17/22 16:29	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/17/22 16:29	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/17/22 16:29	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/17/22 16:29	1
Chloroform	<0.34		1.0	0.34	ug/L			11/17/22 16:29	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/17/22 16:29	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/17/22 16:29	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/17/22 16:29	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/17/22 16:29	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/17/22 16:29	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/17/22 16:29	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/17/22 16:29	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/17/22 16:29	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/17/22 16:29	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/17/22 16:29	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/17/22 16:29	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/17/22 16:29	1
Styrene	<0.73		1.0	0.73	ug/L			11/17/22 16:29	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/17/22 16:29	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/17/22 16:29	1
Toluene	<0.51		1.0	0.51	ug/L			11/17/22 16:29	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/17/22 16:29	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/17/22 16:29	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/17/22 16:29	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-03

Lab Sample ID: 500-225372-3

Date Collected: 11/08/22 11:25

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88	^c	1.0	0.88	ug/L			11/17/22 16:29	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/17/22 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/17/22 16:29	1
4-Bromofluorobenzene (Surr)	111		73 - 120		11/17/22 16:29	1
Dibromofluoromethane (Surr)	105		75 - 123		11/17/22 16:29	1
Toluene-d8 (Surr)	97		80 - 120		11/17/22 16:29	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-04

Lab Sample ID: 500-225372-4

Date Collected: 11/08/22 12:13

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/17/22 16:53	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/17/22 16:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/17/22 16:53	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/17/22 16:53	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/17/22 16:53	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/17/22 16:53	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 16:53	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 16:53	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/17/22 16:53	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/17/22 16:53	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/17/22 16:53	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/17/22 16:53	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/17/22 16:53	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/17/22 16:53	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/17/22 16:53	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/17/22 16:53	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/17/22 16:53	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/17/22 16:53	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/17/22 16:53	1
Acetone	<3.0 *		10	3.0	ug/L			11/17/22 16:53	1
Benzene	<0.41		1.0	0.41	ug/L			11/17/22 16:53	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/17/22 16:53	1
Bromoform	<0.26		1.0	0.26	ug/L			11/17/22 16:53	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/17/22 16:53	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/17/22 16:53	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/17/22 16:53	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/17/22 16:53	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/17/22 16:53	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/17/22 16:53	1
Chloroform	<0.34		1.0	0.34	ug/L			11/17/22 16:53	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/17/22 16:53	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/17/22 16:53	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/17/22 16:53	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/17/22 16:53	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/17/22 16:53	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/17/22 16:53	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/17/22 16:53	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/17/22 16:53	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/17/22 16:53	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/17/22 16:53	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/17/22 16:53	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/17/22 16:53	1
Styrene	<0.73		1.0	0.73	ug/L			11/17/22 16:53	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/17/22 16:53	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/17/22 16:53	1
Toluene	<0.51		1.0	0.51	ug/L			11/17/22 16:53	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/17/22 16:53	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/17/22 16:53	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/17/22 16:53	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-04

Lab Sample ID: 500-225372-4

Date Collected: 11/08/22 12:13

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88	^c	1.0	0.88	ug/L			11/17/22 16:53	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/17/22 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		11/17/22 16:53	1
4-Bromofluorobenzene (Surr)	102		73 - 120		11/17/22 16:53	1
Dibromofluoromethane (Surr)	100		75 - 123		11/17/22 16:53	1
Toluene-d8 (Surr)	90		80 - 120		11/17/22 16:53	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-05

Lab Sample ID: 500-225372-5

Date Collected: 11/08/22 12:58

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/17/22 17:17	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/17/22 17:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/17/22 17:17	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/17/22 17:17	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/17/22 17:17	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/17/22 17:17	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 17:17	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 17:17	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/17/22 17:17	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/17/22 17:17	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/17/22 17:17	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/17/22 17:17	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/17/22 17:17	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/17/22 17:17	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/17/22 17:17	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/17/22 17:17	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/17/22 17:17	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/17/22 17:17	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/17/22 17:17	1
Acetone	<3.0 *		10	3.0	ug/L			11/17/22 17:17	1
Benzene	<0.41		1.0	0.41	ug/L			11/17/22 17:17	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/17/22 17:17	1
Bromoform	<0.26		1.0	0.26	ug/L			11/17/22 17:17	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/17/22 17:17	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/17/22 17:17	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/17/22 17:17	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/17/22 17:17	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/17/22 17:17	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/17/22 17:17	1
Chloroform	<0.34		1.0	0.34	ug/L			11/17/22 17:17	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/17/22 17:17	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/17/22 17:17	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/17/22 17:17	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/17/22 17:17	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/17/22 17:17	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/17/22 17:17	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/17/22 17:17	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/17/22 17:17	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/17/22 17:17	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/17/22 17:17	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/17/22 17:17	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/17/22 17:17	1
Styrene	<0.73		1.0	0.73	ug/L			11/17/22 17:17	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/17/22 17:17	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/17/22 17:17	1
Toluene	<0.51		1.0	0.51	ug/L			11/17/22 17:17	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/17/22 17:17	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/17/22 17:17	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/17/22 17:17	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-05

Lab Sample ID: 500-225372-5

Date Collected: 11/08/22 12:58

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88	^c	1.0	0.88	ug/L			11/17/22 17:17	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/17/22 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		11/17/22 17:17	1
4-Bromofluorobenzene (Surr)	112		73 - 120		11/17/22 17:17	1
Dibromofluoromethane (Surr)	104		75 - 123		11/17/22 17:17	1
Toluene-d8 (Surr)	96		80 - 120		11/17/22 17:17	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-06

Lab Sample ID: 500-225372-6

Date Collected: 11/08/22 12:36

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/17/22 17:41	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/17/22 17:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/17/22 17:41	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/17/22 17:41	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/17/22 17:41	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/17/22 17:41	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 17:41	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 17:41	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/17/22 17:41	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/17/22 17:41	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/17/22 17:41	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/17/22 17:41	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/17/22 17:41	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/17/22 17:41	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/17/22 17:41	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/17/22 17:41	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/17/22 17:41	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/17/22 17:41	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/17/22 17:41	1
Acetone	<3.0 *		10	3.0	ug/L			11/17/22 17:41	1
Benzene	<0.41		1.0	0.41	ug/L			11/17/22 17:41	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/17/22 17:41	1
Bromoform	<0.26		1.0	0.26	ug/L			11/17/22 17:41	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/17/22 17:41	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/17/22 17:41	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/17/22 17:41	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/17/22 17:41	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/17/22 17:41	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/17/22 17:41	1
Chloroform	<0.34		1.0	0.34	ug/L			11/17/22 17:41	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/17/22 17:41	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/17/22 17:41	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/17/22 17:41	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/17/22 17:41	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/17/22 17:41	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/17/22 17:41	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/17/22 17:41	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/17/22 17:41	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/17/22 17:41	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/17/22 17:41	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/17/22 17:41	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/17/22 17:41	1
Styrene	<0.73		1.0	0.73	ug/L			11/17/22 17:41	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/17/22 17:41	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/17/22 17:41	1
Toluene	<0.51		1.0	0.51	ug/L			11/17/22 17:41	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/17/22 17:41	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/17/22 17:41	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/17/22 17:41	1

Eurofins Chicago

Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-06

Lab Sample ID: 500-225372-6

Date Collected: 11/08/22 12:36

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88	^c	1.0	0.88	ug/L			11/17/22 17:41	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/17/22 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		11/17/22 17:41	1
4-Bromofluorobenzene (Surr)	92		73 - 120		11/17/22 17:41	1
Dibromofluoromethane (Surr)	102		75 - 123		11/17/22 17:41	1
Toluene-d8 (Surr)	90		80 - 120		11/17/22 17:41	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-07

Lab Sample ID: 500-225372-7

Date Collected: 11/08/22 13:14

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/18/22 12:34	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/18/22 12:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/18/22 12:34	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/18/22 12:34	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/18/22 12:34	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/18/22 12:34	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/18/22 12:34	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/18/22 12:34	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/18/22 12:34	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/18/22 12:34	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/18/22 12:34	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/18/22 12:34	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/18/22 12:34	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/18/22 12:34	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/18/22 12:34	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/18/22 12:34	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/18/22 12:34	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/18/22 12:34	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/18/22 12:34	1
Acetone	<3.0		10	3.0	ug/L			11/18/22 12:34	1
Benzene	<0.41		1.0	0.41	ug/L			11/18/22 12:34	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/18/22 12:34	1
Bromoform	<0.26		1.0	0.26	ug/L			11/18/22 12:34	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/18/22 12:34	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/18/22 12:34	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/18/22 12:34	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/18/22 12:34	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/18/22 12:34	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/18/22 12:34	1
Chloroform	<0.34		1.0	0.34	ug/L			11/18/22 12:34	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/18/22 12:34	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/18/22 12:34	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/18/22 12:34	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/18/22 12:34	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/18/22 12:34	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/18/22 12:34	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/18/22 12:34	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/18/22 12:34	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/18/22 12:34	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/18/22 12:34	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/18/22 12:34	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/18/22 12:34	1
Styrene	<0.73		1.0	0.73	ug/L			11/18/22 12:34	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/18/22 12:34	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/18/22 12:34	1
Toluene	<0.51		1.0	0.51	ug/L			11/18/22 12:34	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/18/22 12:34	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/18/22 12:34	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/18/22 12:34	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-07

Lab Sample ID: 500-225372-7

Date Collected: 11/08/22 13:14

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/18/22 12:34	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/18/22 12:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		77 - 120		11/18/22 12:34	1
4-Bromofluorobenzene (Surr)	102		73 - 120		11/18/22 12:34	1
Dibromofluoromethane (Surr)	100		75 - 123		11/18/22 12:34	1
Toluene-d8 (Surr)	98		80 - 120		11/18/22 12:34	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-08

Lab Sample ID: 500-225372-8

Date Collected: 11/08/22 13:15

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/19/22 00:17	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 00:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 00:17	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 00:17	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/19/22 00:17	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 00:17	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 00:17	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 00:17	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 00:17	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 00:17	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 00:17	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 00:17	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 00:17	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 00:17	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 00:17	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 00:17	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 00:17	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 00:17	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 00:17	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 00:17	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 00:17	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 00:17	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 00:17	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 00:17	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 00:17	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 00:17	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 00:17	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 00:17	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 00:17	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 00:17	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 00:17	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 00:17	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 00:17	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 00:17	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 00:17	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 00:17	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 00:17	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 00:17	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 00:17	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 00:17	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 00:17	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 00:17	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 00:17	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 00:17	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 00:17	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 00:17	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 00:17	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 00:17	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 00:17	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-08

Lab Sample ID: 500-225372-8

Date Collected: 11/08/22 13:15

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 00:17	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/19/22 00:17	1
4-Bromofluorobenzene (Surr)	97		73 - 120		11/19/22 00:17	1
Dibromofluoromethane (Surr)	103		75 - 123		11/19/22 00:17	1
Toluene-d8 (Surr)	96		80 - 120		11/19/22 00:17	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-09

Lab Sample ID: 500-225372-9

Date Collected: 11/08/22 15:04

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/19/22 00:39	1
1,1,1,2-Tetrachloroethane	<0.21	F1	1.0	0.21	ug/L			11/19/22 00:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 00:39	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 00:39	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/19/22 00:39	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 00:39	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 00:39	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 00:39	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 00:39	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 00:39	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 00:39	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 00:39	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 00:39	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 00:39	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 00:39	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 00:39	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 00:39	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 00:39	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 00:39	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 00:39	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 00:39	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 00:39	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 00:39	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 00:39	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 00:39	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 00:39	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 00:39	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 00:39	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 00:39	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 00:39	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 00:39	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 00:39	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 00:39	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 00:39	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 00:39	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 00:39	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 00:39	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 00:39	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 00:39	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 00:39	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 00:39	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 00:39	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 00:39	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 00:39	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 00:39	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 00:39	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 00:39	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 00:39	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 00:39	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-09

Lab Sample ID: 500-225372-9

Date Collected: 11/08/22 15:04

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 00:39	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/19/22 00:39	1
4-Bromofluorobenzene (Surr)	99		73 - 120		11/19/22 00:39	1
Dibromofluoromethane (Surr)	103		75 - 123		11/19/22 00:39	1
Toluene-d8 (Surr)	98		80 - 120		11/19/22 00:39	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-10

Lab Sample ID: 500-225372-10

Date Collected: 11/09/22 09:53

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1		1.0	0.82	ug/L			11/19/22 01:01	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 01:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 01:01	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 01:01	1
1,1-Dichloroethane	3.3		1.0	0.38	ug/L			11/19/22 01:01	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 01:01	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 01:01	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 01:01	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 01:01	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 01:01	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 01:01	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 01:01	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 01:01	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 01:01	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 01:01	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 01:01	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 01:01	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 01:01	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 01:01	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 01:01	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 01:01	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 01:01	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 01:01	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 01:01	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 01:01	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 01:01	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 01:01	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 01:01	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 01:01	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 01:01	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 01:01	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 01:01	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 01:01	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 01:01	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 01:01	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 01:01	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 01:01	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 01:01	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 01:01	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 01:01	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 01:01	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 01:01	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 01:01	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 01:01	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 01:01	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 01:01	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 01:01	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 01:01	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 01:01	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-10

Lab Sample ID: 500-225372-10

Date Collected: 11/09/22 09:53

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 01:01	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 01:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/19/22 01:01	1
4-Bromofluorobenzene (Surr)	98		73 - 120		11/19/22 01:01	1
Dibromofluoromethane (Surr)	101		75 - 123		11/19/22 01:01	1
Toluene-d8 (Surr)	96		80 - 120		11/19/22 01:01	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-11

Lab Sample ID: 500-225372-11

Date Collected: 11/09/22 10:07

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/19/22 01:23	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 01:23	1
1,1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 01:23	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 01:23	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/19/22 01:23	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 01:23	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 01:23	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 01:23	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 01:23	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 01:23	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 01:23	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 01:23	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 01:23	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 01:23	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 01:23	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 01:23	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 01:23	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 01:23	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 01:23	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 01:23	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 01:23	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 01:23	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 01:23	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 01:23	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 01:23	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 01:23	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 01:23	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 01:23	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 01:23	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 01:23	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 01:23	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 01:23	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 01:23	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 01:23	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 01:23	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 01:23	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 01:23	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 01:23	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 01:23	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 01:23	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 01:23	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 01:23	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 01:23	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 01:23	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 01:23	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 01:23	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 01:23	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 01:23	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 01:23	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-11

Lab Sample ID: 500-225372-11

Date Collected: 11/09/22 10:07

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 01:23	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 01:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120					11/19/22 01:23	1
4-Bromofluorobenzene (Surr)	100		73 - 120					11/19/22 01:23	1
Dibromofluoromethane (Surr)	104		75 - 123					11/19/22 01:23	1
Toluene-d8 (Surr)	97		80 - 120					11/19/22 01:23	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-12

Lab Sample ID: 500-225372-12

Date Collected: 11/09/22 10:38

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.2		1.0	0.82	ug/L			11/19/22 01:45	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 01:45	1
1,1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 01:45	1
1,1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 01:45	1
1,1-Dichloroethane	7.5		1.0	0.38	ug/L			11/19/22 01:45	1
1,1-Dichloroethene	1.5		1.0	0.29	ug/L			11/19/22 01:45	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 01:45	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 01:45	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 01:45	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 01:45	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 01:45	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 01:45	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 01:45	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 01:45	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 01:45	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 01:45	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 01:45	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 01:45	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 01:45	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 01:45	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 01:45	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 01:45	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 01:45	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 01:45	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 01:45	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 01:45	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 01:45	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 01:45	1
Chloroethane	0.46 J		1.0	0.32	ug/L			11/19/22 01:45	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 01:45	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 01:45	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 01:45	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 01:45	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 01:45	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 01:45	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 01:45	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 01:45	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 01:45	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 01:45	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 01:45	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 01:45	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 01:45	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 01:45	1
Tetrachloroethene	0.95 J		1.0	0.36	ug/L			11/19/22 01:45	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 01:45	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 01:45	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 01:45	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 01:45	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 01:45	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-12

Lab Sample ID: 500-225372-12

Date Collected: 11/09/22 10:38

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 01:45	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 01:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/19/22 01:45	1
4-Bromofluorobenzene (Surr)	99		73 - 120		11/19/22 01:45	1
Dibromofluoromethane (Surr)	104		75 - 123		11/19/22 01:45	1
Toluene-d8 (Surr)	97		80 - 120		11/19/22 01:45	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-13

Lab Sample ID: 500-225372-13

Date Collected: 11/09/22 10:34

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	5.2		1.0	0.82	ug/L			11/19/22 02:07	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 02:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 02:07	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 02:07	1
1,1-Dichloroethane	7.3		1.0	0.38	ug/L			11/19/22 02:07	1
1,1-Dichloroethene	1.5		1.0	0.29	ug/L			11/19/22 02:07	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 02:07	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 02:07	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 02:07	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 02:07	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 02:07	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 02:07	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 02:07	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 02:07	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 02:07	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 02:07	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 02:07	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 02:07	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 02:07	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 02:07	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 02:07	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 02:07	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 02:07	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 02:07	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 02:07	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 02:07	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 02:07	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 02:07	1
Chloroethane	0.42 J		1.0	0.32	ug/L			11/19/22 02:07	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 02:07	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 02:07	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 02:07	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 02:07	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 02:07	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 02:07	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 02:07	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 02:07	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 02:07	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 02:07	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 02:07	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 02:07	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 02:07	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 02:07	1
Tetrachloroethene	0.94 J		1.0	0.36	ug/L			11/19/22 02:07	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 02:07	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 02:07	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 02:07	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 02:07	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 02:07	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-13

Lab Sample ID: 500-225372-13

Date Collected: 11/09/22 10:34

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 02:07	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 02:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120					11/19/22 02:07	1
4-Bromofluorobenzene (Surr)	100		73 - 120					11/19/22 02:07	1
Dibromofluoromethane (Surr)	105		75 - 123					11/19/22 02:07	1
Toluene-d8 (Surr)	97		80 - 120					11/19/22 02:07	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-14

Lab Sample ID: 500-225372-14

Date Collected: 11/09/22 11:43

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6.6		1.0	0.82	ug/L			11/19/22 02:29	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 02:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 02:29	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 02:29	1
1,1-Dichloroethane	8.9		1.0	0.38	ug/L			11/19/22 02:29	1
1,1-Dichloroethene	1.7		1.0	0.29	ug/L			11/19/22 02:29	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 02:29	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 02:29	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 02:29	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 02:29	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 02:29	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 02:29	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 02:29	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 02:29	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 02:29	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 02:29	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 02:29	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 02:29	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 02:29	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 02:29	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 02:29	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 02:29	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 02:29	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 02:29	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 02:29	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 02:29	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 02:29	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 02:29	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 02:29	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 02:29	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 02:29	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 02:29	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 02:29	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 02:29	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 02:29	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 02:29	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 02:29	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 02:29	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 02:29	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 02:29	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 02:29	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 02:29	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 02:29	1
Tetrachloroethene	1.3		1.0	0.36	ug/L			11/19/22 02:29	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 02:29	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 02:29	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 02:29	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 02:29	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 02:29	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-14

Lab Sample ID: 500-225372-14

Date Collected: 11/09/22 11:43

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 02:29	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 02:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/19/22 02:29	1
4-Bromofluorobenzene (Surr)	103		73 - 120		11/19/22 02:29	1
Dibromofluoromethane (Surr)	104		75 - 123		11/19/22 02:29	1
Toluene-d8 (Surr)	97		80 - 120		11/19/22 02:29	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-15

Lab Sample ID: 500-225372-15

Date Collected: 11/09/22 11:57

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1		1.0	0.82	ug/L			11/19/22 02:51	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 02:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 02:51	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 02:51	1
1,1-Dichloroethane	1.3		1.0	0.38	ug/L			11/19/22 02:51	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 02:51	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 02:51	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 02:51	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 02:51	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 02:51	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 02:51	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 02:51	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 02:51	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 02:51	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 02:51	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 02:51	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 02:51	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 02:51	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 02:51	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 02:51	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 02:51	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 02:51	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 02:51	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 02:51	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 02:51	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 02:51	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 02:51	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 02:51	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 02:51	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 02:51	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 02:51	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 02:51	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 02:51	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 02:51	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 02:51	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 02:51	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 02:51	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 02:51	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 02:51	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 02:51	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 02:51	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 02:51	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 02:51	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 02:51	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 02:51	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 02:51	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 02:51	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 02:51	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 02:51	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-15

Lab Sample ID: 500-225372-15

Date Collected: 11/09/22 11:57

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 02:51	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 02:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/19/22 02:51	1
4-Bromofluorobenzene (Surr)	100		73 - 120		11/19/22 02:51	1
Dibromofluoromethane (Surr)	104		75 - 123		11/19/22 02:51	1
Toluene-d8 (Surr)	98		80 - 120		11/19/22 02:51	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-16

Lab Sample ID: 500-225372-16

Date Collected: 11/09/22 13:28

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8.8		1.0	0.82	ug/L			11/19/22 03:13	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 03:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 03:13	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 03:13	1
1,1-Dichloroethane	9.8		1.0	0.38	ug/L			11/19/22 03:13	1
1,1-Dichloroethene	2.2		1.0	0.29	ug/L			11/19/22 03:13	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 03:13	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 03:13	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 03:13	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 03:13	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 03:13	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 03:13	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 03:13	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 03:13	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 03:13	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 03:13	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 03:13	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 03:13	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 03:13	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 03:13	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 03:13	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 03:13	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 03:13	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 03:13	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 03:13	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 03:13	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 03:13	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 03:13	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 03:13	1
Chloroform	0.61 J		1.0	0.34	ug/L			11/19/22 03:13	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 03:13	1
cis-1,2-Dichloroethene	0.84 J		1.0	0.81	ug/L			11/19/22 03:13	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 03:13	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 03:13	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 03:13	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 03:13	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 03:13	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 03:13	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 03:13	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 03:13	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 03:13	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 03:13	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 03:13	1
Tetrachloroethene	1.2		1.0	0.36	ug/L			11/19/22 03:13	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 03:13	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 03:13	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 03:13	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 03:13	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 03:13	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-16

Lab Sample ID: 500-225372-16

Date Collected: 11/09/22 13:28

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 03:13	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 03:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120					11/19/22 03:13	1
4-Bromofluorobenzene (Surr)	100		73 - 120					11/19/22 03:13	1
Dibromofluoromethane (Surr)	104		75 - 123					11/19/22 03:13	1
Toluene-d8 (Surr)	98		80 - 120					11/19/22 03:13	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-17

Lab Sample ID: 500-225372-17

Date Collected: 11/09/22 15:03

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/19/22 03:34	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 03:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 03:34	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 03:34	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/19/22 03:34	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 03:34	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 03:34	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 03:34	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 03:34	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 03:34	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 03:34	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 03:34	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 03:34	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 03:34	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 03:34	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 03:34	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 03:34	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 03:34	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 03:34	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 03:34	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 03:34	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 03:34	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 03:34	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 03:34	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 03:34	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 03:34	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 03:34	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 03:34	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 03:34	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 03:34	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 03:34	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 03:34	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 03:34	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 03:34	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 03:34	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 03:34	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 03:34	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 03:34	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 03:34	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 03:34	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 03:34	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 03:34	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 03:34	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 03:34	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 03:34	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 03:34	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 03:34	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 03:34	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 03:34	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-17

Lab Sample ID: 500-225372-17

Date Collected: 11/09/22 15:03

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 03:34	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 03:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/19/22 03:34	1
4-Bromofluorobenzene (Surr)	101		73 - 120		11/19/22 03:34	1
Dibromofluoromethane (Surr)	104		75 - 123		11/19/22 03:34	1
Toluene-d8 (Surr)	96		80 - 120		11/19/22 03:34	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-18

Lab Sample ID: 500-225372-18

Date Collected: 11/09/22 16:25

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3.4		1.0	0.82	ug/L			11/19/22 03:56	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 03:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 03:56	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 03:56	1
1,1-Dichloroethane	9.2		1.0	0.38	ug/L			11/19/22 03:56	1
1,1-Dichloroethene	0.88 J		1.0	0.29	ug/L			11/19/22 03:56	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 03:56	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 03:56	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 03:56	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 03:56	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 03:56	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 03:56	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 03:56	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 03:56	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 03:56	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 03:56	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 03:56	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 03:56	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 03:56	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 03:56	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 03:56	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 03:56	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 03:56	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 03:56	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 03:56	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 03:56	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 03:56	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 03:56	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 03:56	1
Chloroform	1.4		1.0	0.34	ug/L			11/19/22 03:56	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 03:56	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 03:56	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 03:56	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 03:56	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 03:56	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 03:56	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 03:56	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 03:56	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 03:56	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 03:56	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 03:56	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 03:56	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 03:56	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 03:56	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 03:56	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 03:56	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 03:56	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 03:56	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 03:56	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-18

Lab Sample ID: 500-225372-18

Date Collected: 11/09/22 16:25

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 03:56	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 03:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120		11/19/22 03:56	1
4-Bromofluorobenzene (Surr)	100		73 - 120		11/19/22 03:56	1
Dibromofluoromethane (Surr)	105		75 - 123		11/19/22 03:56	1
Toluene-d8 (Surr)	96		80 - 120		11/19/22 03:56	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-19

Lab Sample ID: 500-225372-19

Date Collected: 11/09/22 16:45

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.4		1.0	0.82	ug/L			11/19/22 04:18	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 04:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 04:18	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 04:18	1
1,1-Dichloroethane	2.8		1.0	0.38	ug/L			11/19/22 04:18	1
1,1-Dichloroethene	0.60 J		1.0	0.29	ug/L			11/19/22 04:18	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 04:18	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 04:18	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 04:18	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 04:18	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 04:18	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 04:18	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 04:18	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 04:18	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 04:18	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 04:18	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 04:18	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 04:18	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 04:18	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 04:18	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 04:18	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 04:18	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 04:18	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 04:18	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 04:18	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 04:18	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 04:18	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 04:18	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 04:18	1
Chloroform	1.7		1.0	0.34	ug/L			11/19/22 04:18	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 04:18	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 04:18	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 04:18	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 04:18	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 04:18	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 04:18	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 04:18	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 04:18	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 04:18	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 04:18	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 04:18	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 04:18	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 04:18	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 04:18	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 04:18	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 04:18	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 04:18	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 04:18	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 04:18	1

Eurofins Chicago

Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-19

Lab Sample ID: 500-225372-19

Date Collected: 11/09/22 16:45

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 04:18	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 04:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/19/22 04:18	1
4-Bromofluorobenzene (Surr)	100		73 - 120		11/19/22 04:18	1
Dibromofluoromethane (Surr)	104		75 - 123		11/19/22 04:18	1
Toluene-d8 (Surr)	96		80 - 120		11/19/22 04:18	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221110-TS-21

Lab Sample ID: 500-225372-20

Date Collected: 11/10/22 10:15

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/19/22 04:40	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 04:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 04:40	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 04:40	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/19/22 04:40	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 04:40	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 04:40	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 04:40	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 04:40	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 04:40	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 04:40	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 04:40	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 04:40	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 04:40	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 04:40	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 04:40	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 04:40	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 04:40	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 04:40	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 04:40	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 04:40	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 04:40	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 04:40	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 04:40	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 04:40	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 04:40	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 04:40	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 04:40	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 04:40	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 04:40	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 04:40	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 04:40	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 04:40	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 04:40	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 04:40	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 04:40	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 04:40	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 04:40	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 04:40	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 04:40	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 04:40	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 04:40	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 04:40	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 04:40	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/19/22 04:40	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 04:40	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 04:40	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 04:40	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 04:40	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221110-TS-21

Lab Sample ID: 500-225372-20

Date Collected: 11/10/22 10:15

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 04:40	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 04:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/19/22 04:40	1
4-Bromofluorobenzene (Surr)	101		73 - 120		11/19/22 04:40	1
Dibromofluoromethane (Surr)	103		75 - 123		11/19/22 04:40	1
Toluene-d8 (Surr)	98		80 - 120		11/19/22 04:40	1



Client Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-225372-21

Date Collected: 11/08/22 00:00

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/19/22 05:02	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/19/22 05:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/19/22 05:02	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/19/22 05:02	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/19/22 05:02	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/19/22 05:02	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 05:02	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/19/22 05:02	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/19/22 05:02	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/19/22 05:02	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/19/22 05:02	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/19/22 05:02	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/19/22 05:02	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/19/22 05:02	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/19/22 05:02	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/19/22 05:02	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/19/22 05:02	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/19/22 05:02	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/19/22 05:02	1
Acetone	<3.0		10	3.0	ug/L			11/19/22 05:02	1
Benzene	<0.41		1.0	0.41	ug/L			11/19/22 05:02	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/19/22 05:02	1
Bromoform	<0.26		1.0	0.26	ug/L			11/19/22 05:02	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/19/22 05:02	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/19/22 05:02	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/19/22 05:02	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/19/22 05:02	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/19/22 05:02	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/19/22 05:02	1
Chloroform	<0.34		1.0	0.34	ug/L			11/19/22 05:02	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/19/22 05:02	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/19/22 05:02	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/19/22 05:02	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/19/22 05:02	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/19/22 05:02	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/19/22 05:02	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/19/22 05:02	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/19/22 05:02	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/19/22 05:02	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/19/22 05:02	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/19/22 05:02	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/19/22 05:02	1
Styrene	<0.73		1.0	0.73	ug/L			11/19/22 05:02	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/19/22 05:02	1
Tetrahydrofuran	2.9 J		5.0	1.3	ug/L			11/19/22 05:02	1
Toluene	<0.51		1.0	0.51	ug/L			11/19/22 05:02	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/19/22 05:02	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/19/22 05:02	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/19/22 05:02	1

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Client Sample Results

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-225372-21

Date Collected: 11/08/22 00:00

Matrix: Water

Date Received: 11/12/22 11:04

Method: SW846 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/19/22 05:02	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/19/22 05:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		11/19/22 05:02	1
4-Bromofluorobenzene (Surr)	100		73 - 120		11/19/22 05:02	1
Dibromofluoromethane (Surr)	105		75 - 123		11/19/22 05:02	1
Toluene-d8 (Surr)	97		80 - 120		11/19/22 05:02	1

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
^c	CCV Recovery is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

GC/MS VOA

Analysis Batch: 650396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-225372-1	W-221108-TS-01	Total/NA	Water	8260C	
500-225372-2	W-221108-TS-02	Total/NA	Water	8260C	
500-225372-3	W-221108-TS-03	Total/NA	Water	8260C	
500-225372-4	W-221108-TS-04	Total/NA	Water	8260C	
500-225372-5	W-221108-TS-05	Total/NA	Water	8260C	
500-225372-6	W-221108-TS-06	Total/NA	Water	8260C	
MB 480-650396/7	Method Blank	Total/NA	Water	8260C	
LCS 480-650396/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 650647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-225372-7	W-221108-TS-07	Total/NA	Water	8260C	
MB 480-650647/7	Method Blank	Total/NA	Water	8260C	
LCS 480-650647/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 650679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-225372-8	W-221108-TS-08	Total/NA	Water	8260C	
500-225372-9	W-221108-TS-09	Total/NA	Water	8260C	
500-225372-10	W-221109-TS-10	Total/NA	Water	8260C	
500-225372-11	W-221109-TS-11	Total/NA	Water	8260C	
500-225372-12	W-221109-TS-12	Total/NA	Water	8260C	
500-225372-13	W-221109-TS-13	Total/NA	Water	8260C	
500-225372-14	W-221109-TS-14	Total/NA	Water	8260C	
500-225372-15	W-221109-TS-15	Total/NA	Water	8260C	
500-225372-16	W-221109-TS-16	Total/NA	Water	8260C	
500-225372-17	W-221109-TS-17	Total/NA	Water	8260C	
500-225372-18	W-221109-TS-18	Total/NA	Water	8260C	
500-225372-19	W-221109-TS-19	Total/NA	Water	8260C	
500-225372-20	W-221110-TS-21	Total/NA	Water	8260C	
500-225372-21	TRIP BLANK	Total/NA	Water	8260C	
MB 480-650679/8	Method Blank	Total/NA	Water	8260C	
LCS 480-650679/6	Lab Control Sample	Total/NA	Water	8260C	
500-225372-9 MS	W-221108-TS-09	Total/NA	Water	8260C	
500-225372-9 MSD	W-221108-TS-09	Total/NA	Water	8260C	

Surrogate Summary

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
500-225372-1	W-221108-TS-01	102	111	102	95
500-225372-2	W-221108-TS-02	103	109	104	96
500-225372-3	W-221108-TS-03	102	111	105	97
500-225372-4	W-221108-TS-04	100	102	100	90
500-225372-5	W-221108-TS-05	102	112	104	96
500-225372-6	W-221108-TS-06	107	92	102	90
500-225372-7	W-221108-TS-07	99	102	100	98
500-225372-8	W-221108-TS-08	103	97	103	96
500-225372-9	W-221108-TS-09	103	99	103	98
500-225372-9 MS	W-221108-TS-09	101	96	103	100
500-225372-9 MSD	W-221108-TS-09	100	98	100	101
500-225372-10	W-221109-TS-10	103	98	101	96
500-225372-11	W-221109-TS-11	104	100	104	97
500-225372-12	W-221109-TS-12	105	99	104	97
500-225372-13	W-221109-TS-13	105	100	105	97
500-225372-14	W-221109-TS-14	105	103	104	97
500-225372-15	W-221109-TS-15	104	100	104	98
500-225372-16	W-221109-TS-16	104	100	104	98
500-225372-17	W-221109-TS-17	104	101	104	96
500-225372-18	W-221109-TS-18	105	100	105	96
500-225372-19	W-221109-TS-19	104	100	104	96
500-225372-20	W-221110-TS-21	103	101	103	98
500-225372-21	TRIP BLANK	106	100	105	97
LCS 480-650396/5	Lab Control Sample	111	104	104	100
LCS 480-650647/5	Lab Control Sample	99	99	99	99
LCS 480-650679/6	Lab Control Sample	103	97	103	101
MB 480-650396/7	Method Blank	110	93	93	102
MB 480-650647/7	Method Blank	99	99	98	98
MB 480-650679/8	Method Blank	104	99	104	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 TOL = Toluene-d8 (Surr)

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-650396/7
Matrix: Water
Analysis Batch: 650396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/17/22 10:18	1
1,1,1,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/17/22 10:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/17/22 10:18	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/17/22 10:18	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/17/22 10:18	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/17/22 10:18	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 10:18	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/17/22 10:18	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/17/22 10:18	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/17/22 10:18	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/17/22 10:18	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/17/22 10:18	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/17/22 10:18	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/17/22 10:18	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/17/22 10:18	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/17/22 10:18	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/17/22 10:18	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/17/22 10:18	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/17/22 10:18	1
Acetone	<3.0		10	3.0	ug/L			11/17/22 10:18	1
Benzene	<0.41		1.0	0.41	ug/L			11/17/22 10:18	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/17/22 10:18	1
Bromoform	<0.26		1.0	0.26	ug/L			11/17/22 10:18	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/17/22 10:18	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/17/22 10:18	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/17/22 10:18	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/17/22 10:18	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/17/22 10:18	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/17/22 10:18	1
Chloroform	<0.34		1.0	0.34	ug/L			11/17/22 10:18	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/17/22 10:18	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/17/22 10:18	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/17/22 10:18	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/17/22 10:18	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/17/22 10:18	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/17/22 10:18	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/17/22 10:18	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/17/22 10:18	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/17/22 10:18	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/17/22 10:18	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/17/22 10:18	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/17/22 10:18	1
Styrene	<0.73		1.0	0.73	ug/L			11/17/22 10:18	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/17/22 10:18	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/17/22 10:18	1
Toluene	<0.51		1.0	0.51	ug/L			11/17/22 10:18	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/17/22 10:18	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/17/22 10:18	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-650396/7
Matrix: Water
Analysis Batch: 650396

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	<0.46		1.0	0.46	ug/L			11/17/22 10:18	1
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/17/22 10:18	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/17/22 10:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120		11/17/22 10:18	1
4-Bromofluorobenzene (Surr)	93		73 - 120		11/17/22 10:18	1
Dibromofluoromethane (Surr)	93		75 - 123		11/17/22 10:18	1
Toluene-d8 (Surr)	102		80 - 120		11/17/22 10:18	1

Lab Sample ID: LCS 480-650396/5
Matrix: Water
Analysis Batch: 650396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	26.3		ug/L		105	73 - 126
1,1,1,2-Tetrachloroethane	25.0	24.2		ug/L		97	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.3		ug/L		101	61 - 148
1,1,2-Trichloroethane	25.0	23.9		ug/L		95	76 - 122
1,1-Dichloroethane	25.0	25.0		ug/L		100	77 - 120
1,1-Dichloroethene	25.0	24.7		ug/L		99	66 - 127
1,2,3-Trichlorobenzene	25.0	21.4		ug/L		85	75 - 123
1,2,4-Trichlorobenzene	25.0	20.7		ug/L		83	79 - 122
1,2,4-Trimethylbenzene	25.0	24.1		ug/L		96	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	27.3		ug/L		109	56 - 134
1,2-Dichlorobenzene	25.0	22.0		ug/L		88	80 - 124
1,2-Dichloroethane	25.0	25.1		ug/L		100	75 - 120
1,2-Dichloropropane	25.0	24.7		ug/L		99	76 - 120
1,3,5-Trimethylbenzene	25.0	23.9		ug/L		96	77 - 121
1,3-Dichlorobenzene	25.0	21.9		ug/L		88	77 - 120
1,4-Dichlorobenzene	25.0	21.8		ug/L		87	80 - 120
2-Butanone (MEK)	125	152		ug/L		122	57 - 140
2-Hexanone	125	144		ug/L		115	65 - 127
4-Methyl-2-pentanone (MIBK)	125	134		ug/L		107	71 - 125
Acetone	125	205 *		ug/L		164	56 - 142
Benzene	25.0	23.9		ug/L		95	71 - 124
Bromochloromethane	25.0	24.0		ug/L		96	72 - 130
Bromoform	25.0	21.1		ug/L		84	61 - 132
Bromomethane	25.0	29.9		ug/L		120	55 - 144
Carbon disulfide	25.0	25.5		ug/L		102	59 - 134
Carbon tetrachloride	25.0	26.2		ug/L		105	72 - 134
Chlorobenzene	25.0	22.5		ug/L		90	80 - 120
Chlorodibromomethane	25.0	26.0		ug/L		104	75 - 125
Chloroethane	25.0	29.9		ug/L		120	69 - 136
Chloroform	25.0	24.3		ug/L		97	73 - 127
Chloromethane	25.0	22.5		ug/L		90	68 - 124
cis-1,2-Dichloroethene	25.0	24.5		ug/L		98	74 - 124
cis-1,3-Dichloropropene	25.0	26.4		ug/L		106	74 - 124

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-650396/5
Matrix: Water
Analysis Batch: 650396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dichlorobromomethane	25.0	25.6		ug/L		102	80 - 122
Dichlorodifluoromethane	25.0	23.7		ug/L		95	59 - 135
Ethylbenzene	25.0	23.7		ug/L		95	77 - 123
Ethylene Dibromide	25.0	24.8		ug/L		99	77 - 120
Isopropylbenzene	25.0	24.1		ug/L		96	77 - 122
Methyl tert-butyl ether	25.0	26.5		ug/L		106	77 - 120
Methylene Chloride	25.0	25.1		ug/L		100	75 - 124
m-Xylene & p-Xylene	25.0	24.0		ug/L		96	76 - 122
o-Xylene	25.0	24.1		ug/L		96	76 - 122
Styrene	25.0	24.8		ug/L		99	80 - 120
Tetrachloroethene	25.0	22.6		ug/L		91	74 - 122
Tetrahydrofuran	50.0	56.0		ug/L		112	62 - 132
Toluene	25.0	22.9		ug/L		92	80 - 122
trans-1,2-Dichloroethene	25.0	24.6		ug/L		98	73 - 127
trans-1,3-Dichloropropene	25.0	26.0		ug/L		104	80 - 120
Trichloroethene	25.0	24.2		ug/L		97	74 - 123
Trichlorofluoromethane	25.0	32.4		ug/L		130	62 - 150
Vinyl chloride	25.0	24.9		ug/L		100	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		77 - 120
4-Bromofluorobenzene (Surr)	104		73 - 120
Dibromofluoromethane (Surr)	104		75 - 123
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: MB 480-650647/7
Matrix: Water
Analysis Batch: 650647

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/18/22 12:05	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/18/22 12:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/18/22 12:05	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/18/22 12:05	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/18/22 12:05	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/18/22 12:05	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/18/22 12:05	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/18/22 12:05	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/18/22 12:05	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/18/22 12:05	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/18/22 12:05	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/18/22 12:05	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/18/22 12:05	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/18/22 12:05	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/18/22 12:05	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/18/22 12:05	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/18/22 12:05	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/18/22 12:05	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-650647/7
Matrix: Water
Analysis Batch: 650647

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/18/22 12:05	1
Acetone	<3.0		10	3.0	ug/L			11/18/22 12:05	1
Benzene	<0.41		1.0	0.41	ug/L			11/18/22 12:05	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/18/22 12:05	1
Bromoform	<0.26		1.0	0.26	ug/L			11/18/22 12:05	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/18/22 12:05	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/18/22 12:05	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/18/22 12:05	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/18/22 12:05	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/18/22 12:05	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/18/22 12:05	1
Chloroform	<0.34		1.0	0.34	ug/L			11/18/22 12:05	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/18/22 12:05	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/18/22 12:05	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/18/22 12:05	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/18/22 12:05	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/18/22 12:05	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/18/22 12:05	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/18/22 12:05	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/18/22 12:05	1
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/18/22 12:05	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/18/22 12:05	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/18/22 12:05	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/18/22 12:05	1
Styrene	<0.73		1.0	0.73	ug/L			11/18/22 12:05	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/18/22 12:05	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/18/22 12:05	1
Toluene	<0.51		1.0	0.51	ug/L			11/18/22 12:05	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/18/22 12:05	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/18/22 12:05	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/18/22 12:05	1
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/18/22 12:05	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/18/22 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		77 - 120		11/18/22 12:05	1
4-Bromofluorobenzene (Surr)	99		73 - 120		11/18/22 12:05	1
Dibromofluoromethane (Surr)	98		75 - 123		11/18/22 12:05	1
Toluene-d8 (Surr)	98		80 - 120		11/18/22 12:05	1

Lab Sample ID: LCS 480-650647/5
Matrix: Water
Analysis Batch: 650647

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	25.0	26.9		ug/L		107	73 - 126
1,1,1,2,2-Tetrachloroethane	25.0	25.6		ug/L		102	76 - 120
1,1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.4		ug/L		106	61 - 148

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-650647/5
Matrix: Water
Analysis Batch: 650647

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2-Trichloroethane	25.0	25.3		ug/L		101	76 - 122
1,1-Dichloroethane	25.0	25.3		ug/L		101	77 - 120
1,1-Dichloroethene	25.0	26.2		ug/L		105	66 - 127
1,2,3-Trichlorobenzene	25.0	26.6		ug/L		106	75 - 123
1,2,4-Trichlorobenzene	25.0	27.2		ug/L		109	79 - 122
1,2,4-Trimethylbenzene	25.0	26.7		ug/L		107	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	26.8		ug/L		107	56 - 134
1,2-Dichlorobenzene	25.0	26.1		ug/L		105	80 - 124
1,2-Dichloroethane	25.0	24.8		ug/L		99	75 - 120
1,2-Dichloropropane	25.0	25.6		ug/L		103	76 - 120
1,3,5-Trimethylbenzene	25.0	26.9		ug/L		108	77 - 121
1,3-Dichlorobenzene	25.0	25.8		ug/L		103	77 - 120
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	80 - 120
2-Butanone (MEK)	125	118		ug/L		94	57 - 140
2-Hexanone	125	124		ug/L		100	65 - 127
4-Methyl-2-pentanone (MIBK)	125	123		ug/L		99	71 - 125
Acetone	125	120		ug/L		96	56 - 142
Benzene	25.0	25.7		ug/L		103	71 - 124
Bromochloromethane	25.0	25.4		ug/L		102	72 - 130
Bromoform	25.0	28.2		ug/L		113	61 - 132
Bromomethane	25.0	27.2		ug/L		109	55 - 144
Carbon disulfide	25.0	27.1		ug/L		108	59 - 134
Carbon tetrachloride	25.0	27.6		ug/L		110	72 - 134
Chlorobenzene	25.0	24.8		ug/L		99	80 - 120
Chlorodibromomethane	25.0	27.6		ug/L		111	75 - 125
Chloroethane	25.0	25.5		ug/L		102	69 - 136
Chloroform	25.0	25.4		ug/L		102	73 - 127
Chloromethane	25.0	26.9		ug/L		107	68 - 124
cis-1,2-Dichloroethene	25.0	26.3		ug/L		105	74 - 124
cis-1,3-Dichloropropene	25.0	26.7		ug/L		107	74 - 124
Dichlorobromomethane	25.0	26.9		ug/L		108	80 - 122
Dichlorodifluoromethane	25.0	29.1		ug/L		117	59 - 135
Ethylbenzene	25.0	25.5		ug/L		102	77 - 123
Ethylene Dibromide	25.0	25.6		ug/L		103	77 - 120
Isopropylbenzene	25.0	26.7		ug/L		107	77 - 122
Methyl tert-butyl ether	25.0	25.7		ug/L		103	77 - 120
Methylene Chloride	25.0	26.6		ug/L		106	75 - 124
m-Xylene & p-Xylene	25.0	25.9		ug/L		104	76 - 122
o-Xylene	25.0	25.9		ug/L		104	76 - 122
Styrene	25.0	26.0		ug/L		104	80 - 120
Tetrachloroethene	25.0	25.8		ug/L		103	74 - 122
Tetrahydrofuran	50.0	46.4		ug/L		93	62 - 132
Toluene	25.0	25.2		ug/L		101	80 - 122
trans-1,2-Dichloroethene	25.0	26.2		ug/L		105	73 - 127
trans-1,3-Dichloropropene	25.0	27.1		ug/L		108	80 - 120
Trichloroethene	25.0	26.3		ug/L		105	74 - 123
Trichlorofluoromethane	25.0	27.0		ug/L		108	62 - 150
Vinyl chloride	25.0	26.8		ug/L		107	65 - 133

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-650647/5
Matrix: Water
Analysis Batch: 650647

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		77 - 120
4-Bromofluorobenzene (Surr)	99		73 - 120
Dibromofluoromethane (Surr)	99		75 - 123
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: MB 480-650679/8
Matrix: Water
Analysis Batch: 650679

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1-Trichloroethane	<0.82		1.0	0.82	ug/L			11/18/22 23:10	1
1,1,2,2-Tetrachloroethane	<0.21		1.0	0.21	ug/L			11/18/22 23:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		1.0	0.31	ug/L			11/18/22 23:10	1
1,1,2-Trichloroethane	<0.23		1.0	0.23	ug/L			11/18/22 23:10	1
1,1-Dichloroethane	<0.38		1.0	0.38	ug/L			11/18/22 23:10	1
1,1-Dichloroethene	<0.29		1.0	0.29	ug/L			11/18/22 23:10	1
1,2,3-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/18/22 23:10	1
1,2,4-Trichlorobenzene	<0.41		1.0	0.41	ug/L			11/18/22 23:10	1
1,2,4-Trimethylbenzene	<0.75		1.0	0.75	ug/L			11/18/22 23:10	1
1,2-Dibromo-3-Chloropropane	<0.39		1.0	0.39	ug/L			11/18/22 23:10	1
1,2-Dichlorobenzene	<0.79		1.0	0.79	ug/L			11/18/22 23:10	1
1,2-Dichloroethane	<0.21		1.0	0.21	ug/L			11/18/22 23:10	1
1,2-Dichloropropane	<0.72		1.0	0.72	ug/L			11/18/22 23:10	1
1,3,5-Trimethylbenzene	<0.77		1.0	0.77	ug/L			11/18/22 23:10	1
1,3-Dichlorobenzene	<0.78		1.0	0.78	ug/L			11/18/22 23:10	1
1,4-Dichlorobenzene	<0.84		1.0	0.84	ug/L			11/18/22 23:10	1
2-Butanone (MEK)	<1.3		10	1.3	ug/L			11/18/22 23:10	1
2-Hexanone	<1.2		5.0	1.2	ug/L			11/18/22 23:10	1
4-Methyl-2-pentanone (MIBK)	<2.1		5.0	2.1	ug/L			11/18/22 23:10	1
Acetone	<3.0		10	3.0	ug/L			11/18/22 23:10	1
Benzene	<0.41		1.0	0.41	ug/L			11/18/22 23:10	1
Bromochloromethane	<0.87		1.0	0.87	ug/L			11/18/22 23:10	1
Bromoform	<0.26		1.0	0.26	ug/L			11/18/22 23:10	1
Bromomethane	<0.69		1.0	0.69	ug/L			11/18/22 23:10	1
Carbon disulfide	<0.19		1.0	0.19	ug/L			11/18/22 23:10	1
Carbon tetrachloride	<0.27		1.0	0.27	ug/L			11/18/22 23:10	1
Chlorobenzene	<0.75		1.0	0.75	ug/L			11/18/22 23:10	1
Chlorodibromomethane	<0.32		1.0	0.32	ug/L			11/18/22 23:10	1
Chloroethane	<0.32		1.0	0.32	ug/L			11/18/22 23:10	1
Chloroform	<0.34		1.0	0.34	ug/L			11/18/22 23:10	1
Chloromethane	<0.35		1.0	0.35	ug/L			11/18/22 23:10	1
cis-1,2-Dichloroethene	<0.81		1.0	0.81	ug/L			11/18/22 23:10	1
cis-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			11/18/22 23:10	1
Dichlorobromomethane	<0.39		1.0	0.39	ug/L			11/18/22 23:10	1
Dichlorodifluoromethane	<0.68		1.0	0.68	ug/L			11/18/22 23:10	1
Ethylbenzene	<0.74		1.0	0.74	ug/L			11/18/22 23:10	1
Ethylene Dibromide	<0.73		1.0	0.73	ug/L			11/18/22 23:10	1
Isopropylbenzene	<0.79		1.0	0.79	ug/L			11/18/22 23:10	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-650679/8
Matrix: Water
Analysis Batch: 650679

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methyl tert-butyl ether	<0.16		1.0	0.16	ug/L			11/18/22 23:10	1
Methylene Chloride	<0.44		1.0	0.44	ug/L			11/18/22 23:10	1
m-Xylene & p-Xylene	<0.66		2.0	0.66	ug/L			11/18/22 23:10	1
o-Xylene	<0.76		1.0	0.76	ug/L			11/18/22 23:10	1
Styrene	<0.73		1.0	0.73	ug/L			11/18/22 23:10	1
Tetrachloroethene	<0.36		1.0	0.36	ug/L			11/18/22 23:10	1
Tetrahydrofuran	<1.3		5.0	1.3	ug/L			11/18/22 23:10	1
Toluene	<0.51		1.0	0.51	ug/L			11/18/22 23:10	1
trans-1,2-Dichloroethene	<0.90		1.0	0.90	ug/L			11/18/22 23:10	1
trans-1,3-Dichloropropene	<0.37		1.0	0.37	ug/L			11/18/22 23:10	1
Trichloroethene	<0.46		1.0	0.46	ug/L			11/18/22 23:10	1
Trichlorofluoromethane	<0.88		1.0	0.88	ug/L			11/18/22 23:10	1
Vinyl chloride	<0.90		1.0	0.90	ug/L			11/18/22 23:10	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		11/18/22 23:10	1
4-Bromofluorobenzene (Surr)	99		73 - 120		11/18/22 23:10	1
Dibromofluoromethane (Surr)	104		75 - 123		11/18/22 23:10	1
Toluene-d8 (Surr)	98		80 - 120		11/18/22 23:10	1

Lab Sample ID: LCS 480-650679/6
Matrix: Water
Analysis Batch: 650679

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	25.0	26.8		ug/L		107	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.8		ug/L		107	61 - 148
1,1,2-Trichloroethane	25.0	25.9		ug/L		104	76 - 122
1,1-Dichloroethane	25.0	26.1		ug/L		105	77 - 120
1,1-Dichloroethene	25.0	26.7		ug/L		107	66 - 127
1,2,3-Trichlorobenzene	25.0	27.0		ug/L		108	75 - 123
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	79 - 122
1,2,4-Trimethylbenzene	25.0	26.7		ug/L		107	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	29.2		ug/L		117	56 - 134
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	80 - 124
1,2-Dichloroethane	25.0	25.8		ug/L		103	75 - 120
1,2-Dichloropropane	25.0	26.0		ug/L		104	76 - 120
1,3,5-Trimethylbenzene	25.0	26.6		ug/L		106	77 - 121
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	77 - 120
1,4-Dichlorobenzene	25.0	24.8		ug/L		99	80 - 120
2-Butanone (MEK)	125	136		ug/L		109	57 - 140
2-Hexanone	125	145		ug/L		116	65 - 127
4-Methyl-2-pentanone (MIBK)	125	143		ug/L		114	71 - 125
Acetone	125	132		ug/L		105	56 - 142
Benzene	25.0	25.8		ug/L		103	71 - 124
Bromochloromethane	25.0	26.1		ug/L		104	72 - 130
Bromoform	25.0	27.3		ug/L		109	61 - 132

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-650679/6
Matrix: Water
Analysis Batch: 650679

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	25.0	27.8		ug/L		111	55 - 144
Carbon disulfide	25.0	27.0		ug/L		108	59 - 134
Carbon tetrachloride	25.0	27.8		ug/L		111	72 - 134
Chlorobenzene	25.0	25.0		ug/L		100	80 - 120
Chlorodibromomethane	25.0	27.6		ug/L		110	75 - 125
Chloroethane	25.0	27.6		ug/L		110	69 - 136
Chloroform	25.0	25.9		ug/L		104	73 - 127
Chloromethane	25.0	29.5		ug/L		118	68 - 124
cis-1,2-Dichloroethene	25.0	26.6		ug/L		106	74 - 124
cis-1,3-Dichloropropene	25.0	25.6		ug/L		102	74 - 124
Dichlorobromomethane	25.0	27.0		ug/L		108	80 - 122
Dichlorodifluoromethane	25.0	30.2		ug/L		121	59 - 135
Ethylbenzene	25.0	25.4		ug/L		102	77 - 123
Ethylene Dibromide	25.0	26.4		ug/L		105	77 - 120
Isopropylbenzene	25.0	26.3		ug/L		105	77 - 122
Methyl tert-butyl ether	25.0	26.1		ug/L		105	77 - 120
Methylene Chloride	25.0	27.4		ug/L		110	75 - 124
m-Xylene & p-Xylene	25.0	25.7		ug/L		103	76 - 122
o-Xylene	25.0	26.0		ug/L		104	76 - 122
Styrene	25.0	25.9		ug/L		103	80 - 120
Tetrachloroethene	25.0	25.7		ug/L		103	74 - 122
Tetrahydrofuran	50.0	52.4		ug/L		105	62 - 132
Toluene	25.0	25.7		ug/L		103	80 - 122
trans-1,2-Dichloroethene	25.0	27.0		ug/L		108	73 - 127
trans-1,3-Dichloropropene	25.0	26.3		ug/L		105	80 - 120
Trichloroethene	25.0	26.4		ug/L		106	74 - 123
Trichlorofluoromethane	25.0	29.2		ug/L		117	62 - 150
Vinyl chloride	25.0	28.0		ug/L		112	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		77 - 120
4-Bromofluorobenzene (Surr)	97		73 - 120
Dibromofluoromethane (Surr)	103		75 - 123
Toluene-d8 (Surr)	101		80 - 120

Lab Sample ID: 500-225372-9 MS
Matrix: Water
Analysis Batch: 650679

Client Sample ID: W-221108-TS-09
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1-Trichloroethane	<0.82		25.0	30.3		ug/L		121	73 - 126
1,1,2,2-Tetrachloroethane	<0.21	F1	25.0	30.2	F1	ug/L		121	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		25.0	26.6		ug/L		106	61 - 148
1,1,2-Trichloroethane	<0.23		25.0	28.3		ug/L		113	76 - 122
1,1-Dichloroethane	<0.38		25.0	28.3		ug/L		113	77 - 120
1,1-Dichloroethene	<0.29		25.0	29.1		ug/L		116	66 - 127
1,2,3-Trichlorobenzene	<0.41		25.0	29.9		ug/L		120	75 - 123
1,2,4-Trichlorobenzene	<0.41		25.0	29.5		ug/L		118	79 - 122

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QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 500-225372-9 MS

Client Sample ID: W-221108-TS-09

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 650679

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
1,2,4-Trimethylbenzene	<0.75		25.0	29.8		ug/L		119	76 - 121
1,2-Dibromo-3-Chloropropane	<0.39		25.0	32.5		ug/L		130	56 - 134
1,2-Dichlorobenzene	<0.79		25.0	29.0		ug/L		116	80 - 124
1,2-Dichloroethane	<0.21		25.0	27.4		ug/L		109	75 - 120
1,2-Dichloropropane	<0.72		25.0	27.6		ug/L		110	76 - 120
1,3,5-Trimethylbenzene	<0.77		25.0	29.7		ug/L		119	77 - 121
1,3-Dichlorobenzene	<0.78		25.0	27.9		ug/L		111	77 - 120
1,4-Dichlorobenzene	<0.84		25.0	27.8		ug/L		111	78 - 124
2-Butanone (MEK)	<1.3		125	143		ug/L		114	57 - 140
2-Hexanone	<1.2		125	157		ug/L		125	65 - 127
4-Methyl-2-pentanone (MIBK)	<2.1		125	155		ug/L		124	71 - 125
Acetone	<3.0		125	133		ug/L		107	56 - 142
Benzene	<0.41		25.0	28.1		ug/L		112	71 - 124
Bromochloromethane	<0.87		25.0	28.4		ug/L		114	72 - 130
Bromoform	<0.26		25.0	29.8		ug/L		119	61 - 132
Carbon disulfide	<0.19		25.0	29.2		ug/L		117	59 - 134
Carbon tetrachloride	<0.27		25.0	30.7		ug/L		123	72 - 134
Chlorobenzene	<0.75		25.0	27.3		ug/L		109	80 - 120
Chlorodibromomethane	<0.32		25.0	30.3		ug/L		121	75 - 125
Chloroform	<0.34		25.0	28.2		ug/L		113	73 - 127
cis-1,2-Dichloroethene	<0.81		25.0	28.8		ug/L		115	74 - 124
cis-1,3-Dichloropropene	<0.36		25.0	26.9		ug/L		107	74 - 124
Dichlorobromomethane	<0.39		25.0	29.6		ug/L		118	80 - 122
Ethylbenzene	<0.74		25.0	27.9		ug/L		112	77 - 123
Ethylene Dibromide	<0.73		25.0	28.5		ug/L		114	77 - 120
Isopropylbenzene	<0.79		25.0	29.9		ug/L		120	77 - 122
Methyl tert-butyl ether	<0.16		25.0	27.8		ug/L		111	77 - 120
Methylene Chloride	<0.44		25.0	29.1		ug/L		116	75 - 124
m-Xylene & p-Xylene	<0.66		25.0	27.6		ug/L		111	76 - 122
o-Xylene	<0.76		25.0	28.5		ug/L		114	76 - 122
Styrene	<0.73		25.0	27.9		ug/L		111	80 - 120
Tetrachloroethene	<0.36		25.0	28.1		ug/L		112	74 - 122
Tetrahydrofuran	<1.3		50.0	57.1		ug/L		114	62 - 132
Toluene	<0.51		25.0	27.9		ug/L		111	80 - 122
trans-1,2-Dichloroethene	<0.90		25.0	29.0		ug/L		116	73 - 127
trans-1,3-Dichloropropene	<0.37		25.0	27.7		ug/L		111	80 - 120
Trichloroethene	<0.46		25.0	28.8		ug/L		115	74 - 123

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		77 - 120
4-Bromofluorobenzene (Surr)	96		73 - 120
Dibromofluoromethane (Surr)	103		75 - 123
Toluene-d8 (Surr)	100		80 - 120

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 500-225372-9 MSD

Matrix: Water

Analysis Batch: 650679

Client Sample ID: W-221108-TS-09

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1-Trichloroethane	<0.82		25.0	29.6		ug/L		118	73 - 126	2	15
1,1,2,2-Tetrachloroethane	<0.21	F1	25.0	29.4		ug/L		117	76 - 120	3	15
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.31		25.0	25.8		ug/L		103	61 - 148	3	20
1,1,2-Trichloroethane	<0.23		25.0	27.9		ug/L		112	76 - 122	1	15
1,1-Dichloroethane	<0.38		25.0	27.6		ug/L		110	77 - 120	3	20
1,1-Dichloroethene	<0.29		25.0	28.4		ug/L		114	66 - 127	2	16
1,2,3-Trichlorobenzene	<0.41		25.0	29.0		ug/L		116	75 - 123	3	20
1,2,4-Trichlorobenzene	<0.41		25.0	28.8		ug/L		115	79 - 122	2	20
1,2,4-Trimethylbenzene	<0.75		25.0	28.8		ug/L		115	76 - 121	3	20
1,2-Dibromo-3-Chloropropane	<0.39		25.0	31.4		ug/L		125	56 - 134	4	15
1,2-Dichlorobenzene	<0.79		25.0	28.3		ug/L		113	80 - 124	2	20
1,2-Dichloroethane	<0.21		25.0	27.3		ug/L		109	75 - 120	0	20
1,2-Dichloropropane	<0.72		25.0	27.6		ug/L		111	76 - 120	0	20
1,3,5-Trimethylbenzene	<0.77		25.0	28.8		ug/L		115	77 - 121	3	20
1,3-Dichlorobenzene	<0.78		25.0	27.5		ug/L		110	77 - 120	1	20
1,4-Dichlorobenzene	<0.84		25.0	27.3		ug/L		109	78 - 124	2	20
2-Butanone (MEK)	<1.3		125	142		ug/L		114	57 - 140	0	20
2-Hexanone	<1.2		125	155		ug/L		124	65 - 127	1	15
4-Methyl-2-pentanone (MIBK)	<2.1		125	153		ug/L		123	71 - 125	1	35
Acetone	<3.0		125	131		ug/L		105	56 - 142	2	15
Benzene	<0.41		25.0	27.5		ug/L		110	71 - 124	2	13
Bromochloromethane	<0.87		25.0	27.5		ug/L		110	72 - 130	3	15
Bromoform	<0.26		25.0	30.4		ug/L		122	61 - 132	2	15
Carbon disulfide	<0.19		25.0	27.9		ug/L		112	59 - 134	4	15
Carbon tetrachloride	<0.27		25.0	30.4		ug/L		122	72 - 134	1	15
Chlorobenzene	<0.75		25.0	27.2		ug/L		109	80 - 120	0	25
Chlorodibromomethane	<0.32		25.0	30.1		ug/L		121	75 - 125	1	15
Chloroform	<0.34		25.0	27.5		ug/L		110	73 - 127	2	20
cis-1,2-Dichloroethene	<0.81		25.0	28.2		ug/L		113	74 - 124	2	15
cis-1,3-Dichloropropene	<0.36		25.0	26.6		ug/L		106	74 - 124	1	15
Dichlorobromomethane	<0.39		25.0	28.9		ug/L		115	80 - 122	2	15
Ethylbenzene	<0.74		25.0	28.0		ug/L		112	77 - 123	0	15
Ethylene Dibromide	<0.73		25.0	28.7		ug/L		115	77 - 120	1	15
Isopropylbenzene	<0.79		25.0	28.8		ug/L		115	77 - 122	4	20
Methyl tert-butyl ether	<0.16		25.0	27.4		ug/L		110	77 - 120	1	37
Methylene Chloride	<0.44		25.0	28.2		ug/L		113	75 - 124	3	15
m-Xylene & p-Xylene	<0.66		25.0	28.2		ug/L		113	76 - 122	2	16
o-Xylene	<0.76		25.0	28.2		ug/L		113	76 - 122	1	16
Styrene	<0.73		25.0	28.3		ug/L		113	80 - 120	2	20
Tetrachloroethene	<0.36		25.0	28.5		ug/L		114	74 - 122	2	20
Tetrahydrofuran	<1.3		50.0	55.9		ug/L		112	62 - 132	2	25
Toluene	<0.51		25.0	27.9		ug/L		112	80 - 122	0	15
trans-1,2-Dichloroethene	<0.90		25.0	28.5		ug/L		114	73 - 127	2	20
trans-1,3-Dichloropropene	<0.37		25.0	27.5		ug/L		110	80 - 120	1	15
Trichloroethene	<0.46		25.0	28.3		ug/L		113	74 - 123	2	16

Eurofins Chicago

QC Sample Results

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 500-225372-9 MSD

Matrix: Water

Analysis Batch: 650679

Client Sample ID: W-221108-TS-09

Prep Type: Total/NA

<u>Surrogate</u>	<u>MSD MSD</u>		<u>Limits</u>
	<u>%Recovery</u>	<u>Qualifier</u>	
1,2-Dichloroethane-d4 (Surr)	100		77 - 120
4-Bromofluorobenzene (Surr)	98		73 - 120
Dibromofluoromethane (Surr)	100		75 - 123
Toluene-d8 (Surr)	101		80 - 120

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-01

Lab Sample ID: 500-225372-1

Date Collected: 11/08/22 10:30

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650396	CB	EET BUF	11/17/22 15:42

Client Sample ID: W-221108-TS-02

Lab Sample ID: 500-225372-2

Date Collected: 11/08/22 11:35

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650396	CB	EET BUF	11/17/22 16:06

Client Sample ID: W-221108-TS-03

Lab Sample ID: 500-225372-3

Date Collected: 11/08/22 11:25

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650396	CB	EET BUF	11/17/22 16:29

Client Sample ID: W-221108-TS-04

Lab Sample ID: 500-225372-4

Date Collected: 11/08/22 12:13

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650396	CB	EET BUF	11/17/22 16:53

Client Sample ID: W-221108-TS-05

Lab Sample ID: 500-225372-5

Date Collected: 11/08/22 12:58

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650396	CB	EET BUF	11/17/22 17:17

Client Sample ID: W-221108-TS-06

Lab Sample ID: 500-225372-6

Date Collected: 11/08/22 12:36

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650396	CB	EET BUF	11/17/22 17:41

Client Sample ID: W-221108-TS-07

Lab Sample ID: 500-225372-7

Date Collected: 11/08/22 13:14

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650647	CB	EET BUF	11/18/22 12:34

Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221108-TS-08

Lab Sample ID: 500-225372-8

Date Collected: 11/08/22 13:15

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 00:17

Client Sample ID: W-221108-TS-09

Lab Sample ID: 500-225372-9

Date Collected: 11/08/22 15:04

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 00:39

Client Sample ID: W-221109-TS-10

Lab Sample ID: 500-225372-10

Date Collected: 11/09/22 09:53

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 01:01

Client Sample ID: W-221109-TS-11

Lab Sample ID: 500-225372-11

Date Collected: 11/09/22 10:07

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 01:23

Client Sample ID: W-221109-TS-12

Lab Sample ID: 500-225372-12

Date Collected: 11/09/22 10:38

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 01:45

Client Sample ID: W-221109-TS-13

Lab Sample ID: 500-225372-13

Date Collected: 11/09/22 10:34

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 02:07

Client Sample ID: W-221109-TS-14

Lab Sample ID: 500-225372-14

Date Collected: 11/09/22 11:43

Matrix: Water

Date Received: 11/12/22 11:04

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 02:29

Lab Chronicle

Client: GHD Services Inc.
Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Client Sample ID: W-221109-TS-15

Date Collected: 11/09/22 11:57

Date Received: 11/12/22 11:04

Lab Sample ID: 500-225372-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 02:51

Client Sample ID: W-221109-TS-16

Date Collected: 11/09/22 13:28

Date Received: 11/12/22 11:04

Lab Sample ID: 500-225372-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 03:13

Client Sample ID: W-221109-TS-17

Date Collected: 11/09/22 15:03

Date Received: 11/12/22 11:04

Lab Sample ID: 500-225372-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 03:34

Client Sample ID: W-221109-TS-18

Date Collected: 11/09/22 16:25

Date Received: 11/12/22 11:04

Lab Sample ID: 500-225372-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 03:56

Client Sample ID: W-221109-TS-19

Date Collected: 11/09/22 16:45

Date Received: 11/12/22 11:04

Lab Sample ID: 500-225372-19

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 04:18

Client Sample ID: W-221110-TS-21

Date Collected: 11/10/22 10:15

Date Received: 11/12/22 11:04

Lab Sample ID: 500-225372-20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 04:40

Client Sample ID: TRIP BLANK

Date Collected: 11/08/22 00:00

Date Received: 11/12/22 11:04

Lab Sample ID: 500-225372-21

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	650679	CR	EET BUF	11/19/22 05:02

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Eurofins Chicago

Accreditation/Certification Summary

Client: GHD Services Inc.
 Project/Site: New Richmond - 048038

Job ID: 500-225372-1

Laboratory: Eurofins Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-22 *
Connecticut	State	PH-0568	03-31-24
Florida	NELAP	E87672	06-30-23
Georgia	State	10026 (NY)	04-01-23
Georgia	State Program	N/A	03-31-09 *
Georgia (DW)	State	956	03-31-23
Illinois	NELAP	200003	09-30-23
Iowa	State	374	03-01-23
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	01-31-23
Kentucky (DW)	State	90029	12-31-22
Kentucky (UST)	State	30	04-01-23
Kentucky (WW)	State	KY90029	12-31-22
Louisiana	NELAP	02031	06-30-23
Louisiana (All)	NELAP	02031	06-30-23
Maine	State	NY00044	12-04-22
Maryland	State	294	03-31-23
Massachusetts	State	M-NY044	06-30-23
Michigan	State	9937	03-31-23
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-22 *
New Jersey	NELAP	NY455	06-30-23
New York	NELAP	10026	03-31-23
Pennsylvania	NELAP	68-00281	07-31-23
Rhode Island	State	LAO00328	12-30-22
Tennessee	State	02970	04-01-23
Texas	NELAP	T104704412-18-10	07-31-23
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-23
Washington	State	C784	02-10-23
Wisconsin	State	998310390	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.





FedEx Tracking Number 8157 3512 2565

Form ID No. 0200



500-225372 Waybl

fedex.com 1800 GoFedEx 1800 463.3339

fedex.com 1800 GoFedEx 1800 463.3339

1 From

Date _____

Sender's Name _____ Phone _____

Company _____

Address _____ Dept./Floor/Suite/Room _____

City _____ State _____ ZIP _____

2 Your Internal Billing Reference

3 To

Recipient's Name _____ Phone _____

Company _____

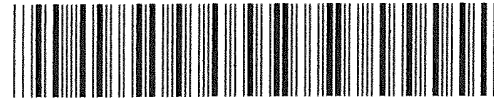
Address _____ Dept./Floor/Suite/Room _____
We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address _____
Use this line for the HOLD location address or for continuation of your shipping address.

City _____ State _____ ZIP _____

Hold Weekday
FedEx location address
REQUIRED. NOT available for
FedEx First Overnight.

Hold Saturday
FedEx location address
REQUIRED. Available ONLY for
FedEx Priority Overnight and
FedEx 2Day to select locations.



8157 3512 2565

4 Express Package Service * To most locations. **Packages up to 15L**
For packages over 150 lbs. use
FedEx Express Freight US Airbill.

Next Business Day	2 or 3 Business Days
<input type="checkbox"/> FedEx First Overnight Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.	<input type="checkbox"/> FedEx 2Day A.M. Second business morning.* Saturday Delivery NOT available.
<input type="checkbox"/> FedEx Priority Overnight Next business morning. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.	<input type="checkbox"/> FedEx 2Day Second business afternoon. Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
<input type="checkbox"/> FedEx Standard Overnight Next business afternoon. Saturday Delivery NOT available.	<input type="checkbox"/> FedEx Express Saver Third business day. Saturday Delivery NOT available.

5 Packaging * Declared value limit \$500.

FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M. or FedEx Express Saver

No Signature Required
Package may be left without obtaining a signature for delivery.

Direct Signature
Someone at recipient's address may sign for delivery.

Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?
One box must be checked

No Yes As per attached Shipper's Declaration. Yes Shipper's Declaration not required.

Dry Ice Dry ice, 9 UN 1845 _____ x _____ kg

Restrictions apply for dangerous goods see the current FedEx Service Guide. **Cargo Aircraft Only**

7 Payment Bill to. Enter FedEx Acct. No. below. EXA

Sender Acct. No. in Section 1 will be billed. **Recipient** **Third Party**

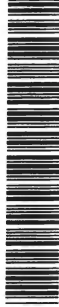
Total Packages _____ Total Weight _____ lbs.

*Our liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Wright, Richard	Carrier Tracking No(s): 500-167426-1						
Shipping/Receiving		Phone: Richard.Wright@et.eurofins.com	State of Origin: Wisconsin						
Company: Eurofins Environment Testing Northeast		Accreditations Required (See note): State Program - Wisconsin							
Address: 10 Hazelwood Drive, Amherst, NY, 14228-2298		COC No: 500-167426-1							
Phone: 716-691-2600(Tel) 716-691-7991(Fax)		Page: Page 1 of 3							
Email:		Job #: 500-225372-1							
Project #: New Richmond - 048038		Preservation Codes:							
Site:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma L - EDA Other:							
Due Date Requested: 12/13/2022		Analysis Requested							
TAT Requested (days):		8260C/5030C (MOD) 8260B, VOCs							
PO #:		Field Filtered Sample (Yes or No)							
WO #:		Perform MS/MSD (Yes or No)							
Project #:		Total Number of Containers							
SSOW#:		Special Instructions/Note:							
Sample Identification - Client ID (Lab ID)									
Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, B=tissue, A=Air)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of Containers	Special Instructions/Note
W-221108-TS-01 (500-225372-1)	11/8/22	10:30 Central	Water	Water		X		3	
W-221108-TS-02 (500-225372-2)	11/8/22	11:35 Central	Water	Water		X		3	
W-221108-TS-03 (500-225372-3)	11/8/22	11:25 Central	Water	Water		X		3	
W-221108-TS-04 (500-225372-4)	11/8/22	12:13 Central	Water	Water		X		3	
W-221108-TS-05 (500-225372-5)	11/8/22	12:58 Central	Water	Water		X		3	
W-221108-TS-06 (500-225372-6)	11/8/22	12:36 Central	Water	Water		X		3	
W-221108-TS-07 (500-225372-7)	11/8/22	13:14 Central	Water	Water		X		3	
W-221108-TS-08 (500-225372-8)	11/8/22	13:15 Central	Water	Water		X		3	
W-221108-TS-09 (500-225372-9)	11/8/22	15:04 Central	Water	Water		X		3	

Note: Since laboratory accreditations are subject to change, Eurofins Chicago places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Chicago laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Chicago attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Chicago.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____

Relinquished by: *Shirley Scott* Date: 11/16/22 Time: 0830 Company: *AAA*

Relinquished by: _____ Date: _____ Time: _____ Company: _____

Relinquished by: _____ Date: _____ Time: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: 310# 1 ICE

Cooler Temperature(s) °C and Other Remarks:



Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Wright, Richard	Carrier Tracking No(s):	COC No: 500-167426.2						
Shipping/Receiving		E-Mail: Richard.Wright@eurofins.com	State of Origin: Wisconsin	Page: Page 2 of 3						
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note): State Program - Wisconsin								
Address: 10 Hazelwood Drive, Amherst		Due Date Requested: 12/13/2022								
State, Zip: NY, 14228-2298		TAT Requested (days):								
Phone: 716-691-2600(Tel) 716-691-7991(Fax)		PO #:								
Email:		WO #:								
Project Name: New Richmond - 048038		Project #: 50013926								
Site:		SSOW#:								
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, B1=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C/5030C (MOD) 8260B, VOCs	Total Number of Containers	Special Instructions/Note:
W-221108-TS-09 (500-225372-9MS)	11/8/22	15:04 Central	MS	Water		X	X		3	
W-221108-TS-09 (500-225372-9MSD)	11/8/22	15:04 Central	MSD	Water		X	X		3	
W-221109-TS-10 (500-225372-10)	11/9/22	09:53 Central		Water		X	X		3	
W-221109-TS-11 (500-225372-11)	11/9/22	10:07 Central		Water		X	X		3	
W-221109-TS-12 (500-225372-12)	11/9/22	10:38 Central		Water		X	X		3	
W-221109-TS-13 (500-225372-13)	11/9/22	10:34 Central		Water		X	X		3	
W-221109-TS-14 (500-225372-14)	11/9/22	11:43 Central		Water		X	X		3	
W-221109-TS-15 (500-225372-15)	11/9/22	11:57 Central		Water		X	X		3	
W-221109-TS-16 (500-225372-16)	11/9/22	13:28 Central		Water		X	X		3	

Note: Since laboratory accreditations are subject to change, Eurofins Chicago places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Chicago laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Chicago attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Chicago.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2

Special Instructions/QC Requirements: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____

Relinquished by: *Phin Booth* Date: 11/14/22 Time: 0830 Company: *EEPA*

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: 310# 17UE

Received by: *Manish Khandelwal* Date/Time: 11/15/22 1000 Company: *Company*

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: _____



Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 500-225372-1

Login Number: 225372

List Number: 1

Creator: Hernandez, Stephanie

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 500-225372-1

Login Number: 225372

List Number: 2

Creator: Kolb, Chris M

List Source: Eurofins Buffalo

List Creation: 11/16/22 12:14 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0 IRGUN #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

Eurofins Chicago

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing North Central, LLC and its client. All questions regarding this report should be directed to the Eurofins Environment Testing North Central, LLC Project Manager who has signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Authorization



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Appendix C

**Historical Groundwater Monitoring
Analytical Results**

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 7 0.7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
APPLE RIVER DOWN	5/4/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
APPLE RIVER UP	5/4/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1	4/26/99		170	<6.1	1100	77	<4.1	<3.7	<3.5	<2.7	<3.0	<1.0	<3.4	420	<3.5	<6.1	200		18	5.5		<4.3	<3.7	12
MW1	10/13/99		35	<4.7	860	<4.7	<12	6.9	<3.4	<4.4	<4.1	<1.0	<9.0	450	<4.1	<4.4	130		12	<4.1		<2.6	<4.9	8.8
MW1	9/20/00		52	<2.3	690	49	<6.2	6.8	3.4	2.2	<2.0	<1.0	<4.5	510	<2.0	<2.2	110		7.9	2.1		<1.3	3.5	7.5
MW1	12/20/00		119	<9.0	606	56.7	<25	<15	<15	<15	<6.0	<1.0	<15	565	<7.0	<17	128		<5.0	<15		<9.0	<10	<12
MW1	3/21/01		62	<2.3	600	44	<6.2	7.1	3.6	2.2	<2.0	<1.0	<4.5	410	<2.0	3	130		4.9	2.8		<1.3	5.5	11
MW1	12/4/03		79	<3.4	310	17	<5.2	<5.0	<4.8	<5.6	<4.8	<1.0	<4.4	530	<5.3	<4.5	30	53	6.2	<4.5	<16	<5.8	<5.4	<4.4
MW1	12/4/03	D	85	<3.4	320	18	<5.2	<5.0	<4.8	<5.6	<4.8	<1.0	<4.4	550	<5.3	<4.5	31	<11	<5.9	<4.5	<16	48	<5.4	<4.4
MW1	9/24/04		24	<3.5	300	<6.0	<6.2	<3.3	<3.1	3.6	<4.7	<1.0	<3.8	520	<3.1	21	10	92	5.9	<3.4	21	<3.7	<2.9	<4.1
MW1	9/24/04	D	25	<3.5	330	6.1	<6.2	<3.3	<3.1	<2.9	<4.7	<1.0	<3.8	560	<3.1	<3.0	10	97	5	<3.4	<13	<3.7	<2.9	<4.1
MW1	8/10/05		27	<4.9	140	5.2	<7.6	<4.8	<3.7	<3.6	<3.5	<1.0	<3.7	510	<2.6	<4.4	4.9	270	10	<4.4	37	<6.0	<3.2	<5.0
MW1	9/28/05		21	<4.9	130	<4.8	<7.6	<4.8	<3.7	<3.6	<3.5	<1.0	<3.7	610	<2.6	<4.4	<4.5	260	<6.4	<4.4	36	<6.0	<3.2	<5.0
MW1	4/12/07		76	<5.1	470	<5.2	<14	<4.7	<6.0	<2.7	<6.4	<1.0	<5.4	<37	<4.2	<12	<6.5	62	<10	<6.6	<21	<4.9	<9.6	<4.5
MW1	2/19/09		2.8 J	<4.0	140	<4.0	<8.0	<4.0	1.2 J	<4.0	<4.0	<1.0	<4.0	63	<4.0	<4.0	<4.0	<40	1.8 J	<4.0	7.6 J	<4.0	<4.0	<4.0
MW1	5/4/09		0.86	<3.3	120	<3.3	<6.7	<3.3	1.2	<3.3	<3.3	<1.0	<3.3	56	<3.3	<3.3	<3.3	<33	<3.3	<3.3	8.5	<3.3	<3.3	<3.3
MW1	8/10/09		1.2	<1.0	33	<1.0	<2.0	<1.0	0.46 J	<1.0	<1.0	<1.0	<1.0	4.2	<1.0	<1.0	<1.0	<10	<1.0	<1.0	5.2	<1.0	0.4 J	<1.0
MW1	11/5/14		6	<1.4	36	1 J	<2.9	<1.4	0.36 J	<1.4	<1.4	<1.0	<1.4	<1.4	1.9	<1.4	<1.4	<14	<1.4	0.54 J	1.8 J	<1.4	0.64 J	<1.4
MW1	5/13/15		3.9	<1.0	16	0.71 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	0.24 J	<1.0
MW1	11/5/15		5.1	<1.0	12	0.95 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<10	<1.0	0.43 J	<5.0	<1.0	0.25 J	<1.0
MW1	11/7/16		6.3	<1.0	6.4	0.92 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<10	<1.0	0.46 J	<5.0	<1.0	<1.0	<1.0
MW1	5/18/17		7	<1.0	7.6	0.92	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	2.2	<1.0	<1.0	<10	<1.0	0.45 J	<5.0	<1.0	<1.0	<1.0
MW1	10/30/17		4.7	<1.0	6	0.6 J	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.8 J	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW1	5/4/18		5.7	<1.0	6.6	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.8 J	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW1	11/14/18		4.5	<1.0	15	1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.7 J	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	0.48 J	<1.0
MW1	11/13/19		3.4	<1.0	19	1.1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.3 J	<1.0	<1.0	<5.0	<5.0	0.42 J	<10	<1.0	0.37 J	<1.0
MW1	5/20/20		4.2	<1.0	16	1.2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.3 J	<1.0	<1.0	<5.0	<5.0	0.42 J	<10	<1.0	0.33 J	<1.0
MW1	11/16/21		6.7	<1.0	15	1.4	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0 J	2.0	<1.0	<1.0	<5.0	1.9 J	0.65 J	<10	<1.0	0.21 J	<1.0
MW1	5/26/22		3.3	<1.0	10	0.93 J	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10 J	<1.0	0.20 J	<1.0
MW1	11/9/22		3.4	<1.0	9.2	0.88 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1A	12/4/03		4	<1.4	110	<2.6	<2.1	2.1	<1.9	<2.3	<1.9	<1.0	<1.8	84	<2.1	<1.8	<2.2	100	<2.4	<1.8	34	<2.3	<2.2	<1.8
MW1A	9/24/04		1.1	<0.14	1.8	<0.24	<0.25	<0.13	<0.13	<0.12	<0.19	<1.0	<0.15	3.9	<0.12	<0.12	<0.13	4.8	0.13	<0.13	<0.53	<0.15	<0.12	<0.16
MW1A	8/10/05		1.6	<2.0	23	<1.9	<3.0	<1.9	<1.5	<1.4	<1.4	<1.0	<1.5	47	<1.0	<1.7	<1.8	60	4.9	<1.8	19	<2.4	<1.3	<2.0
MW1A	4/5/07		<1.8	<2.1	9.7	<2.1	<5.6	<1.9	<2.4	<1.1	<2.5	<1.0	<2.2	<15	<1.7	<4.7	<2.6	39	<4.0	<2.6	78	<1.9	<3.8	<1.8
MW1A	7/19/07		<5.0	<5.0	6.1	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	46	<5.0	<5.0	<5.0	69	<5.0	<5.0	34	<5.0	<5.0	<5.0
MW1A	5/9/08		<1.0	<1.0	0.34 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.9	<1.0	<1.0	<1.0	7.9 J	<1.0	<1.0	3.6 J	<1.0	<1.0	<1.0
MW1A	8/7/08		<2.0	<2.0	5.9	<2.0	<4.0	0.68 J	0.37 J	<2.0	<2.0	<1.0	<2.0	34	<2.0	<2.0	<2.0	39	<2.0	<2.0	<20	<2.0	<2.0	<2.0
MW1A	11/13/08		<1.0	<1.0	0.41 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.8	<1.0	<1.0	<1.0	4.1 J	<1.0	<1.0	0.8 J	<1.0	<1.0	<1.0
MW1A	2/19/09		<1.0	<1.0	0.22 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	2.1 J	<1.0	<1.0	0.95 J	<1.0	<1.0	<1.0
MW1A	5/6/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.73	<1.0	<1.0	<1.0	0.71	<1.0	<1.0	0.51	<1.0	<1.0	<1.0
MW1A	8/12/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2 J	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1A	11/12/09		<2.5	<2.5	1.7 J	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	11 J	<2.5	<2.5	<2.5	24 J	<2.5	<2.5	3.5 J	<2.5	<2.5	<2.5
MW1A	2/16/10		<17	<17	6.2 J	<17	<33	<17	<17	<17	<17	<1.0	<17	30	<17	<17	<17	61 J	<17	<17	20 J	<17	<17	<17
MW1A	5/5/10		<5.0	<5.0	2.9 J	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	30	<5.0	<5.0	<5.0	100	<5.0	<5.0	44	<5.0	<5.0	<5.0
MW1A	11/17/10		<1.0	<1.0	3.4	<1.0	<2.0	0.77 J	0.31 J	<1.0	<1.0	<1.0	<1.0	16	<1.0	<1.0	<1.0	61	<1.0	<1.0	29	<1.0	<1.0	<1.0
MW1A	5/11/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	0.75 J	<1.0	0.32 J	1.3	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1A	11/9/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	
MW1A	5/10/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 7 0.7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW1A	11/7/12		<1.0	<1.0	1.2	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	<1.0	<1.0	<10	<1.0	<1.0	1.7 J	<1.0	<1.0	<1.0
MW1A	11/1/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW1B	12/4/03		0.27	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW1B	9/24/04		0.61	<0.14	0.15	<0.24	<0.25	<0.13	<0.13	0.36	<0.19	<1.0	<0.15	<0.68	<0.12	0.41	<0.13	0.53	<0.1	<0.13	<0.53	<0.15	<0.12	<0.16
MW1B	8/10/05		0.55	<0.39	4.5	<0.38	<0.61	<0.39	<0.29	<0.28	<0.28	<1.0	<0.29	15	<0.2	<0.35	<0.36	11	0.84	<0.35	6.9	<0.48	<0.25	<0.4
MW1B	4/5/07		<0.37	<0.41	<0.25	<0.42	<1.1	1.1	<0.48	<0.21	<0.51	<1.0	<0.43	<3.0	<0.34	<0.95	<0.52	71	0.83	<0.52	40	<0.39	<0.76	<0.36
MW1B	7/23/07		<1.7	<1.7	<1.7	<1.7	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	48	<1.7	<1.7	<1.7	94	<1.7	<1.7	47	<1.7	<1.7	<1.7
MW1B	5/9/08		<1.0	<1.0	<1.0	<1.0	<2.0	0.22 J	<1.0	<1.0	<1.0	<1.0	<1.0	12	<1.0	<1.0	<1.0	13	<1.0	<1.0	8.4	<1.0	<1.0	<1.0
MW1B	8/7/08		<1.7	<1.7	<1.7	<1.7	<3.3	0.68 J	<1.7	<1.7	<1.7	<1.0	<1.7	41	<1.7	<1.7	<1.7	79	<1.7	<1.7	34	<1.7	<1.7	<1.7
MW1B	11/13/08		<1.0	<1.0	<1.0	<1.0	<2.0	0.23 J	<1.0	<1.0	<1.0	<1.0	<1.0	15	<1.0	<1.0	<1.0	23	<1.0	<1.0	7.6	<1.0	<1.0	<1.0
MW1B	2/27/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	1.2	<1.0	<1.0	1 J	0.73 J	<1.0	0.57 J	<1.0	<1.0	<1.0
MW1B	5/4/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	0.74	<1.0	<1.0	0.34	<1.0	<1.0	0.59	<1.0	<1.0	<1.0
MW1B	8/12/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	1.1	<1.0	<1.0	3.2 J	<1.5	<1.0	2.3 J	<1.0	<1.0	<1.0
MW1B	11/12/09		<1.0	<1.0	<1.0	<1.0	<2.0	0.5 J	<1.0	<1.0	<1.0	<1.0	<1.0	14 J	0.75 J	<1.0	<1.0	44	<1.0	<1.0	16	<1.0	<1.0	<1.0
MW1B	2/16/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	16	<1.0	<1.0	<1.0	16	<1.0	<1.0	19	<1.0	<1.0	<1.0
MW1B	5/5/10		<1.0	<1.0	<1.0	<1.0	<2.0	0.22 J	<1.0	<1.0	<1.0	<1.0	<1.0	3.8	1.1	<1.0	<1.0	1.9 J	0.35 J	<1.0	<5.0	<1.0	<1.0	<1.0
MW1B	11/17/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.38 J	1.5	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1B	5/11/11		<1.0	<1.0	2.6	<1.0	<2.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0	<1.0	19	<1.0	<1.0	12	<1.0	<1.0	<1.0
MW1B	11/9/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1B	5/9/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.31	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1B	11/6/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW1B	11/1/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW2	4/26/99		460	<3.0	82	33	12	<1.8	<1.7	<1.4	<1.5	<1.0	<1.7	<2.7	13	<3.0	<1.4		2.6	60		<2.1	2.1	<1.0
MW2	10/13/99		300	<0.94	74	<0.94	<2.5	<1.1	0.81	<0.88	<0.82	<1.0	<1.8	<1.3	10	<0.88	<0.92		1.1	35		<0.52	1.9	<0.34
MW2	9/20/00		290	<0.94	80	20	<2.5	<1.1	1.2	<0.88	<0.82	<1.0	<1.8	<1.3	11	<0.88	<0.92		<0.76	34		<0.52	1.7	<0.34
MW2	12/20/00		396	<0.9	107	32.2	<2.5	<1.5	<1.5	<0.6	<1.0	38.7	<1.5	13.5	<1.7	<1.5		<5.0	53.5		<0.9	2.82	<1.2	
MW2	3/21/01		320	<0.94	77	22	<2.5	<1.1	1.3	<0.88	<0.82	<1.0	<1.8	<1.3	8.1	<0.88	<0.92		<0.76	30		<0.52	1.6	<0.34
MW2A	12/4/03		<0.23	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW2A	12/4/03	D	<0.23	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	0.24	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW2A	9/23/04		<0.14	<0.14	<0.13	<0.24	<0.25	<0.13	<0.13	0.21	<0.19	<1.0	<0.15	<0.68	<0.12	0.43	<0.13	0.9	<0.1	<0.13	<0.53	<0.15	<0.12	<0.16
MW2A	8/8/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	<0.51	<0.24	<0.13	<0.2
MW2A	4/5/07		<0.18	<0.16	<0.21	<0.24	<0.17	<0.15	<0.23	<0.21	<0.17	<1.0	<0.22	<0.88	<0.2	<0.15	<0.21	<0.24	<0.4	<0.21	<0.47	<0.15	<0.2	<0.17
MW2A	7/19/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	5/9/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	5/9/08	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	8/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	11/13/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	2/19/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	5/6/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	8/12/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	11/12/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	2/17/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	5/5/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	11/17/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	5/11/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	11/9/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2A	5/10/12		<1.0	<1.0	<1.0	<1.0																		

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 7 0.7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW2B	12/4/03		<0.23	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW2B	9/23/04		<0.14	<0.14	<0.13	<0.24	<0.25	<0.13	<0.13	0.28	<0.19	<1.0	<0.15	<0.68	<0.12	0.86	<0.13	<0.28	<0.1	<0.13	<0.53	<0.15	<0.12	<0.16
MW2B	8/8/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	<0.51	<0.24	<0.13	<0.2
MW2B	4/5/07		<0.18	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	<0.4	<0.26	<0.86	<0.19	<0.38	<0.18
MW2B	7/19/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	5/9/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	8/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	11/13/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	11/13/08	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	2/19/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	5/6/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	8/12/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	11/12/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	2/17/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	5/5/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	11/17/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	5/11/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	11/9/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	5/10/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	11/7/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2B	11/1/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW2R	6/16/05		25	<2.0	110	<1.9	<3.0	<1.9	<1.5	<1.4	<1.4	<1.0	<1.5	27	2	<1.7	<1.8	<6.9	<2.5	<1.8	27	<2.4	<1.3	<2.0
MW2R	8/8/05		9.5	<2.0	20	<1.9	<3.0	<1.9	<1.5	<1.4	<1.4	<1.0	<1.5	8.9	<1.0	<1.7	<1.8	<6.9	3.8	<1.8	11	<2.4	<1.3	<2.0
MW2R	9/28/05		29	<2.0	170	3.3	<3.0	<1.9	1.5	<1.4	<1.4	<1.0	<1.5	63	2	<1.7	<1.8	<6.9	<2.5	<1.8	35	<2.4	<1.3	<2.0
MW2R	4/5/07		22	<1.6	140	<2.4	<1.7	<1.5	<2.3	<2.1	<1.7	<1.0	<2.2	49	<2.0	<1.5	<2.1	6	<4.0	<2.1	34	<1.5	<2.0	<1.7
MW2R	7/19/07		23	<5.0	120	1.6 J	<10	<5.0	1.1 J	<5.0	<5.0	<1.0	<5.0	26	<5.0	<5.0	<5.0	3.2 J	<5.0	<5.0	26	<5.0	1.8 J	<5.0
MW2R	5/9/08		11	1.4 J	76	<2.5	<5.0	0.59 J	0.89 J	<2.5	<2.5	<1.0	<2.5	15	0.73 J	<2.5	1.2 J	<25	<2.5	<2.5	25	<2.5	<2.5	<2.5
MW2R	8/6/08		22	1.7 J	140	1.5 J	<10	1.3 J	1.6 J	<5.0	<5.0	<1.0	<5.0	58	3.1 J	<5.0	2.3 J	<50	<5.0	<5.0	47	<5.0	<5.0	<5.0
MW2R	11/13/08		24	2 J	130	1.7 J	<8.0	0.96 J	1 J	<4.0	<4.0	<1.0	<4.0	36	2.5 J	<4.0	1.3 J	<40	<4.0	<4.0	20	<4.0	<4.0	<4.0
MW2R	2/19/09		10	1.6 J	72	1.3 J	<5.0	0.98 J	0.94 J	<2.5	<2.5	<1.0	<2.5	19	<2.5	<2.5	0.77 J	<25	<2.5	<2.5	22	<2.5	<2.5	<2.5
MW2R	5/6/09		7	2.1	68	0.73	<4.0	0.96	0.88	<2.0	<2.0	<1.0	<2.0	7.1	1.8	<2.0	0.5	<20	<2.0	<2.0	32	<2.0	0.63	<2.0
MW2R	8/12/09		3.8	1.5	33	0.43 J	<2.0	0.81 J	0.57 J	<1.0	<1.0	<1.0	<1.0	7.8	1.2	<1.0	0.32 J	<10	<1.0	<1.0	29	<1.0	0.55 J	<1.0
MW2R	11/12/09		3.3	0.59 J	14	0.57 J	<2.0	0.46 J	0.26 J	<1.0	<1.0	<1.0	<1.0	5.1 J	0.58 J	<1.0	<1.0	<1.0	<1.0	<1.0	12	<1.0	0.39 J	<1.0
MW2R	2/17/10		3.5	0.49 J	9.5	0.57 J	<2.0	<1.0	0.21 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	14	<1.0	<1.0	<1.0
MW2R	5/5/10		4.2	0.37 J	8.8	0.56 J	<2.0	<1.0	0.18 J	<1.0	<1.0	<1.0	<1.0	<1.0	0.33 J	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2R	11/17/10		2.9	<1.0	2.3	0.69 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.17 J	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2R	5/11/11		0.34 J	0.27 J	2.1	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2R	11/9/11		0.83 J	<1.0	4.2	0.25 J	<2.0	0.24 J	<1.0	<1.0	<1.0	<1.0	<1.0	0.53 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2 J	<1.0	0.28 J	<1.0
MW2R	5/9/12		0.75	<1.0	3	0.26	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.64	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.91	<1.0	0.26	<1.0
MW2R	11/7/12		0.53 J	<1.0	2.4	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.19 J	<1.0
MW2R	11/6/13		0.42 J	<1.0	1	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2R	11/5/14		2.7	<1.0	2.7	0.52 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.35 J	<1.0	<1.0	<1.0	<1.0	0.31 J	0.71 J	<1.0	<1.0	<1.0
MW2R	11/5/15		<1.0	<1.0	2.4	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.39 J	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	0.28 J	<1.0
MW2R	11/7/16		0.52 J	<1.0	1	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW2R	11/1/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.1 J	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW2R	11/15/18		1.3	<1.0	2.5	0.43 J	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.77 J	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	0.27 J	<1.0
MW2R	11/13/19		0.76 J	<1.0	0.94 J	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.4 J	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW2R	11/12/20																							

**Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3-chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 7 0.7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW2R	11/16/21		1.1	<1.0	1.1	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0 J	2.1	<1.0	<1.0	<5.0	1.8 J	<1.0	<10	<1.0	<0.50	<1.0
MW2R	11/9/22		1.4	<1.0	2.8	0.60 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<5.0	<1.0	<10	<1.0	<1.0	<1.0	<1.0
MW3	4/26/99		68	<0.61	49	3.4	<0.41	<0.37	2	<0.27	<0.3	<1.0	<0.34	<0.54	0.64	<0.61	3.1		<0.36	12		<0.43	0.87	<0.2
MW3	10/13/99		55	<0.47	31	<0.47	<1.2	<0.54	<0.34	<0.44	<0.41	<1.0	<0.9	<0.63	<0.41	<0.44	1.8		0.64	11		<0.26	0.78	<0.17
MW3	9/20/00		55	<0.47	30	2.4	<1.2	<0.54	1.5	<0.44	<0.41	<1.0	<0.9	<0.63	0.49	<0.44	1.3		<0.38	9.1		<0.26	0.8	<0.17
MW3	12/20/00		52.7	<0.09	30.6	2.3	<0.25	<0.15	1.5	<0.15	<0.06	<1.0	5.04	<0.15	<0.07	<0.17	1.19		<0.5	9.87		<0.09	0.815	<0.12
MW3	3/21/01		63	<0.47	40	2.3	<1.2	<0.54	2.2	<0.44	<0.41	<1.0	<0.9	<0.63	0.55	0.53	1.4		<0.38	9.9		<0.26	1	<0.17
MW3	12/3/03		13	<0.14	9.8	0.33	<0.21	<0.2	0.53	0.29	<0.19	<1.0	<0.18	<0.63	<0.21	<0.18	<0.22	<0.46	<0.24	1.2	<0.65	<0.23	<0.22	<0.18
MW3	8/10/05		22	<0.39	11	1.1	<0.61	<0.39	0.58	<0.28	<0.28	<1.0	<0.29	<1.3	<0.2	<0.35	<0.36	<1.4	<0.51	2.7	1.1	<0.48	<0.25	<0.4
MW3	8/10/05	D	21	<0.2	13	1.3	<0.3	<0.19	0.57	<0.14	<0.14	<1.0	<0.15	<0.63	0.21	<0.17	0.19	<0.69	<0.25	<0.19	1.3	<0.24	<0.13	<0.2
MW3	4/12/07		18	<0.41	13	1.1	<1.1	<0.37	0.8	<0.21	<0.51	<1.0	<0.43	<3.0	<0.34	<0.95	<0.52	<0.29	<0.8	4.3	<1.7	<0.39	<0.76	<0.36
MW3	7/19/07		15	<1.0	9.2	1.1	<2.0	<1.0	0.5 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.3	<5.0	<1.0	0.31 J	<1.0
MW3	7/19/07	D	15	<1.0	9.2	1.2	<2.0	<1.0	0.49 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.4	<5.0	<1.0	0.34 J	<1.0
MW3	5/6/08		10	<1.0	7.1	0.75 J	<2.0	<1.0	0.39 J	<1.0	<1.0	<1.0	<1.0	<1.0	0.19 J	<1.0	<1.0	<1.0	<1.0	3	0.57 J	<1.0	<1.0	<1.0
MW3	8/7/08		8.4	<1.0	3.4	0.64 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<5.0	<1.0	<1.0	<1.0
MW3	11/13/08		9	<1.0	3.9	0.84 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<5.0	<1.0	<1.0	<1.0
MW3	2/18/09		6.7	<1.0	3.2	0.57 J	<2.0	<1.0	0.18 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<5.0	<1.0	<1.0	<1.0
MW3	5/4/09		5.5	<1.0	2.7	0.48	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<5.0	<1.0	<1.0	<1.0
MW3	8/10/09		5	<1.0	1.9	0.34 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.91 J	<5.0	<1.0	<1.0	<1.0
MW3	8/10/09	D	5.2	<1.0	1.9	0.49 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<5.0	<1.0	<1.0	<1.0
MW3	11/11/09		3.8	<1.0	1.5	0.41 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.8 J	<5.0	<1.0	<1.0	<1.0
MW3	2/16/10		3.1	<1.0	1.6	0.39 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.56 J	<5.0	<1.0	<1.0	<1.0
MW3	2/16/10	D	3.1	<1.0	1.6	0.43 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.53 J	<5.0	<1.0	<1.0	<1.0
MW3	5/6/10		2.8	<1.0	1.3	0.25 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.49 J	<5.0	<1.0	<1.0	<1.0
MW3	11/18/10		1.6	<1.0	0.68 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.33 J	<5.0	<1.0	<1.0	<1.0
MW3	5/11/11		1.2	<1.0	0.45 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW3	11/9/11		0.9 J	<1.0	0.39 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW3	5/10/12		0.76	<1.0	0.41	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW3	11/8/12		0.59 J	<1.0	0.21 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW3	11/11/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<21	<1.0	<10	<1.0	<0.5	<0.5
MW4	4/26/99		<0.3	<0.61	<0.35	<0.43	<0.41	<0.37	<0.35	<0.27	<0.3	<1.0	<0.34	<0.54	<0.35	<0.61	<0.28		<0.36	<0.43		<0.43	<0.37	<0.2
MW4	12/20/00		<0.15	<0.09	<0.15	<0.15	<0.25	<0.15	<0.15	<0.15	<0.06	<1.0	<0.15	<0.15	<0.07	<0.17	<0.15		<0.5	<0.15		<0.09	<0.1	<0.12
MW4	3/21/01		<0.53	<0.47	<0.61	<0.47	<1.2	<0.54	<0.34	<0.44	<0.41	<1.0	<0.9	<0.63	<0.41	<0.44	<0.46		<0.38	<0.41		<0.26	<0.49	<0.17
MW4	12/1/03		0.62	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW4	8/10/05		0.4	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	0.93	<0.24	<0.13	<0.2
MW4	4/12/07		0.22	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	<0.4	<0.26	<0.86	<0.19	<0.38	<0.18
MW4	7/18/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW4	5/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW5	4/26/99		0.93	<0.61	<0.35	<0.43	<0.41	<0.37	<0.35	<0.27	<0.3	<1.0	<0.34	<0.54	<0.35	<0.61	<0.28		<0.36	<0.43		<0.43	<0.37	<0.2
MW5	12/20/00		<0.15	<0.09	<0.15	<0.15	<0.25	<0.15	<0.15	<0.15	<0.06	<1.0	<0.15	<0.15	<0.07	<0.17	<0.15		<0.5	<0.15		<0.09	<0.1	<0.12
MW5	3/21/01		<0.53	<0.47	<0.61	<0.47	<1.2	<0.54	<0.34	<0.44	<0.41	<1.0	<0.9	<0.63	<0.41	<0.44	<0.46		<0.38	<0.41		<0.26	<0.49	<0.17
MW5	12/1/03		<0.23	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW5	8/10/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	<0.51	<0.24	<0.13	<0.2
MW5	4/12/07		<0.18	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	<0.4	<0.26	<0.86	<0.19	<0.38	<0.18
MW5	7/18/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW5	5/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	4/26/99		<0.3	<0.61	<0.35	<0.43	<0.41	<0.37	<0.35	<0.27	<0.3	<1.0	<0.34	<0.54	<0.35	<0.61	<0.28		<0.36	<0.				

**Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3-chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 7 0.7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW6	12/20/00		<0.15	<0.09	<0.15	<0.15	<0.25	<0.15	<0.15	<0.15	<0.06	<1.0	<0.15	<0.15	<0.07	<0.17	<0.15		<0.5	<0.15		<0.09	<0.1	<0.12
MW6	3/21/01		<0.53	<0.47	<0.61	<0.47	<1.2	<0.54	<0.34	<0.44	<0.41	<1.0	<0.9	<0.63	<0.41	<0.44	<0.46		<0.38	<0.41		<0.26	<0.49	<0.17
MW6	12/1/03		<0.23	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<0.21	<0.18	<0.22	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW6	8/10/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	<0.51	<0.24	<0.13	<0.2
MW6	4/12/07		<0.18	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	<0.4	<0.26	<0.86	<0.19	<0.38	<0.18
MW6	7/18/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	5/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	5/6/08	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	8/4/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/11/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	2/17/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	5/5/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	8/11/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/11/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	2/16/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	5/5/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	5/10/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/9/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	5/9/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/6/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/6/13		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/5/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/3/15		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	11/7/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW6	10/30/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW7	10/13/99		2.2	<0.47	<0.61	<0.47	<1.2	<0.54	<0.34	<0.44	<0.41	<1.0	<0.9	<0.63	<0.41	<0.44	<0.46		<0.38	<0.41		<0.26	<0.49	<0.17
MW7	12/20/00		40.1	<0.09	0.479	2.65	<0.25	<0.15	<0.15	<0.15	<0.06	<1.0	4.1	<0.15	<0.07	<0.17	<0.15		<0.5	0.335		<0.09	<0.1	<0.12
MW7	3/21/01		28	<0.47	<0.61	1.2	<1.2	<0.54	<0.34	<0.44	<0.41	<1.0	<0.9	<0.63	<0.41	<0.44	<0.46		<0.38	<0.41		<0.26	<0.49	<0.17
MW8	12/2/03		0.82	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW8	9/23/04		0.18	<0.14	<0.13	<0.24	<0.25	<0.13	<0.13	0.16	<0.19	<1.0	<0.15	<0.68	<0.12	0.12	<0.13	<0.28	<0.1	<0.13	<0.53	<0.15	<0.12	<0.16
MW8	8/10/05		0.45	<0.2	0.47	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	0.96	<0.24	<0.13	<0.2
MW8	4/5/07		<0.18	<0.16	<0.21	<0.24	<0.17	<0.15	<0.23	<0.21	<0.17	<1.0	<0.22	<0.88	<0.2	<0.15	<0.21	<0.24	<0.4	<0.21	<0.47	<0.15	<0.2	<0.17
MW8	7/18/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW8	7/18/07	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW8	5/7/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW8A	12/2/03		<0.23	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	0.24	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	0.86	<0.65	<0.23	<0.22	<0.18
MW8A	9/23/04		<0.14	<0.14	<0.13	<0.24	<0.25	<0.13	<0.13	0.36	<0.19	<1.0	<0.15	<0.68	<0.12	<0.12	<0.13	1.5	<0.1	<0.13	<0.53	<0.15	<0.12	<0.16
MW8A	8/10/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	<0.51	<0.24	<0.13	<0.2
MW8A	4/5/07		<0.18	<0.16	<0.21	<0.24	<0.17	<0.15	<0.23	<0.21	<0.17	<1.0	<0.22	<0.88	<0.2	<0.15	<0.21	<0.24	<0.4	<0.21	<0.47	<0.15	<0.2	<0.17
MW8A	7/18/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW8A	5/7/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW9	12/2/03		310	<3.4	220	<6.6	<5.2	<5.0	<4.8	<5.6	<4.8	<1.0	<4.4	<25	9.1	<4.5	13	<11	<5.9	31	<16	<5.8	<5.4	<4.4
MW9	9/24/04		350	<3.5	460	30	<6.2	<3.3	<3.1	<2.9	<4.7	<1.0	<3.8	<17	16	<3.0	40	<7.0	<2.6	35	<13	<3.7	<2.9	<4.1
MW9	8/10/05		410	<4.9	700	41	<7.6	<4.8	<3.7	<3.6	<3.5	<1.0	<3.7	<16	13	<4.4	46	<17	<6.4	29	<13	<6.0	<3.2	<5.0
MW9	4/12/07		260	<1.0	420	29	<28	<9.4	<12	<5.3	<13	<1.0	<11	<75	15	<24	29	<7.3	<20	26	<43	<9.7	<19	<9.0
MW9	7/18/07		37	<4.0	110	2.7 J	<8.0	<4.0	<4.0	<4.0	<4.0	<1.0	<4.0	<4.0	<4.0	4.4	<4.0	4.4	<4.0	<4.0	5.8 J	<		

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3-chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 70 7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW9	11/11/08		86	<5.0	120	9.6	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	4.7 J	<5.0	6.2	<5.0	<5.0	12	<25	<5.0	1.5 J	<5.0
MW9	2/19/09		120	<5.0	170	19	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	<5.0	<6.3	<5.0	7.6	<5.0	<5.0	22	2.5 J	<5.0	2.1 J	<5.0
MW9	5/6/09		82	<6.7	140	9.8	<13	<6.7	<6.7	<6.7	<6.7	<1.0	<6.7	<6.7	5.9	<6.7	5.6	<6.7	<6.7	11	<33	<6.7	<6.7	<6.7
MW9	8/12/09		160	<8.0	230	19	<16	<8.0	1.6 J	<8.0	<8.0	<1.0	<8.0	<8.0	10	<8.0	10	<8.0	<8.0	18	4.1 J	<8.0	2.3 J	<8.0
MW9	11/11/09		120	<10	190	18	<20	<10	<10	<10	<10	<1.0	<10	<10	8.8 J	<10	11	<100	<10	19	<50	<10	<10	<10
MW9	2/15/10		88	<0.5	190	16	<0.5	<0.5	1.3 J	<0.5	<0.5	<1.0	<0.5	<0.5	7.3	<1.0	9.3	<0.5	2.6 J	15	<0.5	<0.5	1.9 J	<0.5
MW9	5/6/10		120	<6.7	230	21	<13	<6.7	1.4 J	<6.7	<6.7	<1.0	<6.7	<6.7	7.6	<6.7	13	<6.7	<6.7	16	7.3 J	<6.7	1.9 J	<6.7
MW9	11/18/10		76	<5.7	150	11	<11	<5.7	<5.7	<5.7	<5.7	<1.0	<5.7	<5.7	4.9 J	<5.7	9.1	<5.7	<5.7	11	3 J	<5.7	<5.7	<5.7
MW9	11/18/10	D	77	<5.7	150	11	<11	<5.7	<5.7	<5.7	<5.7	<1.0	<5.7	<5.7	4.9 J	<5.7	8.7	<5.7	<5.7	11	3.7 J	<5.7	<5.7	<5.7
MW9	5/11/11		35	<1.7	58	4.4	<3.3	<1.7	0.39 J	<1.7	<1.7	<1.0	<1.7	<1.7	2.7	<1.7	2.5	<1.7	<1.7	5.2	<8.4	<1.7	0.63 J	<1.7
MW9	11/9/11		29	<1.0	33	3.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	1.5	<1.0	<1.0	5.1	<5.0	<1.0	0.37 J	<1.0
MW9	5/9/12		29	<1.0	35	4.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	1.7	<1.0	<1.0	4.7	0.66	<1.0	0.49	<1.0
MW9	11/6/12		27	<1.4	38	5.6	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	<1.4	2.1	<1.4	1.8	<1.4	<1.4	4	<7.2	<1.4	0.5 J	<1.4
MW9	11/6/13		9.9	<1.0	13	2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.92 J	<1.0	0.72 J	<1.0	<1.0	2.4	<5.0	<1.0	0.21 J	<1.0
MW9	11/6/13	D	11	<1.0	14	2.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.97 J	<1.0	0.77 J	<1.0	<1.0	2.5	<5.0	<1.0	0.22 J	<1.0
MW9	11/5/14		9.4	<1.0	7.9	1.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.85 J	<1.0	0.5 J	<1.0	<1.0	1.6	<5.0	<1.0	0.17 J	<1.0
MW9	11/5/14	D	9.1	<1.0	8.1	1.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.83 J	<1.0	0.47 J	<1.0	<1.0	1.6	<5.0	<1.0	0.17 J	<1.0
MW9	11/3/15		15	<1.0	20	2.8	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2	<1.0	1.1	<1.0	<1.0	2.5	<5.0	<1.0	0.34 J	<1.0
MW9	11/3/15	D	16	<1.0	22	2.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1	<1.0	1.2	<1.0	<1.0	2.7	<5.0	<1.0	0.31 J	<1.0
MW9	11/7/16		7.1	<1.0	7.2	1.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.87 J	<1.0	0.49 J	<1.0	<1.0	1.5	<5.0	<1.0	<1.0	<1.0
MW9	10/31/17		7.2	<1.0	7.9	1.6	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.2 J	<1.0	0.6 J	<5.0	<5.0	1.4	<10	<1.0	<0.5	<0.5
MW9	11/15/18		11	<1.0	17	2.9	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	2	<1.0	1	<5.0	<5.0	<2.3	<10	<1.0	0.32 J	<1.0
MW9	11/14/19		7.7	<1.0	9.6	2.2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1 J	<1.0	0.65 J	<5.0	<5.0	1.6	<10	<1.0	0.17 J	<1.0
MW9	11/12/20		4.1	<1.0	3.5	0.89 J	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.79 J	<1.0	<1.0	<5.0	<5.0	1.2	<10	<1.0	<0.5	<1.0
MW9	11/16/21		7.7	<1.0	8.7	2.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0 J	1.3 J	<1.0	0.52 J	<5.0	<5.0	1.7	<10	<1.0	<0.50	<1.0
MW9	11/8/22		4.0	<1.0	4	0.72 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.70 J	<1.0	<1.0	<5.0	<5.0	1.1	<5.0	<1.0	<1.0	<1.0
MW9A	12/3/03		<0.23	<0.14	<0.22	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW9A	9/24/04		<0.23	<0.14	1	<0.26	<0.21	<0.2	<0.19	<0.23	<0.19	<1.0	<0.18	<1.0	<0.21	<0.18	<0.22	<0.46	<0.24	<0.18	<0.65	<0.23	<0.22	<0.18
MW9A	8/10/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.19	<0.51	<0.24	<0.13	<0.2
MW9A	4/12/07		<0.18	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	<0.4	<0.26	<0.86	<0.19	<0.38	<0.18
MW9A	7/18/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW9A	5/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	<1.0	<1.0	<1.0	0.77 J	<1.0	<1.0	<1.0
MW9A	8/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW9A	8/6/08	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10	6/15/05		16	<0.39	4	1.6	<0.61	<0.39	<0.29	<0.28	<0.28	<1.0	<0.29	<1.3	<0.2	<0.35	0.54	<1.4	<0.51	0.44	<1.0	<0.48	<0.25	<0.4
MW10	8/8/05		23	<0.39	5.8	<0.38	<0.61	<0.39	<0.29	<0.28	<0.28	<1.0	<0.29	<1.3	<0.2	<0.35	<0.36	<1.4	<0.51	0.52	<1.0	<0.48	<0.25	<0.4
MW10	4/4/07		37	<0.41	17	6.1	<1.1	<0.37	<0.48	<0.21	<0.51	<1.0	<0.43	<3.0	<0.34	<0.95	1.5	<0.29	3	2	<1.7	<0.39	<0.76	<0.36
MW10	7/19/07		33	<1.0	18	5.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.49 J	<1.0	<1.0	1.5	<1.0	<1.0	1.6	0.44 J	<1.0	<1.0	<1.0
MW10	5/8/08		17	<1.0	14	2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.54 J	<1.0	<1.0	0.94 J	<1.0	<1.0	0.87 J	0.66 J	<1.0	<1.0	<1.0
MW10	8/5/08		11	<1.0	10	1.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.3 J	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10	11/12/08		31	<1.0	26	5.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.93 J	0.4 J	0.32 J	1.5	<1.0	<1.0	1.2	<5.0	<1.0	0.32 J	<1.0
MW10	2/18/09		35	<1.4	25	8.5	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	0.68 J	<1.4	<1.4	1.4	<1.4	<1.4	1.9	<7.2	<1.4	0.41 J	<1.4
MW10	5/4/09		42 J	<1.0	31	7.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.81	0.5	<1.0	1.5	<1.0	<1.0	2	0.7	<1.0	0.43	<1.0
MW10	5/4/09	D	22	<1.4	18	4	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	0.62	0.28	<1.4	0.91	<1.4	<1.4	1.2	<7.2	<1.4	<1.4	<1.4
MW10	8/12/09		38	<1.7	27	5.8	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	0.6 J	0.51 J	<1.7	1.4 J	<1.7	<1.7	1.7	<8.4	<1.7	<1.7	<1.7
MW10	11/11/09		50	<2.5	33	9.6	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	1.1 J	0.69 J	<2.5	2.1 J	<2.5	<2.5	3.4 J	<12	<2.5	<2.5	<2.5
MW10	2/16/10		31	<1.0	25	7.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.86 J	0.47 J	<1.0	1.4	<1.0	<1.0	2.2	<5.0	<1.0	0.39 J	<1.0
MW10	5/6/10		10	<1.0	8.6	1.8	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.42 J	<1.0	<1.0	0.6 J	<5.0	<1.0	<1.0	<1.0

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 70 7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW10	11/17/10		10	<1.0	8.3	1.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.49 J	<10	<1.0	0.6 J	<5.0	<1.0	<1.0	<1.0
MW10	5/11/11		11	<1.0	8.2	2.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.44 J	0.18 J	<1.0	0.44 J	<10	<1.0	0.73 J	<5.0	<1.0	<1.0	<1.0
MW10	11/10/11		18	<1.0	12	2.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.29 J	<1.0	0.64 J	<10	<1.0	1.5	<5.0	<1.0	<1.0	<1.0
MW10	5/9/12		53	<2.5	40	9.5	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	1.7	0.81	<2.5	2.3	<25	<2.5	4.4	1.1	<2.5	0.76	<2.5
MW10	11/9/12		31	<1.0	29	6.8	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.78 J	0.53 J	<1.0	1.5	<10	<1.0	2.2	<5.0	<1.0	0.39 J	<1.0
MW10	11/6/13		5.6	<1.0	6.1	1.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.41 J	<10	<1.0	0.82 J	<5.0	<1.0	<1.0	<1.0
MW10	11/6/13	D	6.3	<1.0	6.5	1.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.92 J	<5.0	<1.0	<1.0	<1.0
MW10	11/6/14		38	<1.0	28	5.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.76 J	<1.0	1.3	<10	<1.0	3.1	0.65 J	<1.0	0.47 J	<1.0
MW10	11/4/15		36	<1.0	26	6.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.61 J	<1.0	2.6	<10	<1.0	5.9	<5.0	<1.0	0.66 J	<1.0
MW10	5/10/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10	11/9/16		3.5	<1.0	2.6	0.67 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.3 J	<5.0	<1.0	<1.0	<1.0
MW10	5/18/17		1.8	<1.0	1.3	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10	11/1/17		2.9	<1.0	2.5	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW10	5/4/18		2.4	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW10	11/12/18		2.5	<1.0	2.5	0.49 J	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW10	5/16/19		<1.0	<1.0	1.3	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW10	11/14/19		1	<1.0	1	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW10	5/19/20		1.6	<1.0	2.1	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW10	11/12/20		2.4	<1.0	0.96 J	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW10	5/6/21		1	<1.0	1.4	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW10	11/15/21		2	<1.0	2.4	0.48 J	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW10	5/27/22		2.6	<1.0	1.2	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10 J	<1.0	<0.50	<1.0
MW10	11/9/22		1.1	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10A	6/15/05		35	<0.98	6.1	4.7	<1.5	<0.97	<0.73	<0.71	<0.71	<1.0	<0.74	<3.2	<0.51	<0.87	0.91	<3.5	<1.3	<0.88	<2.6	<1.2	<0.64	<1.0
MW10A	8/8/05		26	<0.98	7.5	3	<1.5	<0.97	<0.73	<0.71	<0.71	<1.0	<0.74	<3.2	<0.51	<0.87	<0.9	<3.5	<1.3	<0.88	<2.6	<1.2	<0.64	<1.0
MW10A	4/2/07		65	<0.81	20	6.6	<0.87	<0.77	<1.1	<1.1	<0.87	<1.0	<1.1	<4.4	<0.99	<0.74	2.2	<1.2	<2.0	7.1	<2.3	<0.75	<0.99	<0.86
MW10A	7/19/07		61	<3.3	25	9.8	<3.3	<3.3	<3.3	<3.3	<3.3	<1.0	<3.3	<3.3	<3.3	<3.3	3.5	<33	<3.3	4.5	<17	<3.3	<3.3	<3.3
MW10A	5/8/08		73	<2.5	26	8	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	<2.5	<2.5	3.7	<25	<2.5	10	<12	<2.5	0.78 J	<2.5
MW10A	8/5/08		61	<2.5	28	15	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	0.63 J	<2.5	3.4	<25	<2.5	5.7	<12	<2.5	<2.5	<2.5
MW10A	11/12/08		68	<2.5	31	14	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	0.61 J	<2.5	4.1	<25	<2.5	9.1	<12	<2.5	0.71 J	<2.5
MW10A	2/18/09		69	<2.0	32	18	<4.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	4.1	<20	<2.0	10	<10	<2.0	0.79 J	<2.0
MW10A	5/5/09		72	<2.5	37	14	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	0.69	<2.5	4.4	<25	<2.5	8.6	<12	<2.5	0.82	<2.5
MW10A	8/12/09		75	<2.0	36	13	<4.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	<2.0	0.63 J	<2.0	4.4	<20	<2.0	8.9	0.97 J	<2.0	0.82 J	<2.0
MW10A	11/11/09		67	<2.5	31	14	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	0.64 J	<2.5	4.4	<25	<2.5	11 J	<12	<2.5	0.89 J	<2.5
MW10A	2/16/10		63 J	<2.0	35 J	13	<4.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	<2.0	0.72 J	<2.0	4.3 J	<20	0.85 J	9.5 J	<10	<2.0	0.83 J	<2.0
MW10A	5/6/10		59	<2.0	36	13	<4.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	<2.0	0.64 J	<2.0	4.4	<20	<2.0	7.1	1.4 J	<2.0	0.75 J	<2.0
MW10A	11/17/10		58	<2.5	33	11	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	0.69 J	<2.5	4	<25	<2.5	7.7	<12	<2.5	<2.5	<2.5
MW10A	5/11/11		63	<1.7	39	15	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	<1.7	0.84 J	<1.7	4.5	<17	<1.7	8.9	0.84 J	<1.7	0.87 J	<1.7
MW10A	11/10/11		55	<1.7	30	9.2	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	<1.7	0.7 J	<1.7	3.6	<17	<1.7	8	<8.4	<1.7	0.78 J	<1.7
MW10A	5/10/12		53	<2.0	34	10	<4.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	<2.0	0.72	<2.0	3.8	<20	<2.0	6.3	<10	<2.0	0.71	<2.0
MW10A	11/9/12		43	<1.7	31	12	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	<1.7	0.62 J	<1.7	3.4	<17	<1.7	6.3	<8.4	<1.7	0.72 J	<1.7
MW10A	11/6/13		30	<3.3	25	7	<6.7	<3.3	<3.3	<3.3	<3.3	<1.0	<3.3	<3.3	0.54 J	<3.3	3 J	<33	<3.3	6.4	<17	<3.3	0.61 J	<3.3
MW10A	11/6/14		38	<1.4	29	6.7	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	<1.4	0.72 J	<1.4	2.9	<14	<1.4	5.9	<7.2	<1.4	0.62 J	<1.4
MW10A	11/4/15		15	<1.0	10	2.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.31 J	<1.0	0.4 J	<10	<1.0	1.4	<5.0	<1.0	<1.0	<1.0
MW10A	5/10/16		31	<1.0	26	5.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.61 J	<1.0	2.7	<10	<1.0	5.2	<5.0	<1.0	0.63 J	<1.0
MW10A	11/9/16		26	<1.0	23	5.4	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.58 J	<1.0	2.2	<10	<1.0	4.5	<5.0	<1.0	0.49 J	<1.0
MW10A	5/18/17		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10A	11/1/17		19	<1.0	19	4.1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.7 J	<1.0	1.7	<5.0	<5.0	4.1	<10	<1.0	0.4 J	<0.5

**Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3-chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 70 7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW10A	5/4/18		20	<1.0	20	4.2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	1.6	<5.0	<5.0	3.8	<10	<1.0	<0.5	<1.0
MW10A	11/14/18		15	<1.0	18	3.8	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.49 J	<1.0	1.6	<5.0	<5.0	<3.4	<10	<1.0	0.37 J	<1.0
MW10A	5/16/19		15	<1.0	17	3.7	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	3	<10	<1.0	0.36 J	<1.0
MW10A	11/14/19		10	<1.0	12	2.2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	0.97 J	<5.0	<5.0	2.4	<10	<1.0	0.28 J	<1.0
MW10A	5/19/20		11	<1.0	13	2.5	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.41 J	<1.0	1.2	<5.0	<5.0	2.4	<10	<1.0	0.24 J	<1.0
MW10A	5/19/20	D	9.9	<1.0	12	2.3	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	1	<5.0	<5.0	2.3	<10	<1.0	0.25 J	<1.0
MW10A	11/16/20		8.9	<1.0	13	2.4	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.47 J	<1.0	0.96 J	<5.0	<5.0	2.2	<10	<1.0	0.35 J	<1.0
MW10A	5/6/21		7.3	<1.0	9.6	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	0.86 J	<5.0	1.9 J	1.8	<10	<1.0	<0.50	<1.0
MW10A	11/16/21		10	<1.0	13	2.4	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0 J	0.41 J	<1.0	1.1	<5.0	1.9 J	<1.0	<10	<1.0	<0.50	<1.0
MW10A	5/26/22		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	0.47 J	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW10A	5/27/22		8.1	<1.0	10	1.7	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	0.73 J	<5.0	<5.0	1.3	<10 J	<1.0	0.24 J	<1.0
MW10A	11/9/22		6.6	<1.0	8.9	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	1.3	<5.0	<1.0	<1.0	<1.0
MW10B	6/15/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW10B	8/8/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW10B	4/2/07		<0.18	<0.16	<0.21	<0.24	<0.17	<0.15	<0.23	<0.21	<0.17	<1.0	<0.22	<0.88	<0.2	<0.15	<0.21	<0.24	<0.4	<0.21	<0.47	<0.15	<0.2	<0.17
MW10B	7/19/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10B	5/8/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW10B	8/5/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11	6/15/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW11	8/11/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW11	4/2/07		<0.18	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	0.22	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	0.2	<0.26	<0.86	<0.19	<0.38	<0.18
MW11	7/17/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11	7/17/07	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11	5/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11	8/4/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11	5/10/16		6.1	<1.0	4.6	1.3	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.62 J	<5.0	<1.0	<1.0	<1.0	<1.0
MW11A	6/15/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW11A	8/11/05		0.22	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW11A	4/2/07		<0.18	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	0.21	<0.26	<0.86	<0.19	<0.38	<0.18
MW11A	7/17/07		0.28 J	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	5/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	8/4/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	11/11/08		0.22 J	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.36 J	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	2/17/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	5/4/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	8/10/09		0.23 J	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	11/11/09		0.24 J	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	2/15/10		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5
MW11A	5/4/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	5/4/10	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	11/16/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	5/10/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	11/7/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	5/8/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	5/8/12	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	11/7/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW11A	11/6/13		<1.0	<1																				

**Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3-chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 7 0.7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW13	8/11/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/11/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/11/09	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	2/15/10		<0.5	<1.0	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.33 J	<0.5	<0.5	<0.5	<0.5	<0.5
MW13	5/5/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/16/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	5/11/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/7/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	5/10/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/7/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/6/13		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/6/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/4/15		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/4/15	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/7/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	11/7/16	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13	10/31/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW13	11/14/18		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW13	11/14/19		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW13	11/16/20		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW13	11/16/21		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	1.9 J	<1.0	<10	<1.0	<0.50	<1.0
MW13	11/16/21	D	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	1.7 J	<1.0	<10	<1.0	<0.50	<1.0
MW13	11/9/22		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13A	6/15/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW13A	8/11/05		<0.13	<0.2	<0.15	<0.19	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	<0.51	<0.24	<0.13	<0.2
MW13A	4/2/07		<0.18	<0.21	<0.13	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	0.19	<0.26	<0.86	<0.19	<0.38	<0.18
MW13A	7/18/07		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13A	5/7/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW13A	8/5/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW14	6/16/05		8	<0.2	0.37	0.56	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	0.3	<0.51	<0.24	<0.13	<0.2
MW14	8/11/05		6.2	<0.2	0.22	0.35	<0.3	<0.19	<0.15	<0.14	<0.14	<1.0	<0.15	<0.63	<0.1	<0.17	<0.18	<0.69	<0.25	<0.18	0.9	<0.24	<0.13	<0.2
MW14	4/4/07		3.2	<0.21	0.2	<0.21	<0.56	<0.19	<0.24	<0.11	<0.25	<1.0	<0.22	<1.5	<0.17	<0.47	<0.26	<0.15	0.36	0.27	<0.86	<0.19	<0.38	<0.18
MW14	7/18/07		4.1	<1.0	0.27 J	0.3 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW14	5/7/08		3.4	<1.0	<1.0	0.32 J	<2.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0	0.31 J	<1.0	11	<1.0	<1.0	<1.0	0.33 J	<5.0	<1.0	<1.0	<1.0
MW14	8/5/08		5.4	<1.0	0.32 J	1.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.43 J	<5.0	<1.0	<1.0	<1.0
MW14	11/11/08		4.6	<1.0	0.29 J	0.56 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.4 J	<5.0	<1.0	<1.0	<1.0
MW14	2/17/09		4.1	<1.0	0.31 J	0.67 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.37 J	<5.0	<1.0	<1.0	<1.0
MW14	5/5/09		4.2	<1.0	0.31	0.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.34	<5.0	<1.0	<1.0	<1.0
MW14	8/11/09		3	<1.0	0.23 J	0.3 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.29 J	<5.0	<1.0	<1.0	<1.0
MW14	11/11/09		2.3	<1.0	<1.0	0.29 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW14	2/15/10		1.5	<0.5	<0.5	0.21 J	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
MW14	2/15/10	D	1.5	<0.5	<1.0	0.22 J	<2.0	<1.0	<1.0	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0
MW14	5/5/10		3.1	<1.0	<1.0	0.33 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.29 J	<5.0	<1.0	<1.0	<1.0
MW14	11/18/10		2.1	<1.0	<1.0	0.23 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW14	5/11/11		1.8	<1.0	<1.0	0.28 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW14	11/9/11		0.95 J	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW14	5/9/12		0.38	<1.0																				

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 70 7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW15A	11/7/11	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	5/8/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	11/7/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	11/7/12	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	11/5/13		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	11/6/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	11/3/15		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	11/8/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW15A	10/30/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<0.5	<0.5
MW15A	10/30/17	D	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<0.5	<0.5
MW15A	11/12/18		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<0.5	<1.0
MW15A	11/13/19		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<0.5	<1.0
MW15A	11/13/19	D	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<0.5	<1.0
MW15A	11/11/20		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<0.5	<1.0
MW15A	11/15/21		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	<0.50	<1.0
MW15A	11/8/22		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16	5/8/08		160	<5.7	160	18	<11	<5.7	<5.7	<5.7	<5.7	<1.0	<5.7	3.9 J	<5.7	<5.7	11	<5.7	<5.7	17	5.8 J	<5.7	2.5 J	<5.7
MW16	8/6/08		150	<6.7	150	19	<13	<6.7	<6.7	<6.7	<6.7	<1.0	<6.7	3.7 J	2.8 J	<6.7	9.6	<6.7	<6.7	14	2.8 J	<6.7	2.3 J	<6.7
MW16	11/12/08		97	<3.3	92	14	<6.7	<3.3	<3.3	<3.3	<3.3	<1.0	<3.3	2.7 J	1.6 J	<3.3	4.5	<33	<3.3	7.1	<17	<3.3	1.4 J	<3.3
MW16	2/18/09		97	<4.0	86	16	<8.0	<4.0	<4.0	<4.0	<4.0	<1.0	<4.0	2 J	<4.0	<4.0	4.2	<40	<4.0	9	3 J	<4.0	1.4 J	<4.0
MW16	5/6/09		110	<5.0	110	16	<10	<5.0	<5.0	<5.0	<5.0	<1.0	<5.0	1.4	2.4	<5.0	4.9	<50	<5.0	9.8	4.4	<5.0	1.7	<5.0
MW16	5/6/09	D	110	<4.0	110	16	<8.0	<4.0	<4.0	<4.0	<4.0	<1.0	<4.0	2.3	2.4	<4.0	4.9	<40	<4.0	9.5	3.9	<4.0	1.6	<4.0
MW16	8/11/09		160	<5.7	180	13	<11	<5.7	<5.7	<5.7	<5.7	<1.0	<5.7	2.8 J	3.8 J	<5.7	9.7	<5.7	<5.7	14	7.1 J	<5.7	2.8 J	<5.7
MW16	11/10/09		100	<3.3	100	19	<6.7	<3.3	0.6 J	<3.3	<3.3	<1.0	<3.3	2.3 J	2.3 J	<3.3	5.9	<33	<3.3	8.7	<17	<3.3	1.9 J	<3.3
MW16	2/16/10		140 J	<6.7	190	32 J	<13	<6.7	<6.7	<6.7	<6.7	<1.0	<6.7	3.5 J	3.9 J	<6.7	11	<6.7	<6.7	13	2.8 J	<6.7	3 J	<6.7
MW16	5/6/10		150	<6.7	200	24	<13	<6.7	<6.7	<6.7	<6.7	<1.0	<6.7	3 J	4 J	<6.7	9.7	<6.7	<6.7	13	8.6 J	<6.7	2.6 J	<6.7
MW16	5/6/10	D	140	<6.7	200	25	<13	<6.7	<6.7	<6.7	<6.7	<1.0	<6.7	3.1 J	4 J	<6.7	9.8	<6.7	<6.7	12	8.6 J	<6.7	2.4 J	<6.7
MW16	11/17/10		140	<8.0	190	22	<16	<8.0	<8.0	<8.0	<8.0	<1.0	<8.0	2.8 J	4.3 J	<8.0	9.7	<80	<8.0	16	5.9 J	<8.0	3 J	<8.0
MW16	5/11/11		130	<5.7	170	27	<11	<5.7	1 J	<5.7	<5.7	<1.0	<5.7	2.4 J	4.1 J	<5.7	9.8	<5.7	<5.7	13	6.1 J	<5.7	2.4 J	<5.7
MW16	11/10/11		74	<2.5	68	9.4	<5.0	<2.5	<2.5	<2.5	<2.5	<1.0	<2.5	<2.5	2.6	<2.5	4.2	<25	<2.5	11	2.6 J	<2.5	1.2 J	<2.5
MW16	5/11/12		77	<2.5	94	10	<5.0	<2.5	0.67	<2.5	<2.5	<1.0	<2.5	1	2.8	<2.5	6.1	<25	<2.5	8.6	3.5	<2.5	1.3	<2.5
MW16	11/8/12		84	<3.3	110	15	<6.7	<3.3	<3.3	<3.3	<3.3	<1.0	<3.3	<3.3	3.5	<3.3	7.3	<33	<3.7	11	<17	<3.3	1.7 J	<3.3
MW16	11/8/12	D	87	<3.3	120	17	<6.7	<3.3	0.84 J	<3.3	<3.3	<1.0	<3.3	<3.3	3.6	<3.3	7.6	<33	<3.5	12	<17	<3.3	1.9 J	<3.3
MW16	11/6/13		40	<3.3	46	7	<6.7	<3.3	<3.3	<3.3	<3.3	<1.0	<3.3	<3.3	1.8 J	<3.3	3.1 J	<33	<3.3	7.6	1.9 J	<3.3	0.82 J	<3.3
MW16	11/6/14		42	<1.7	41	6	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	<1.7	1.8	<1.7	2.6	<17	<1.7	5.3	1.6 J	<1.7	0.64 J	<1.7
MW16	11/4/15		35	<1.0	32	6.3	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	1.5	<10	<1.0	3.4	<5.0	<1.0	0.55 J	<1.0
MW16	5/10/16		27	<1.0	30	5.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	1.7	<10	<1.0	3.2	1.5 J	<1.0	0.51 J	<1.0
MW16	11/9/16		19	<1.0	20	3.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	1.1	<10	<1.0	2.3	1.5 J	<1.0	0.37 J	<1.0
MW16	5/18/17		17	<1.0	20	3.7	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	1.2	<1.0	1.1	<10	<1.0	2	1.1 J	<1.0	<1.0	<1.0
MW16	11/1/17		14	<1.0	15	2.5	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.1 J	<1.0	<1.0	<5.0	<5.0	1.5	<10	<1.0	<0.5	<0.5
MW16	5/3/18		13	<1.0	16	3.6	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	1.1 J	<1.0	1.2	<5.0	<5.0	1.8	<10	<1.0	0.3 J	<1.0
MW16	11/14/18		14	<1.0	16	3.5	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.84 J	<1.0	1.1	<5.0	<5.0	<2.1	<10	<1.0	0.34 J	<1.0
MW16	5/15/19		9.8	<1.0	16	2.9	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.65 J	<1.0	1.2	<5.0	<5.0	1.7	<10	<1.0	0.24 J	<1.0
MW16	11/14/19		12	<1.0	15	2.8	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.77 J	<1.0	1.3	<5.0	<5.0	1.7	<10	<1.0	0.27 J	<1.0
MW16	5/20/20		12	<1.0	12	3.1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.67 J	<1.0	0.9 J	<5.0	<5.0	1.7	<10	<1.0	0.2 J	<1.0
MW16	11/16/20		8.4	<1.0	12	2.5	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	0.79 J	<1.0	0.92 J	<5.0	<5.0	1.4	<10	<1.0	0.21 J	<1.0
MW16	5/7/21		9	<1.0	7.7	1.6	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	0.79 J	<1.0	<1.0	<5.0	<5.0	1.0	<10	<1.0	<0.50	<1.0
MW16	11/18/21		8.6	<1.0	9.6	2.3	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	0.75 J	<1.0	0.77 J	<5.0	<5.0	1.3	<10	<1.0	0.20 J	<1.0

**Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 70 7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW16	5/26/22		9.3	<1.0	9	2.4	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	0.72 J	<5.0	<5.0	1.2	<10 J	<1.0	0.18 J	<1.0
MW16	11/9/22		8.8	<1.0	9.8	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.61 J	<1.0	0.84 J	<5.0	<1.0	1.2	<5.0	<1.0	<1.0	<1.0
MW16A	5/8/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	8/6/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/12/08		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	2/18/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	2/18/09	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	5/6/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	8/11/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	8/11/09	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/10/09		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	2/16/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	5/6/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/17/10		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	5/11/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	5/11/11	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/10/11		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	5/11/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/8/12		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/6/13		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/6/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/6/14	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/4/15		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	5/10/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/9/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	5/18/17		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW16A	11/11/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<0.5
MW16A	5/3/18		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW16A	11/14/18		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW16A	5/15/19		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW16A	11/14/19		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW16A	11/14/19	D	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW16A	5/20/20		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW16A	11/16/20		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW16A	5/7/21		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW16A	11/18/21		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW16A	5/26/22		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10 J	<1.0	<0.50	<1.0
MW16A	5/26/22	D	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10 J	<1.0	<0.50	<1.0
MW16A	11/10/22		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW17	5/8/08		55	<1.0	32	7.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	2.7	<10	<1.0	4.7	1 J	<1.0	0.42 J	<1.0
MW17	8/5/08		48	<1.7	32	11	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	0.98 J	0.37 J	<1.7	2.3	<17	<1.7	3.7	1.1 J	<1.7	<1.7	<1.7
MW17	11/12/08		48	<1.4	35	6	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	1.3 J	0.41 J	<1.4	2.6	<14	<1.4	3.2	<7.2	<1.4	<1.4	<1.4
MW17	2/18/09		44	<1.7	32	8.7	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	0.98 J	<1.7	<1.7	2.5	<17	<1.7	3.8	<8.4	<1.7	<1.7	<1.7
MW17	5/5/09		44	<2.0	37	7	<4.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	0.98	0.49	<2.0	2.6	<20	<2.0	3.1	1.4	<2.0	<2.0	<2.0
MW17	8/11/09		47	<1.7	34	3.7	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	1.3 J	0.46 J	<1.7	2.6	<17	<1.7	3.5	1.2 J	<1.7	<1.7	<1.7
MW17	11/10/09		43	<1.7	29	6.4	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	1.3 J	0.41 J	<1.7	2.3	<17	<1.7	4.2 J	<8.4	<1.7	<1.7	<1.7
MW17	2/16/10		36	<1.4	32	6.5	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	1.4	0.4 J	<1.4	2.3	<14						

**Historical Groundwater Monitoring Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 7 0.7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW17	11/17/10		34	<1.4	30	6.8	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	1.4	0.38 J	<1.4	2.1	<14	<1.4	3.4	0.69 J	<1.4	<1.4	<1.4
MW17	5/11/11		39	<1.7	37	7.8	<3.3	<1.7	<1.7	<1.7	<1.7	<1.0	<1.7	1.7	0.48 J	<1.7	2.3	<17	<1.7	3.5	1.1 J	<1.7	<1.7	<1.7
MW17	11/10/11		40	<2.0	35	7.7	<4.0	<2.0	<2.0	<2.0	<2.0	<1.0	<2.0	1.7 J	0.48 J	<2.0	2.1	<20	<2.0	3.7	1.4 J	<2.0	0.4 J	<2.0
MW17	5/11/12		37	<1.4	35	4.9	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	1.2	0.43	<1.4	2.2	<14	<1.4	3.2	1.1	<1.4	0.43	<1.4
MW17	11/9/12		36	<1.0	33	7.3	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.2	0.42 J	<1.0	2	<10	<1.0	3.5	<5.0	<1.0	0.44 J	<1.0
MW17	11/6/13		28	<1.0	29	6.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	0.38 J	<1.0	1.8	<10	<1.0	3.6	1.1 J	<1.0	0.42 J	<1.0
MW17	11/6/14		32	<1.0	30	5.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	0.43 J	<1.0	1.7	<10	<1.0	3.2	1.2 J	<1.0	0.43 J	<1.0
MW17	11/4/15		24	<1.0	23	3.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.54 J	0.35 J	<1.0	1.4	<10	<1.0	3	<5.0	<1.0	0.43 J	<1.0
MW17	5/10/16		17	<1.0	23	3.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2	0.32 J	<1.0	1.2	<10	<1.0	2.4	<5.0	<1.0	0.32 J	<1.0
MW17	11/8/16		17	<1.0	19	3.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	1	<10	<1.0	2.3	0.9 J	<1.0	0.39 J	<1.0
MW17	5/18/17		17	<1.0	22	3.6	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	0.86 J	<1.0	<1.0	1.2	<10	<1.0	2.2	1 J	<1.0	<1.0	<1.0
MW17	11/1/17		14	<1.0	18	3.3	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	1.3	<2.0	<1.0	<1.0	<5.0	<23	2.2	<10	<1.0	<0.5	<0.5
MW17	5/3/18		11	<1.0	15	3.4	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	1	<2.0	<1.0	0.95 J	<5.0	<5.0	1.9	<10	<1.0	0.25 J	<1.0
MW17	5/3/18	D	11	<1.0	16	3.5	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	0.99 J	<2.0	<1.0	1	<5.0	<5.0	1.8	<10	<1.0	0.29 J	<1.0
MW17	11/15/18		12	<1.0	16	3.1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	1.2	<2.0	<1.0	0.87 J	<5.0	<5.0	<2.1	<10	<1.0	0.37 J	<1.0
MW17	5/15/19		7.1	<1.0	12	2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	0.64 J	<5.0	<5.0	1.6	<10	<1.0	0.21 J	<1.0
MW17	5/15/19	D	6.8	<1.0	12	1.5	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	0.64 J	<5.0	<5.0	1.5	<10	<1.0	0.19 J	<1.0
MW17	11/15/19		8.1	<1.0	11	2.6	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	0.91 J	<2.0	<1.0	0.77 J	<5.0	<5.0	1.4	<10	<1.0	0.2 J	<1.0
MW17	5/20/20		7.8	<1.0	10	2.1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	0.6 J	<2.0	<1.0	0.67 J	<5.0	<5.0	1.4	<10	<1.0	0.21 J	<1.0
MW17	11/11/20		7	<1.0	9.9	1.9	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	0.7 J	0.42 J	<1.0	0.54 J	<5.0	<5.0	1.3	<10	<1.0	0.17 J	<1.0
MW17	5/6/21		5.6	<1.0	7.8	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	0.68 J	<2.0	<1.0	0.49 J	<5.0	1.8 J	1.2	<10	<1.0	0.17 J	<1.0
MW17	5/6/21	D	5.8	<1.0	8.5	1.1	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	0.51 J	<5.0	1.9 J	1.3	<10	<1.0	<0.50	<1.0
MW17	11/18/21		6.1	<1.0	8.6	1.8	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	0.62 J	<2.0	<1.0	0.49 J	<5.0	<5.0	1.5	<10	<1.0	0.25 J	<1.0
MW17	5/26/22		6.3	<1.0	8.1	1.7	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	0.55 J	<2.0	<1.0	0.51 J	<5.0	<5.0	1	<10 J	<1.0	0.17 J	<1.0
MW17	11/9/22		5.2	<1.0	7.5	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.46 J	<1.0	<1.0	<1.0	<5.0	<1.0	0.95 J	<5.0	<1.0	<1.0	<1.0
MW17	11/9/22	D	5.2	<1.0	7.3	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.42 J	<1.0	<1.0	<1.0	<5.0	<1.0	0.94 J	<5.0	<1.0	<1.0	<1.0
MW17A	5/7/08		38	<1.0	21	5.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.55 J	<1.0	<1.0	1.5	<10	<1.0	3.1	0.62 J	<1.0	<1.0	<1.0
MW17A	8/5/08		38	<1.4	26	8.6	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	0.8 J	0.31 J	<1.4	1.6	<14	<1.4	2.3	<7.2	<1.4	<1.4	<1.4
MW17A	8/5/08	D	38	<1.4	27	8.1	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	0.86 J	0.29 J	<1.4	1.6	<14	<1.4	2.5	<7.2	<1.4	<1.4	<1.4
MW17A	11/12/08		30	<1.4	22	4.1	<2.9	<1.4	<1.4	<1.4	<1.4	<1.0	<1.4	0.7 J	0.29 J	<1.4	1.4	<14	<1.4	1.9	<7.2	<1.4	<1.4	<1.4
MW17A	2/18/09		36	<1.0	23	6.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.73 J	<1.0	<1.0	1.5	<10	<1.0	2.9	0.52 J	<1.0	0.29 J	<1.0
MW17A	5/5/09		37	<1.0	29	5.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.74	0.33	<1.0	1.5	<10	<1.0	2.5	0.8	<1.0	<1.0	<1.0
MW17A	8/11/09		40	<1.0	27	4.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	0.37 J	<1.0	1.5	<10	<1.0	3	0.84 J	<1.0	0.3 J	<1.0
MW17A	11/11/09		34	<1.0	23	5.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.53 J	0.31 J	<1.0	1.6	<10	<1.0	3.2	<5.0	<1.0	0.31 J	<1.0
MW17A	2/16/10		31	<1.0	26	5.3	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	0.32 J	<1.0	1.5	<10	<1.0	3	<5.0	<1.0	0.31 J	<1.0
MW17A	5/6/10		39	<1.0	27	4.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	0.36 J	<1.0	1.5	<10	0.33 J	2.9	<5.0	<1.0	0.33 J	<1.0
MW17A	11/17/10		29	<1.0	24	6.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.93 J	0.32 J	<1.0	1.2	<10	<1.0	2.6	<5.0	<1.0	0.29 J	<1.0
MW17A	5/11/11		30	<1.0	27	7.4	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	0.37 J	<1.0	1.4	<10	<1.0	2.5	0.83 J	<1.0	0.33 J	<1.0
MW17A	11/10/11		28	<1.0	25	5.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	0.35 J	<1.0	1.2	<10	<1.0	2.6	0.82 J	<1.0	0.3 J	<1.0
MW17A	5/11/12		26	<1.0	24	2.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	0.29	<1.0	1	<10	<1.0	1.9	0.87	<1.0	0.31	<1.0
MW17A	11/9/12		23	<1.0	22	4.8	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	0.28 J	<1.0	1.1	<10	<1.0	2	<5.0	<1.0	0.28 J	<1.0
MW17A	11/6/13		16	<1.0	17	3.8	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	0.24 J	<1.0	0.85 J	<10	<1.0	2	0.86 J	<1.0	0.24 J	<1.0
MW17A	11/6/14		19	<1.0	19	3.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.79 J	0.28 J	<1.0	0.72 J	<10	<1.0	1.8	0.72 J	<1.0	0.23 J	<1.0
MW17A	11/4/15		20	<1.0	17	2.4	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.36 J	<1.0	<1.0	0.4 J	<10	<1.0	1.7	<5.0	<1.0	<1.0	<1.0
MW17A	5/10/16		14	<1.0	17	2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	0.48 J	<10	<1.0	1.6	<5.0	<1.0	<1.0	<1.0
MW17A	11/8/16		10	<1.0	12	2.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	0.53 J	<10	<1.0	1.5	0.89 J	<1.0	<1.0	<1.0
MW17A	5/19/17		10	<1.0	14	2	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	0.65 J	<1.0	<1.0	0.61 J	<10	<1.0	1.2	0.86 J	<1.0	<1.0	<1.0
MW17A	11/1/17		13	<1.0	13	2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	0.85 J	<2.0	<1.0	<1.0	<5.0	<23	1.8	<10	<1.0	<0.5	<0.5

Appendix C

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3- chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide -	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 70 7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW17A	5/4/18		8.4	<1.0	10	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	1.3	<10	<1.0	<0.5	<1.0
MW17A	11/15/18		11	<1.0	11	1.5	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	0.67 J	<2.0	<1.0	0.45 J	<5.0	<5.0	<1.9	<10	<1.0	<0.5	<1.0
MW17A	5/15/19		4.3	<1.0	7.6	1.4	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	1.2	<10	<1.0	<0.5	<1.0
MW17A	11/15/19		5.3	<1.0	6.5	1.2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	0.54 J	<2.0	<1.0	<1.0	<5.0	<5.0	1.3	<10	<1.0	0.17 J	<1.0
MW17A	5/20/20		5.9	<1.0	6.4	1.1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	1.5	<10	<1.0	<0.5	<1.0
MW17A	11/12/20		3.4	<1.0	5.2	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW17A	5/6/21		3	<1.0	4.6	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	1.8 J	<1.0	<10	<1.0	<0.50	<1.0
MW17A	11/18/21		1.4	<1.0	4.2	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW17A	5/26/22		3.5	<1.0	4.7	0.78 J	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	0.64 J	<10 J	<1.0	<0.50	<1.0
MW17A	11/9/22		1.1	<1.0	3.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW17A	11/9/22		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	10/2/07		2.5	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/14/08		3.2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	8/12/09		7.5	<1.0	<1.0	0.66 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.2	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	10/21/09		6.6	<1.0	<1.0	0.7 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	4/1/10		13	<1.0	0.36 J	1.5	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	11/16/10		2.7	<1.0	0.59 J	0.34 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/10/11		6.1	<1.0	0.61 J	0.94 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/10/11	D	8	<1.0	0.57 J	1.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	11/9/11		<1.0	<1.0	0.55 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	11/9/11	D	<1.0	<1.0	0.56 J	<1.0	<2.0	<1.0	<1.0	0.22 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/10/12		22	<1.0	0.52	2.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	11/9/12		20	<1.0	0.56 J	3.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	6/6/13		24	<1.0	0.78 J	3.7	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	6/6/13	D	26	<1.0	0.76 J	3.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.42 J	<1.0	<1.0	<1.0
MW18	11/5/13		25	<1.0	0.96 J	3.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/13/14		33	<1.0	1.3	5.9	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	11/5/14		29	<1.0	1.2	5.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/13/15		34	<1.0	1.7	6.3	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	11/4/15		32	<1.0	1.6	5.6	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/10/16		25	<1.0	2	6.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	11/9/16		25	<1.0	2.7	6.1	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	5/19/17		31	<1.0	3.8	6.8	<2.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW18	10/31/17		15	<1.0	2.6	4.2	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<23	<1.0	<10	<1.0	<0.5	<0.5
MW18	5/4/18		13	<1.0	2.5	3.7	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW18	11/12/18		14	<1.0	3.8	3.3	<5.0	<1.0	<1.0	<0.5	<1.0	4.6	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW18	5/15/19		2.9	<1.0	1.4	0.93 J	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW18	11/14/19		2.9	<1.0	1.3	1	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW18	5/20/20		6.8	<1.0	2.6	2.8	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW18	11/16/20		5	<1.0	2.3	2.3	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW18	5/6/21		5.4	<1.0	2.2	2.3	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	1.8 J	<1.0	<10	<1.0	<0.50	<1.0
MW18	11/15/21		<1.0	<1.0	<1.0	<1.0	<5.0	8.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0 J	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW18	5/27/22		10	<1.0	3.7	3.2	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.7	<1.0	<10	<1.0	<0.50	<1.0
MW18	11/8/22		14	<1.0	4.5	3.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19	5/13/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19	11/5/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19	5/13/15		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19	11/3/15		<1.0	<1.0	<1.0	<1.0	<2																	

Appendix C

Historical Groundwater Monitoring Analytical Results (Detected Compounds)
 New Richmond Landfill (#2492)
 New Richmond, Wisconsin

Location	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1,2-Trichloroethane 5 0.5 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	1,2-Dibromo-3-chloropropane (DBCP) 0.2 0.02 ug/L	1,2-Dichloroethane 5 0.5 ug/L	1,2-Dichloropropane 5 0.5 ug/L	Benzene 5 0.5 ug/L	Bromodichloromethane 0.6 0.06 ug/L	Carbon Disulfide - - ug/L	Carbon tetrachloride 5 0.5 ug/L	Chloroethane 400 80 ug/L	Chloroform (Trichloromethane) 6 0.6 ug/L	Chloromethane (Methyl chloride) 30 3 ug/L	cis-1,2-Dichloroethene 70 7 ug/L	4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK) 500 50 ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L	Tetrahydrofuran 50 10 ug/L	trans-1,3-Dichloropropene 0.4 0.04 ug/L	Trichloroethene 5 0.5 ug/L	Vinyl chloride 0.2 0.02 ug/L
MW19	11/8/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19	10/31/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<23	<1.0	<10	<1.0	<0.5	<0.5
MW19	11/12/18		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW19	11/15/19		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW19	11/16/20		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW19	11/18/21		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW19	11/8/22		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19	11/8/22	D	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	5/13/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	5/13/14	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	11/5/14		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	5/13/15		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	5/13/15	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	11/3/15		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	11/8/16		<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	11/8/16	D	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0
MW19A	11/1/17		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<22	<1.0	<10	<1.0	<0.5	<0.5
MW19A	11/12/18		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW19A	11/12/18	D	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW19A	11/14/19		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW19A	11/16/20		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.5	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.5	<1.0
MW19A	11/18/21		<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<0.50	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<5.0	<5.0	<1.0	<10	<1.0	<0.50	<1.0
MW19A	11/8/22		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0

Notes:

All results are in ug/L

D - Duplicate

J - Estimated concentration

Bold Lettering - Exceeds PAL

Light Grey Background - Exceeds ES

Thommes (OLD) residential well was renamed MW-18 in 2014

Appendix D

Historical Residential Well Analytical Results

**Historical Residential Well Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Name	Phase	Date	Dup	ES PAL 200 40 ug/L	1,1,1-Trichloroethane 850 85 ug/L	1,1-Dichloroethane 7 0.7 ug/L	Carbon disulfide ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethane 5 0.5 ug/L
1070 192nd Ave	Hegge		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		8/12/09		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/6/10		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/9/11		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/8/12		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/14/13		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/13/14		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/13/15		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/10/16		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/18/17		<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/18/17	D	<1.0	<1.0	<1.0	<1.0		<1.0
1070 192nd Ave	Hegge		5/6/21		<1.0	<1.0	<1.0	<2.0	2.0 J	<1.0
1085 Cty Rd C	Brotzler		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
1087 Cty Rd C	Franko S		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
1098 Cty Rd C	Penman		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
1098 Cty Rd C	Penman		5/14/08	D	<1.0	<1.0	<1.0	<1.0		<1.0
1103 Cty Rd C	Deavy		10/2/07		<1.0	<1.0	<1.0	<1.0		<1.0
1965 104th St	Wittstock		8/28/09		<1.0	<1.0	<1.0	<1.0		<1.0
1965 110th St	Tamoshaitis		10/1/07		1.7	<1.0	<1.0	<1.0		<1.0
1968 115th St D	Karastes D	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1968 115th St D	Karastes D	Inf	5/29/07		46	42	7.4	<1.0		3.8

**Historical Residential Well Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Name	Phase	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	Carbon disulfide ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L
1968 115th St D	Karastes D	Inter	5/29/07		<1.0	6.8	<1.0	<1.0		<1.0
1968 115th St D	Karastes D	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
1968 115th St J	Karastes J	Inf	5/29/07		0.21 J	<1.0	<1.0	<1.0		<1.0
1968 115th St J	Karastes J	Inter	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1968 115th St J	Karastes J	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
1974 110th St	Backes		10/1/07		<1.0	<1.0	<1.0	<1.0		<1.0
1982 115th St	FormerClement		10/2/07		<1.0	<1.0	<1.0	<1.0		<1.0
1985 110th St	Potting	Inf	5/29/07		67	36	11	<1.0		3.6
1985 110th St	Potting	Inter	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1985 110th St	Potting	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
1985 115th St	Olson T	Inf	6/5/07		19	2.5	2.9	<1.0		1.1
1985 115th St	Olson T	Inter	6/5/07		<1.0	<1.0	<1.0	<1.0		<1.0
1985 115th St	Olson T	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
1987 115th St	Claassen	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1987 115th St	Claassen	Inf	5/29/07		140	29	23	<1.0		15
1987 115th St	Claassen	Inter	5/29/07		2.3	6.6	<1.0	<1.0		<1.0
1987 115th St	Claassen	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
1988 115th St	Kunz		10/2/07		1.4	1.6	<1.0	<1.0		<1.0
1988 115th St	Kunz		10/2/07	D	1	1.7	0.23 J	<1.0		<1.0
1989 110th St	Seim	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1989 110th St	Seim	Inf	5/29/07		170	52	29	<1.0		11

**Historical Residential Well Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Name	Phase	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	Carbon disulfide ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L
1989 110th St	Seim	Inter	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1989 110th St	Seim	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
1989 110th St	Seim	Inter	6/27/07	D	<1.0	<1.0	<1.0	<1.0		<1.0
1991 115th St	Mountain	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1991 115th St	Mountain	Inf	5/29/07		73	28	14	<1.0		6.4
1991 115th St	Mountain	Inter	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1991 115th St	Mountain	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
1997 110th St	Lehner	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1997 110th St	Lehner	Inf	5/29/07		34	17	4.8	<1.0		1.9
1997 110th St	Lehner	Inter	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
1997 110th St	Lehner	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
2001 110th St	Barberine		7/17/07		9.3	3	1.4	<1.0		0.52
2001 110th St	Barberine		10/1/07		8.2	2.6	0.76 J	<1.0		0.59 J
2001 110th St	Barberine		1/18/08		6.2	2.6	1.5	<1.0		0.61 J
2003 110th St	Wicklem	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
2003 110th St	Wicklem	Inf	5/29/07		56	42	9.1	<1.0		3.6
2003 110th St	Wicklem	Inter	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
2003 110th St	Wicklem	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
2013 110th St	Heinecke	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
2013 110th St	Heinecke	Eff	5/29/07	D	<1.0	<1.0	<1.0	<1.0		<1.0
2013 110th St	Heinecke	Inf	5/29/07		87	26	14	<1.0		7.6

**Historical Residential Well Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Name	Phase	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	Carbon disulfide ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L
2013 110th St	Heinecke	Inter	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
2013 110th St	Heinecke	Eff	6/25/07		<1.0	<1.0	<1.0	<1.0		<1.0
2013 110th St	Heinecke	Inf	6/25/07		70	22	19	<1.0		7.6
2013 110th St	Heinecke	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
2025 110th St	Mondor	Eff	5/29/07		<1.0	<1.0	<1.0	<1.0		<1.0
2025 110th St	Mondor	Inf	5/29/07		52	29	8.3	<1.0		3.6
2025 110th St	Mondor	Inter	5/29/07		1.7	38	<1.0	<1.0		<1.0
2025 110th St	Mondor	Inter	6/27/07		<1.0	<1.0	<1.0	<1.0		<1.0
2025 110th St	Mondor	Inter	6/27/07	D	<1.0	<1.0	<1.0	<1.0		<1.0
2040 110th St	Levy(new)		10/1/07		<1.0	1.3	<1.0	<1.0		<1.0
2040 110th St	Levy(new)		10/1/07	D	<1.0	1.5	<1.0	<1.0		<1.0
2054 County Road C			5/13/14		<1.0	<1.0	<1.0	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)	Eff	4/1/10		<1.0	<1.0	<1.0	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)	Inf	4/1/10		<1.0	<1.0	<1.0	0.36 J		<1.0
2055 Cty Rd C	Thommes (NEW)		5/9/11		<1.0	<1.0	<1.0	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/8/12		<1.0	<1.0	0.28	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/14/13		<1.0	0.49 J	0.26 J	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/13/14		<1.0	0.94 J	0.53 J	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/13/15		<1.0	1.3	0.76 J	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		11/4/15		<1.0	1.5	0.98 J	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/10/16		1	1.9	1.3	<1.0		<1.0

**Historical Residential Well Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Name	Phase	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	Carbon disulfide ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L
2055 Cty Rd C	Thommes (NEW)		5/10/16		0.98 J	1.9	1.3	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		11/9/16		1.7	2.1	1.4	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/19/17		2.2	2.5	1.4	<1.0		<1.0
2055 Cty Rd C	Thommes (NEW)		10/31/17		2.1	2.4	1.2	<2.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/3/18		1.9	2.3	2.1	<2.0		<1.0
2055 Cty Rd C	Thommes (NEW)		11/12/18		1.6	2.5	1.7	3.5		<1.0
2055 Cty Rd C	Thommes (NEW)		5/15/19		0.88 J	1.8	1.2	<2.0		<1.0
2055 Cty Rd C	Thommes (NEW)		11/14/19		0.81 J	1.5	1	<2.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/19/20		0.74 J	1.4	1	<2.0		<1.0
2055 Cty Rd C	Thommes (NEW)		11/16/20		0.84 J	1.8	1.2	<2.0		<1.0
2055 Cty Rd C	Thommes (NEW)		5/6/21		<1.0	1.3	1.0	<2.0	1.8 J	<1.0
2055 Cty Rd C	Thommes (NEW)		11/15/21		<1.0	1.8	1.3	<2.0	<5.0	<1.0
2055 Cty Rd C	Thommes (NEW)		5/27/22		<1.0	0.81 J	0.48 J	<2.0	<5.0	<1.0
2055 Cty Rd C	Thommes (NEW)		11/8/22		<1.0	1.1	0.80 J	<1.0	<1.0	<1.0
2055 Cty Rd C(Treated)	Thommes (NEW)		5/15/19		0.79 J	1.6	1.1	<2.0		<1.0
2055 Cty Rd C(Treated)	Thommes (NEW)		11/14/19		<1.0	<1.0	<1.0	<2.0		<1.0
2056 Cty Rd C	TNT Metals		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		4/1/10		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/9/11		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/8/12		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/14/13		<1.0	<1.0	<1.0	<1.0		<1.0

**Historical Residential Well Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Name	Phase	Date	ES PAL Dup	1,1,1-Trichloroethane 200 40 ug/L	1,1-Dichloroethane 850 85 ug/L	1,1-Dichloroethene 7 0.7 ug/L	Carbon disulfide ug/L	Methylene chloride 5 0.5 ug/L	Tetrachloroethene 5 0.5 ug/L
2056 Cty Rd C	TNT Metals		5/13/14		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/13/15		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/10/16		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/10/16	D	<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/18/17		<1.0	<1.0	<1.0	<1.0		<1.0
2056 Cty Rd C	TNT Metals		5/3/18		<1.0	<1.0	<1.0	<2.0		<1.0
2056 Cty Rd C	TNT Metals		5/15/19		<1.0	<1.0	<1.0	<2.0		<1.0
2056 Cty Rd C	TNT Metals		5/19/20		<1.0	<1.0	<1.0	<2.0		<1.0
2056 Cty Rd C	TNT Metals		5/6/21		<1.0	<1.0	<1.0	<2.0	1.9 J	<1.0
2056 Cty Rd C	TNT Metals		5/26/22		<1.0	<1.0	<1.0	<2.0	<5.0	<1.0
2061 Cty Rd C	Olson R (OLD)		10/2/07		<1.0	<1.0	<1.0	<1.0		<1.0
2061 Cty Rd C	Olson R (OLD)		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
2061 Cty Rd C	Olson R (OLD)		8/12/09		<1.0	<1.0	<1.0	<1.0		<1.0
2061 Cty Rd C	Olson R (OLD)		10/21/09		<1.0	<1.0	<1.0	<1.0		<1.0
2061 Cty Rd C	Olson R (NEW)		4/1/10		<1.0	<1.0	<1.0	<1.0		<1.0
2062 Cty Rd C	Star Prairie		7/2/13		<1.0	<1.0	<1.0	0.34 J		<1.0
2072 110th St	Aldous		10/2/07		<1.0	<1.0	<1.0	<1.0		<1.0
2072 Cty Rd C	Larson R		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
2073 Cty Rd C	Johnson D		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
2076 110th St	Hanson		10/1/07		<1.0	<1.0	<1.0	<1.0		<1.0
2077 110th St	Olson C		10/1/07		<1.0	<1.0	<1.0	<1.0		<1.0

**Historical Residential Well Analytical Results (Detected Compounds)
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

					1,1,1-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	Carbon disulfide	Methylene chloride	Tetrachloroethene
				ES	200	850	7		5	5
				PAL	40	85	0.7		0.5	0.5
Location	Name	Phase	Date	Dup	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
2078 114th St	Rivard		10/1/07		<1.0	<1.0	<1.0	<1.0		<1.0
2080 Asplund Rd	Deal		10/2/07		<1.0	<1.0	<1.0	<1.0		<1.0
2082 110th St	Bryant		10/1/07		<1.0	<1.0	<1.0	<1.0		<1.0
2082 Asplund Rd	Brown		10/2/07		1.2	0.68 J	<1.0	<1.0		<1.0
2118 Cook Dr	Star Prairie Town Hall		5/14/08		<1.0	<1.0	<1.0	<1.0		<1.0
985 198th St			7/2/13		<1.0	<1.0	<1.0	<1.0		<1.0

Notes:

All results are in ug/L

D - Duplicate

J - Estimated concentration

Bold Lettering - Exceeds PAL

Grey Background - Exceeds ES

Appendix E

Historical SVE/LFG System Monitoring Data

Appendix E.1

**Historical SVE/LFG System Blower (Stack) Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		
Stack	09/23/08	28.9	0.3	0.5	93	1,250	-
Stack	09/25/08	13.9	1.8	1.4	98	1,250	-
Stack	10/01/08	1.6	6.3	0.6	100	1,275	-
Stack	10/07/08	0.6	10.3	0.7	96	1,300	-
Stack	10/15/08	0.4	12.2	0.9	100	1,280	-
Stack	10/30/08	0.4	13.9	1.0	92	1,100	-
Stack	11/13/08	0.1	14.5	0.2	88	1,100	-
Stack	11/26/08	0.0	15.6	0.3	84	1,100	-
Stack	01/22/09 ¹	0.5	14.0	0.8	80	1,250	24,900
Stack	02/05/09	0.0	16.0	0.8	82	1,230	2,840
Stack	02/16/09	0.0	17.0	0.7	80	1,260	3,200
Stack	03/16/09	0.0	16.5	0.8	80	1,310	3,350
Stack	04/24/09	0.0	16.7	1.4	84	1,360	2,420
Stack	05/20/09	0.0	17.1	1.5	92	1,340	1,500
Stack	06/23/09	0.0	16.3	1.8	106	1,282	1,950
Stack	07/23/09	0.0	16.5	1.1	106	1,357	6,420
Stack	08/20/09	0.0	16.0	2.0	108	1,407	8,240
Stack	09/23/09	0.0	16.9	2.2	108	1,458	7,850
Stack	10/20/09	0.0	16.7	1.4	96	1,445	7,200
Stack	11/24/09	0.0	16.9	1.4	92	1,450	6,550
Stack	12/29/09	0.0	19.2	1.4	86	1,916 ²	7,230
Stack	01/29/10	0.1	18.3	1.7	86	1,051	NA ³
Stack	02/22/10	0.2	20.8	1.6	80	1,732	10,700
Stack	03/26/10	0.0	16.9	1.2	84	1,552	3,040
Stack	04/22/10	0.0	18.0	1.6	88	1,574	2,130
Stack	05/18/10	0.0	17.7	2.2	90	1,568	6,530
Stack	06/29/10	0.0	16.9	2.2	104	1,354	4,760
Stack	07/23/10	0.0	16.8	2.2	110	1,357	4,650
Stack	08/27/10	4.4	9.4	2.2	108	1,369	NA ³
Stack	10/01/10	3.5	9.1	1.8	98	1,353	NA ³
Stack	10/22/10	1.9	13.7	1.4	96	1,444	NA ³
Stack	11/29/10	0.1	17.0	1.2	90	1,504	13,400
Stack	12/22/10	0.7	17.4	2.0	84	1,127	16,400
Stack	01/24/11	0.0	18.8	0.8	89	1,207	7,610
Stack	02/28/11	0.0	16.6	0.0	88	906 ⁴	5,970
Stack	04/13/11	0.2	17	0.6	90	970 ⁴	9,430

Appendix E.1

**Historical SVE/LFG System Blower (Stack) Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
Stack	04/29/11	0.1	17.8	1.0	88	1,203	9,850
Stack	05/27/11	0.0	18.2	1.1	94	1,313	6,850
Stack	06/24/11	0.1	17.5	1.2	101	1,230	5,820
Stack	07/22/11	0.0	18.3	1.4	108	1,290	4,800
Stack	08/25/11	2.1	14.6	1.3	106	1,347	23,200
Stack	09/30/11	0.1	17.8	2.2	102	1,421	2,670
Stack	10/26/11	0.1	17.0	1.6	96	1,534	3,270
Stack	11/22/11	0.0	17.5	1.5	94	1,454	5,170
Stack	12/29/11	0.1	18.4	1.4	88	1,493	5,000
Stack	01/26/12	0.3	16.3	1.4	80	1,410	33,350
Stack	02/21/12	0.0	18.0	1.0	85	1,456	5,270
Stack	03/30/12	0.0	17.8	0.9	93	1,235	3,301
Stack	04/27/12	0.0	16.8	1.2	92	1,400	3,920
Stack	05/25/12	0.2	19.5	1.2	96	1,509	7,350
Stack	06/26/12	0.3	15.7	1.7	104	1,415	24,820
Stack	07/25/12	0.7	16.5	1.0	112	1,010	28,890
Stack	08/22/12	0.0	17.7	1.9	108	1,549	6,950
Stack	09/25/12	0.3	17.6	2.3	106	2,005	4,010
Stack	10/30/12	0.0	18.1	2.0	56	1,974	650 ⁵
Stack	11/21/12 ⁶	0.0	18.3	1.7	90	1,708	3,140
Stack	12/21/12 ⁶	3.5	13.7	1.8	70	1,000 ⁴	NA ³
Stack	1/3/13 ⁶	0.1	17.9	0.8	80	1,501	8,190
Stack	1/28/13	0.0	17.7	2.8	82	1,680	7,600
Stack	2/27/13	0.0	18.1	1.2	80	1,608	6,160
Stack	3/25/13	0.0	17.9	1.0	84	1,447	8,680
Stack	04/26/13	0.8	16.3	0.6	40	1,257	44,710
Stack	05/30/13	0.0	18.3	1.2	90	1,341	2,740
Stack	06/27/13	0.4	17.3	1.2	62	2,114	7,200
Stack	07/25/13	0.0	17.9	1.4	108	2,301	1,980
Stack	08/30/13	0.1	19.6	1.3	84	1,269	2,213
Stack	09/25/13	0.1	18.8	2.0	100	2,115	2,680
Stack	10/23/13	0.0	18.6	3.7	57	2,335	1,150
Stack	11/20/13	0.0	18.4	3.1	52	2,134	2,370
Stack	12/18/13	0.0	18.6	1.3	82	1,437	1,690
Stack	05/13/14 ⁷	3.7	10.1	0.1	86	616 ⁴	8,490
Stack	05/28/14 ⁷	0.0	17.6	0.9	88	2,174	10,200

Appendix E.1

**Historical SVE/LFG System Blower (Stack) Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
Stack	06/26/14	0.0	17.9	1.3	98	1,324	4,010 ⁵
Stack	07/31/14	3.3	14.6	1.9	98	1,653	10,190
Stack	08/28/14	7.0	12.0	2.0	92	3,163	21,840
Stack	09/26/14	0.0	17.7	2.0	100	1,367	1,530
Stack	10/24/14	0.0	18.3	1.2	92	1,516	2,430
Stack	11/19/14	0.1	16.4	1.6	82	1,712	4,530
Stack	12/17/14	0.0	18.7	1.8	82	1,745	700
Stack	01/21/15	0.0	18.7	1.6	78	1,588	510
Stack	02/26/15	0.0	17.1	1.4	85	1,602	7,820
Stack	03/17/15	0.0	19.4	2.2	90	1,908	1,130
Stack	04/17/15	0.0	16.7	1.9	82	1,704	2,910
Stack	05/12/15	0.0	18.8	3.2	85	2,033	990
Stack	06/25/15	0.0	17.7	2.6	96	1,955	340
Stack	07/31/15	0.0	18.7	2.4	108	1,809	450
Stack	08/19/15	0.0	18.5	2.7	98	3,114	530
Stack	09/24/15	0.2	17.9	1.7	100	2,090	2,370
Stack	10/22/15	0.0	18.9	1.8	90	2,612	770
Stack	11/12/15	0.6	15.4	0.1	110	550	12,250
Stack	12/17/15	0.7	14.9	0.1	110	464	NA ³
Stack	1/21/16	0.5	16.1	0.1	35	401	18,650
Stack	2/24/16	0.6	13.3	0.2	98	458	NA ³
Stack	3/22/16	0.0	15.4	0.1	85	448	NA ³
Stack	4/22/16	0.1	17.4	1.1	112	459	2,120
Stack	5/19/16	0.0	17	0.2	115	403	3,600
Stack	6/14/16	0.0	16.4	0.2	120	415	3,700
Stack	7/27/16	0.1	15.3	0.3	124	494	3,870
Stack	8/10/16	0.3	16.1	0.1	130	444	3,760
Stack	9/15/16	0.3	14.9	0.2	110	458	4,120
Stack	10/26/16	1.1	12.9	0.2	51	537	NA ³
Stack	11/23/16	1.4	12.3	0	50	547	NA ³
Stack	12/13/16	0.0	18.7	0.2	45	593	5,096
Stack	1/10/17	0.4	14.7	0.1	40	488	NA ³
Stack	2/14/17	0.0	17.4	0.2	44	499	2,167
Stack	3/7/17	0.3	17.2	0	40	437	3,491
Stack	4/5/17	0.5	14.5	0.2	50	378	NA ³
Stack	5/25/17	0.2	13.0	0.7	53	430	NA ³
Stack	6/28/17	0.0	16.5	0.0	63	910	3,117
Stack	7/24/17	0.0	17.8	0.0	68	962	3,710

Appendix E.1

**Historical SVE/LFG System Blower (Stack) Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
Stack	8/14/17	0.0	17.1	0.0	66	964	4,989
Stack	9/13/17	0.3	15.9	0.0	67	0 ⁸	NA ³
Stack	10/30/17	0.4	14.3	0.0	54	448	NA ³
Stack	11/17/17	0.0	16.4	0.0	55	447	NA ³
Stack	12/7/17	0.0	18.4	0.0	52	464	3,841
Stack	1/24/18	1.7	14.8	0.2	37	535	NA ³
Stack	2/13/18	0.0	17.1	0.2	44	459	3,909
Stack	3/5/18	0.0	17.5	0.2	45	504	3,220
Stack	4/4/18	0.0	14.9	0.1	36	559	NA ³
Stack	5/17/18	0.2	13.7	1.0	56	300	-
Stack	7/3/18	0.0	16.7	0.8	68	300	-
Stack	7/31/18	0.0	14.9	0.3	69	300	-
Stack	8/30/18	0.4	15.4	0.6	64	300	-
Stack	9/28/18	0.0	16.3	1.6	56	300	2,257
Stack	11/16/18	0.1	16.8	0.1	50	446	> 4,194
Stack	12/13/18	0.5	15.9	0.1	42	622	> 5,745
Stack	1/23/19	0.8	13.5	-1.8	37	567	9,973
Stack	2/22/19	0.6	14.9	0.3	36	509	9,801
Stack	4/2/19	0.4	14.0	1.6	41	559	8,658
Stack	4/26/19	0.1	15.0	1.4	46	527	6,682
Stack	5/29/19	0.0	14.4	0.1	54	455	4,358
Stack	6/18/19	0.0	16.0	0.1	64	489	3,506
Stack	7/23/19	0.0	16.1	0.8	68	479	1,132
Stack	8/29/19	0.1	14.9	0.8	66	506	3,174
Stack	9/12/19	0.1	15.9	3.0	62	478	6,166
Stack	10/31/19	0.2	17.0	0.1	54	448	4,854
Stack	11/25/19	0.5	19.2	0.2	46	474	-
Stack	2/18/20	0.2	17.0	1.4	41	445	4,381
Stack	6/23/20	0.0	16.3	1.4	70	371	881
Stack	8/17/20	0.0	14.8	0.1	72	361	-
Stack	11/5/20	0.2	14.9	0.0	52	647	4,421
Stack	1/20/21	0.2	17.2	0.2	36	546	5,621
Stack	2/19/21	0.2	17.4	-1.7	34	NA ⁸	7,721
Stack	3/25/21	0.4	12.9	1.1	44	481	NA ⁸
Stack	4/22/21	0.0	17.6	0.1	48	585	1,811
Stack	5/21/21	0.0	17.0	0.0	56	536	1,220
Stack	6/17/21	0.0	17.5	0.0	65	513	465
Stack	7/15/21	0.0	16.9	0.2	70	511	-
Stack	8/12/21	0.0	19.3	0.2	67	337	223

Appendix E.1

**Historical SVE/LFG System Blower (Stack) Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			
Stack	9/23/21	0.0	16.0	0.4	60	406	11,900
Stack	10/21/21	0.0	17.8	0.2	61	512	2,814
Stack	11/30/21	0.3	14.3	0.2	40	565	9,877
Stack	12/21/21	0.0	14.9	0.2	36	530	5,079
Stack	1/31/22	0.1	14.4	0.4	35	567	753
Stack	2/28/22	0.1	18.8	0.3	42	543	2,152
Stack	3/28/22	0.0	13.1	0.1	36	537	3,470
Stack	4/28/22	0.0	16.2	1.9	46	478	3,523
Stack	5/26/22	0.0	16.6	4.7	54	498	808
Stack	6/23/22	0.0	18.9	2.6	68	475	145
Stack	7/26/22	0.0	18.7	1.6	68	521	738
Stack	8/23/22	0.0	17.0	1.6	70	492	1,288
Stack	9/29/2022	0.0	18.4	-	68	529	392
Stack	10/27/22	0.0	18.3	-	58	516	1,841
Stack	12/6/22	0.2	15.0	1.7	45	562	6,137

Notes:

¹ System was restarted on 1/19/09 after being down for a month for SVE well cleaning and condensate collection system installation.

² During the 12/29/09 inspection, the pitot tube flow measurement device was noted to be slightly misaligned. The pitot tube was realigned resulting in a higher flow rate versus previous months.

³ No reading could be obtained; FID flamed out because of low oxygen level.

⁴ Tubing connecting Pitot tube from discharge stack to manometer was blocked or cracked.

⁵ FID taken with Thermo Scientific TVA 1000 Vapor Analyzer.

⁶ System was shutdown on 11/21/12 following monthly monitoring for 1 month shutdown period.

Post 1 month shutdown monitoring was conducted at startup (12/21/12) and two weeks after startup (1/3/13).

⁷ System was shutdown on 1/10/14 for a 4 month shutdown period.

Post 4 month shutdown monitoring was conducted at startup (5/13/14) and two weeks after startup (5/28/14).

⁸ Could not obtain flow reading.

⁹ Values could not be obtained due to equipment error.

With approval from the WDNR on 10/21/15, the System was put into part time (16 hrs/day) operational mode on 10/29/15. Select SVE wells were turned off, and LFG wells were adjusted to focus extraction around the GP-2 nest.

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-1	08/27/08 ¹	1.1	19.2	0.0	-	-	-	-
SVE-1	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-1	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-1	10/1/08 ²	-	-	-	-	-	90 - 100	-
SVE-1	10/07/08	0.1	10.5	-47.4	-	29	90 - 100	-
SVE-1	10/15/08	0.0	14.4	-47.8	-	0	90 - 100	-
SVE-1	10/30/08	0.0	15.9	-47.9	-	0	90 - 100	635
SVE-1	11/13/08	0.0	16.7	-47.3	-	0	90 - 100	222
SVE-1	11/26/08	0.0	17.3	-49.4	-	0	90 - 100	-
SVE-1	01/22/09 ³	0.0	16.9	-50.0	-	42	90 - 100	1,300
SVE-1	02/05/09	0.0	17.8	-50.7	-	43	90 - 100	49
SVE-1	02/16/09	0.0	19.0	-51.0	-	43	90 - 100	120
SVE-1	03/16/09	0.0	18.8	-49.6	-	0	90 - 100	108
SVE-1	04/24/09	0.0	19.2	-47.6	-	42	90 - 100	147
SVE-1	05/20/09	0.0	19.2	-46.8	-	49	90 - 100	25
SVE-1	06/23/09	0.0	18.4	-45.2	-	30	90 - 100	63
SVE-1	07/23/09	0.0	18.1	-44.3	-	32	90 - 100	50
SVE-1	08/20/09	0.0	18.0	-43.0	-	32	50	178
SVE-1	09/23/09	0.0	18.6	-43.8	-	29	50	152
SVE-1	10/20/09	0.0	19.1	-46.2	-	36	50	64
SVE-1	11/24/09	0.0	19.0	-45.8	-	36	50	127
SVE-1	12/29/09	0.0	18.7	-47.0	-	37	50	105
SVE-1	01/29/10	0.0	20.9	-46.9	-	34	50	11
SVE-1	02/22/10	0.1	19.9	-47.1	-	40	50	5
SVE-1	03/26/10	0.0	18.5	-46.1	-	37	50	64
SVE-1	04/22/10	0.0	19.6	-44.4	-	31	50	8
SVE-1	05/18/10	0.0	19.1	-44.4	-	13	50	460
SVE-1	06/29/10	0.0	18.6	-44.7	-	30	50	87
SVE-1	07/23/10	0.0	18.2	-41.9	-	33	50	170
SVE-1	08/27/10	0.0	15.8	-43.7	-	38	50	192
SVE-1	10/01/10	0.0	16.1	-46.5	-	32	50	3,270
SVE-1	10/22/10	0.0	17.6	-46.0	-	32	50	185
SVE-1	11/29/10	0.0	19.2	-44.0	-	50	50	20
SVE-1	12/22/10	0.0	20.4	-46.5	-	50	50	171
SVE-1	01/24/11	0.0	21.5	-45.2	-	50	50	320
SVE-1	02/28/11	0.0	18.7	-46.0	-	50	50	195
SVE-1	04/13/11	0.0	19.5	-49.1	-	40	50	241
SVE-1	04/29/11	0.0	20.1	-47.8	-	41	50	354
SVE-1	05/27/11	0.0	19.7	-42.0	-	50	50	682
SVE-1	06/24/11	0.0	19.1	-45.5	-	0 ⁴	50	190
SVE-1	07/22/11	0.0	18.3	-43.4	-	0 ⁴	50	257
SVE-1	08/25/11	0.0	17.5	-44.6	-	0 ⁴	50	325
SVE-1	09/30/11	0.0	19.8	-43.3	-	0 ⁴	50	250

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-1	10/26/11	0.0	18.4	-44.3	-	0 ⁴	50	12
SVE-1	11/22/11	0.0	19.3	-44.7	-	40	50	250
SVE-1	12/29/11	0.1	20.2	-45.2	-	49	50	160
SVE-1	01/26/12	0.0	19.6	-45.1	-	54	50	84
SVE-1	02/21/12	0.0	19.9	-46.0	-	50	50	231
SVE-1	03/30/12	0.0	19.7	-45.6	-	0 ⁴	50	327
SVE-1	04/27/12	0.0	18.3	-47.2	-	46	50	210
SVE-1	05/25/12	0.0	21.2	-42.5	-	0 ⁴	50	130
SVE-1	06/26/12	0.0	18.5	-44.3	-	42	50	120
SVE-1	07/25/12	0.0	17.7	-45.1	-	0 ⁴	50	140
SVE-1	08/22/12	0.0	18.6	-40.3	-	33	50	300
SVE-1	09/25/12	0.0	19.2	-35.4	-	36	50	17
SVE-1	10/30/12	0.0	19.4	-38.4	-	0 ⁴	50	NA ¹¹
SVE-1	11/21/12	0.0	19.8	-42.8	-	0 ⁴	50	20
SVE-1	12/21/12 ¹²	0.0	17.8	-43.6	-	57	50	315
SVE-1	01/03/13 ¹²	0.0	20.1	-45.4	-	41	50	230
SVE-1	01/28/13	0.0	20.4	-48.8	-	33	50	730
SVE-1	02/27/13	0.0	20.1	-47.2	-	0 ⁴	50	231
SVE-1	03/25/13	0.0	19.7	-46.1	-	0 ⁴	50	650
SVE-1	04/26/13	0.0	19.0	-49.5	-	50	50	214
SVE-1	05/30/13	0.0	20.0	-47.3	-	49	50	130
SVE-1	06/27/13	0.0	18.9	-34.5	-	0 ⁴	50	74
SVE-1	07/25/13	0.0	18.6	-40.8	-	36	50	5
SVE-1	08/30/13	0.0	20.0	-41.1	-	0 ⁴	50	96
SVE-1	09/25/13	0.0	20.2	-41.5	-	32	50	110
SVE-1	10/23/13	0.0	20.2	-43.2	-	40	50	1
SVE-1	11/20/13	0.0	19.9	-45.3	-	0 ⁴	50	120
SVE-1	12/18/13	0.0	21.4	-47.0	-	56	50	55
SVE-1	05/13/14 ¹³	0.0	11.9	0.0	-	48	50	290
SVE-1	05/28/14 ¹³	0.0	20.8	-44.8	-	0 ⁴	50	200
SVE-1	06/26/14	0.0	18.9	-45.8	-	0 ⁴	50	20 ¹¹
SVE-1	07/31/14	0.0	20.5	-44.5	-	0 ⁴	50	43
SVE-1	08/28/14	0.0	14.9	-45.0	-	59	50	257
SVE-1	09/26/14	0.0	18.8	-46.3	-	39	50	48
SVE-1	10/24/14	0.0	19.4	-46.8	-	59	50	190
SVE-1	11/19/14	0.0	19.9	-46.0	-	0 ⁴	50	67
SVE-1	12/17/14	0.0	20.2	-45.5	-	37	50	110
SVE-1	01/21/15	0.0	19.9	-47.0	-	0 ⁴	50	7
SVE-1	02/26/15	0.0	20.1	-47.8	-	57	50	330
SVE-1	03/17/15	0.0	20.1	-20.5	-	47	50	16
SVE-1	04/17/15	0.0	19.6	-16.0	-	0 ⁴	50	12
SVE-1	05/12/15	0.0	19.7	-17.9	-	50	50	5
SVE-1	06/25/15	0.0	18.2	-15.6	-	0 ⁴	50	51

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-1	07/31/15	0.0	20.7	0.0	-	0 ⁴	50	6
SVE-1	08/19/15	0.0	20.7	-0.1	-	0 ⁴	50	250
SVE-1	09/24/15	0.0	20.9	-0.1	-	0 ⁴	50	250
SVE-1	10/22/15	0.0	20.1	-19.1	-	0 ⁴	50	77
SVE-1	04/22/16	0.0	19.0	-5.0	50	0	-	120
SVE-1	10/26/16	0.0	14.7	-6.9	51	0	-	NA ⁶
SVE-1	04/05/17	0.0	14.3	-7.7	50	0	-	NA ⁶
SVE-1	10/30/17	0.0	16.7	-10.2	54	0	-	674
SVE-1	05/17/18	0.0	17.6	-8.0	56	0	-	-
SVE-1	11/16/18	0.0	16.4	-12.8	50	0	-	0
SVE-1	04/26/19	0.0	18.2	-11.8	46	0	-	27
SVE-1	10/31/19	0.0	19.0	-15.2	54	0	-	674
SVE-1	06/23/20	0.0	18.0	-9.4	70	0	-	0
SVE-1	11/05/20	0.0	17.5	-12.8	52	0	-	286
SVE-1	04/22/21	0.0	19.4	-12.5	48	0	-	14
SVE-1	10/21/21	0.0	18.8	-11.6	61	0	-	267
SVE-1	04/28/22	0.0	19.4	-13.1	46	0	-	461
SVE-1	10/27/22	0.0	18.0	-6.7	58	0	-	429
SVE-2	08/27/08 ¹	8.3	3.1	0.2	-	-	-	-
SVE-2	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-2	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-2	10/01/08 ²	-	-	-	-	-	90 - 100	-
SVE-2	10/07/08	0.9	8.7	-47.1	-	30	90 - 100	-
SVE-2	10/15/08	0.3	12.0	-47.4	-	40	90 - 100	-
SVE-2	10/30/08	0.0	13.9	-47.6	-	0	90 - 100	3,300
SVE-2	11/13/08	0.0	15.3	-46.9	-	0	90 - 100	1,350
SVE-2	11/26/08	0.0	15.7	-49.1	-	13	90 - 100	-
SVE-2	01/22/09 ^{3,5}	-	-	-	-	-	90 - 100	-
SVE-2	02/05/09 ⁵	-	-	-	-	-	90 - 100	-
SVE-2	02/16/09 ⁵	-	-	-	-	-	90 - 100	-
SVE-2	03/16/09 ⁵	-	-	-	-	-	90 - 100	-
SVE-2	04/24/09	0.0	16.7	-44.1	-	93	90 - 100	787
SVE-2	05/20/09	0.0	16.6	-43.1	-	104	90 - 100	670
SVE-2	06/23/09	0.0	15.4	-41.8	-	100	90 - 100	805
SVE-2	07/23/09	0.0	15.2	-40.8	-	100	90 - 100	2,310
SVE-2	08/20/09	0.0	16.0	-42.7	-	87	150	730
SVE-2	09/23/09	0.0	16.4	-43.5	-	98	150	588
SVE-2	10/20/09	0.0	17.2	-45.8	-	108	150	444
SVE-2	11/24/09	0.0	17.2	-45.5	-	106	150	425
SVE-2	12/29/09	0.0	16.9	-46.6	-	109	150	216
SVE-2	01/29/10	0.0	19.2	-46.6	-	125	150	75
SVE-2	02/22/10	0.0	18.1	-45.8	-	105	150	91

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-2	03/26/10	0.0	16.7	-45.8	-	104	150	194
SVE-2	04/22/10	0.0	17.7	-44.0	-	106	150	65
SVE-2	05/18/10	0.0	17.0	-44.0	-	100	150	745
SVE-2	06/29/10	0.0	16.8	-44.2	-	101	150	225
SVE-2	07/23/10	0.0	16.2	-41.5	-	95	150	412
SVE-2	08/27/10	0.0	12.9	-43.3	-	106	150	520
SVE-2	10/01/10	0.0	13.5	-46.2	-	121	150	3,130
SVE-2	10/22/10	0.0	13.7	-45.8	-	106	150	2,420
SVE-2	11/29/10	0.0	16.5	-45.8	-	109	150	1,780
SVE-2	12/22/10	0.0	17.7	-48.5	-	128	150	310
SVE-2	01/24/11	0.0	19.1	-48.2	-	132	150	460
SVE-2	02/28/11	0.0	16.9	-49.3	-	118	150	289
SVE-2	04/13/11	0.0	16.7	-48.8	-	116	150	331
SVE-2	04/29/11	0.0	17.6	-47.5	-	98	150	520
SVE-2	05/27/11	0.0	17.8	-46.7	-	122	150	730
SVE-2	06/24/11	0.0	17.0	-45.2	-	109	150	400
SVE-2	07/22/11	0.0	15.5	-43.2	-	98	150	825
SVE-2	08/25/11	0.0	15.6	-44.1	-	116	150	3,660
SVE-2	09/30/11	0.0	17.6	-42.8	-	150	150	1,530
SVE-2	10/26/11	0.0	16.4	-44.1	-	60	150	350
SVE-2	11/22/11	0.0	17.2	-44.2	-	86	150	590
SVE-2	12/29/11	0.0	18.0	-44.6	-	113	150	1,480
SVE-2	01/26/12	0.0	16.2	-44.4	-	35	150	2,591
SVE-2	02/21/12	0.0	17.2	-45.8	-	84	150	1,180
SVE-2	03/30/12	0.0	17.0	-46.4	-	109	150	612
SVE-2	04/27/12	0.0	16.2	-46.7	-	110	150	1,430
SVE-2	05/25/12	0.0	18.8	-45.0	-	84	150	400
SVE-2	06/26/12	0.0	16.2	-43.9	-	85	150	690
SVE-2	07/25/12	0.0	14.9	-44.6	-	80	150	780
SVE-2	08/22/12	0.0	16.3	-39.7	-	87	150	580
SVE-2	09/25/12	0.0	16.3	-39.9	-	131	150	1,710
SVE-2	10/30/12	0.0	17.4	-40.1	-	126	150	28 ¹¹
SVE-2	11/21/12	0.0	17.7	-42.4	-	120	150	240
SVE-2	12/21/12 ¹²	1.0	12.8	-44.4	-	141	150	NA ⁶
SVE-2	01/03/13 ¹²	0.0	17.7	-45.4	-	143	150	980
SVE-2	01/28/13	0.0	17.9	-48.1	-	0 ⁴	150	2,270
SVE-2	02/27/13	0.0	17.5	-47.0	-	0 ⁴	150	3,230
SVE-2	03/25/13	0.0	17.5	-45.6	-	0 ⁴	150	3,110
SVE-2	04/26/13	0.5	13.8	-46.4	-	0 ⁴	150	30,380
SVE-2	05/30/13	0.0	18.4	-47.7	-	0 ⁴	150	96
SVE-2	06/27/13	0.0	16.1	-38.8	-	0 ⁴	150	840
SVE-2	07/25/13	0.0	17.5	-40.4	-	50	150	27
SVE-2	08/30/13	0.0	18.3	-40.6	-	60	150	120

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-2	09/25/13	0.0	17.8	-20.2	-	48	150	140
SVE-2	10/23/13	0.0	18.6	-42.7	-	109	150	16
SVE-2	11/20/13	0.0	20.8	-44.4	-	0 ⁴	150	140
SVE-2	12/18/13	0.0	19.9	-46.9	-	146	150	79
SVE-2	05/13/14 ¹³	0.7	9.1	38.0	-	124	150	NA ⁶
SVE-2	5/28/14 ¹³	0.0	17.0	-7.2	-	0 ⁴	150	5,890
SVE-2	06/26/14	0.0	17.3	-45.2	-	124	150	400 ¹¹
SVE-2	07/31/14	1.8	15.1	-44.0	-	147	150	2,810
SVE-2	08/28/14	5.0	8.0	-44.6	-	108	150	NA ⁶
SVE-2	09/26/14	0.0	17.4	-45.8	-	138	150	55
SVE-2	10/24/14	0.0	18.4	-46.3	-	143	150	200
SVE-2	11/19/14	0.0	17.2	-45.8	-	151	150	71
SVE-2	12/17/14	0.0	19.4	-44.6	-	144	150	180
SVE-2	01/21/15	0.0	19.2	-46.3	-	111	150	8
SVE-2	02/26/15	0.0	18.6	-47.2	-	158	150	66
SVE-2	03/17/15	0.0	18.4	-45.3	-	142	150	9
SVE-2	04/17/15	0.0	19.1	-43.2	-	0 ⁴	150	14
SVE-2	05/12/15	0.0	19.0	-41.6	-	147	150	6
SVE-2	06/25/15	0.0	18.4	-38.9	-	152	150	47
SVE-2	07/31/15	0.0	18.7	-38.5	-	152	150	9
SVE-2	08/19/15	0.0	18.7	-39.6	-	105	150	90
SVE-2	09/24/15	0.0	18.1	-44.9	-	105	150	210
SVE-2	10/22/15	0.0	19.3	-43.2	-	0 ⁴	150	57
SVE-2	04/22/16	0.0	16.1	-1.2	50	0	-	270
SVE-2	10/26/16	0.0	13.4	-0.2	51	0	-	NA ⁶
SVE-2	04/05/17	0.0	16.3	-0.1	50	0	-	741
SVE-2	10/30/17	0.0	20.0	0.0	54	0	-	1,008
SVE-2	05/17/18	0.0	19.5	-6.5	56	0	-	-
SVE-2	11/16/18	0.0	17.1	-10.0	50	0	-	217
SVE-2	04/26/19	0.0	17.3	-10.0	46	0	-	52
SVE-2	10/31/19	0.0	18.8	-13.0	54	0	-	0
SVE-2	06/23/20	0.0	16.9	-0.2	70	0	-	14
SVE-2	11/05/20	0.0	16.4	-10.5	52	0	-	14
SVE-2	04/22/21	0.0	19.8	-11.9	48	0	-	26
SVE-2	10/21/21	0.0	18.5	-10.2	61	0	-	45
SVE-2	04/28/22	0.0	16.9	-10.4	46	0	-	70
SVE-2	10/27/22	0.0	19.2	-8.5	58	0	-	14
SVE-3	08/27/08 ¹	6.1	3.5	0.6	-	-	-	-
SVE-3	09/23/08	8.5	0.0	-12.2	-	89	90 - 100	-
SVE-3	09/25/08	3.0	2.8	-13.7	-	91	90 - 100	-
SVE-3	10/01/08	0.2	6.9	-14.5	-	93	90 - 100	-
SVE-3	10/07/08	0.1	11.0	-17.4	-	116	90 - 100	-

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-3	10/15/08	0.0	13.1	-14.5	-	104	90 - 100	-
SVE-3	10/30/08	0.0	14.5	-13.6	-	89	90 - 100	730
SVE-3	11/13/08	0.0	15.4	-11.7	-	99	90 - 100	455
SVE-3	11/26/08	0.0	16.8	-13.8	-	100	90 - 100	-
SVE-3	01/22/09 ³	0.0	15.0	-13.6	-	100	90 - 100	1,510
SVE-3	02/05/09	0.0	17.3	-11.7	-	104	90 - 100	371
SVE-3	02/16/09	0.0	18.0	-12.2	-	92	90 - 100	327
SVE-3	03/16/09	0.0	17.7	-12.6	-	97	90 - 100	267
SVE-3	04/24/09	0.0	18.4	-11.6	-	95	90 - 100	236
SVE-3	05/20/09	0.0	18.6	-10.4	-	104	90 - 100	68
SVE-3	06/23/09	0.0	18.1	-14.6	-	104	90 - 100	138
SVE-3	07/23/09	0.0	18.1	-14.0	-	104	90 - 100	169
SVE-3	08/20/09	0.0	18.5	-6.7	-	53	50	170
SVE-3	09/23/09	0.0	18.8	-7.7	-	50	50	210
SVE-3	10/20/09	0.0	19.4	-7.6	-	58	50	18
SVE-3	11/24/09	0.0	19.1	-6.4	-	48	50	94
SVE-3	12/29/09	0.0	18.4	-6.7	-	49	50	24
SVE-3	01/29/10	0.0	19.0	-6.1	-	43	50	8
SVE-3	02/22/10	0.0	19.7	-5.0	-	52	50	84
SVE-3	03/26/10	0.0	18.3	-6.5	-	49	50	122
SVE-3	04/22/10	0.0	19.2	-7.2	-	45	50	15
SVE-3	05/18/10	0.0	18.9	-7.6	-	44	50	542
SVE-3	06/29/10	0.0	18.7	-8.9	-	54	50	130
SVE-3	07/23/10	0.0	18.8	-7.4	-	53	50	152
SVE-3	08/27/10	6.1	7.5	-5.8	-	53	50	NA ⁶
SVE-3	10/01/10	5.9	7.3	-5.3	-	47	50	NA ⁶
SVE-3	10/22/10	0.0	18.4	-6.3	-	34	50	9,830
SVE-3	11/29/10	0.0	19.4	-2.6	-	49	50	151
SVE-3	12/22/10	0.0	20.7	-6.1	-	46	50	152
SVE-3	01/24/11	0.0	20.6	-4.6	-	46	50	310
SVE-3	02/28/11	0.0	18.7	-5.2	-	54	50	178
SVE-3	04/13/11	0.0	19.1	-8.6	-	49	50	295
SVE-3	04/29/11	0.0	19.8	-7.2	-	53	50	269
SVE-3	05/27/11	0.0	19.6	-8.0	-	45	50	377
SVE-3	06/24/11	0.0	19.5	-12.9	-	57	50	240
SVE-3	07/22/11	0.0	17.8	-12.8	-	50	50	23
SVE-3	08/25/11	0.1	18.4	-11.4	-	55	50	16,510
SVE-3	09/30/11	0.0	17.8	-8.8	-	51	50	2,350
SVE-3	10/26/11	0.0	18.3	-10.1	-	47	50	16
SVE-3	11/22/11	0.0	19.2	-6.4	-	54	50	270
SVE-3	12/29/11	0.0	21.0	-5.7	-	49	50	300
SVE-3	01/26/12	0.0	19.2	-3.8	-	50	50	96
SVE-3	02/21/12	0.0	19.8	-6.6	-	46	50	210

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-3	03/30/12	0.0	19.8	-5.0	-	0 ⁴	50	220
SVE-3	04/27/12	0.0	18.2	-5.4	-	56	50	190
SVE-3	05/25/12	0.0	18.0	-7.7	-	51	50	430
SVE-3	06/26/12	0.0	19.1	-5.5	-	48	50	120
SVE-3	07/25/12	0.0	18.2	-5.7	-	45	50	130
SVE-3	08/22/12	0.0	18.4	-6.0	-	47	50	300
SVE-3	09/25/12	0.0	19.0	-5.9	-	0 ⁴	50	35
SVE-3	10/30/12	0.0	19.0	-5.4	-	52	50	NA ¹¹
SVE-3	11/21/12	0.0	19.4	-5.5	-	45	50	56
SVE-3	12/21/12 ¹²	0.6	16.4	-6.6	-	46	50	4,680
SVE-3	01/03/13 ¹²	0.0	19.6	-6.8	-	46	50	115
SVE-3	01/28/13	0.0	20.9	-6.7	-	73	50	601
SVE-3	02/27/13	0.0	20.1	-5.6	-	54	50	239
SVE-3	03/25/13	0.0	19.8	-6.9	-	53	50	430
SVE-3	04/26/13	0.0	18.9	-5.4	-	50	50	260
SVE-3	05/30/13	0.0	19.6	-8.4	-	51	50	280
SVE-3	06/27/13	0.0	18.8	-11.8	-	63	50	22
SVE-3	07/25/13	0.0	18.6	-11.5	-	50	50	47
SVE-3	08/30/13	0.0	19.4	-11.2	-	57	50	82
SVE-3	09/25/13	0.0	18.9	-20.5	-	54	50	120
SVE-3	10/23/13	0.0	19.3	-11.2	-	51	50	6
SVE-3	11/20/13	0.0	19.7	-5.8	-	56	50	87
SVE-3	12/18/13	0.0	19.7	0.0	-	46	50	23
SVE-3	05/13/14 ¹³	0.0	15.3	0.0	-	47	50	200
SVE-3	05/28/14 ¹³	0.0	17.0	-7.2	-	59	50	730
SVE-3	06/26/14	0.0	18.8	-8.7	-	41	50	6 ¹¹
SVE-3	07/31/14	0.0	17.8	-13.4	-	44	50	81
SVE-3	08/28/14	0.1	14.1	-15.2	-	52	50	454
SVE-3	09/26/14	0.0	18.2	-14.1	-	64	50	44
SVE-3	10/24/14	0.0	18.9	-14.6	-	50	50	160
SVE-3	11/19/14	0.0	19.8	-12.4	-	42	50	66
SVE-3	12/17/14	0.0	19.8	-11.7	-	52	50	110
SVE-3	01/21/15	0.0	19.5	-11.8	-	56	50	33
SVE-3	02/26/15	0.0	19.7	-11.2	-	46	50	600
SVE-3	03/17/15	0.0	19.6	-10.5	-	51	50	14
SVE-3	04/17/15	0.0	19.2	-9.8	-	58	50	13
SVE-3	05/12/15	0.0	19.2	-13.5	-	48	50	11
SVE-3	06/25/15	0.0	17.9	-10.6	-	47	50	47
SVE-3	07/31/15	0.0	18.7	-11.4	-	52	50	3
SVE-3	08/19/15	0.0	19.1	-11.9	-	44	50	50
SVE-3	09/24/15	0.0	18.6	-14.1	-	0 ⁴	50	100
SVE-3	10/22/15	0.0	19.4	-13.3	-	0 ⁴	50	70
SVE-3	04/22/16	0.0	17.8	-1.7	50	0	-	48

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-3	10/26/16	0.0	12.5	0.0	51	0	-	NA ⁶
SVE-3	04/05/17	0.0	20.5	0.0	50	0	-	1,108
SVE-3	10/30/17	0.0	14.4	-0.6	54	0	-	NA ⁶
SVE-3	05/17/18	0.0	14.2	-9.0	56	0	-	-
SVE-3	11/16/18	0.2	13.2	-11.8	50	0	-	2,936
SVE-3	04/26/19	0.0	15.5	-10.8	46	0	-	36
SVE-3	10/31/19	0.0	14.9	-11.2	54	0	-	5
SVE-3	06/23/20	0.0	19.1	-0.4	70	0	-	0
SVE-3	11/05/20	0.0	13.1	-10.4	52	0	-	12
SVE-3	04/22/21	0.0	20.3	-13.1	48	0	-	47
SVE-3	10/21/21	0.0	17.7	-9.6	61	0	-	20
SVE-3	04/28/22	0.0	20.2	-9.2	46	0	-	109
SVE-3	10/27/22	0.0	15.6	-7.8	58	0	-	10
SVE-4	08/27/08 ¹	3.3	17.9	0.3	-	-	-	-
SVE-4	09/23/08	46.8	0.0	-47.4	-	0	90 - 100	-
SVE-4	09/25/08	0.0	19.6	-19.8	-	0	90 - 100	-
SVE-4	10/01/08	1.4	6.9	-49.5	-	43	90 - 100	-
SVE-4	10/07/08	0.7	10.7	-47.6	-	36	90 - 100	-
SVE-4	10/15/08	0.3	13.2	-48.2	-	31	90 - 100	-
SVE-4	10/30/08	0.1	15.1	-48.0	-	30	90 - 100	2,700
SVE-4	11/13/08	0.0	16.0	-47.4	-	44	90 - 100	-
SVE-4	11/26/08	0.0	17.1	-49.5	-	47	90 - 100	-
SVE-4	01/22/09 ²	0.2	16.1	-21.0	-	105	90 - 100	10,400
SVE-4	02/05/09	0.0	17.4	-17.4	-	95	90 - 100	616
SVE-4	02/16/09	0.0	18.9	-19.4	-	94	90 - 100	159
SVE-4	03/16/09	0.0	18.3	-21.3	-	105	90 - 100	452
SVE-4	04/24/09	0.0	18.0	-20.1	-	98	90 - 100	3,720
SVE-4	05/20/09	0.0	18.7	-19.0	-	92	90 - 100	1,210
SVE-4	06/23/09	0.0	17.8	-18.6	-	90	90 - 100	1,550
SVE-4	07/23/09	0.0	18.0	-20.1	-	103	90 - 100	5,880
SVE-4	08/20/09	0.0	17.5	-27.8	-	146	150	7,540
SVE-4	09/23/09	0.0	17.5	-28.1	-	146	150	5,340
SVE-4	10/20/09	0.0	18.5	-30.0	-	154	150	5,080
SVE-4	11/24/09	0.0	18.0	-29.4	-	156	150	4,160
SVE-4	12/29/09	0.0	17.2	-30.5	-	153	150	1,516
SVE-4	01/29/10	0.0	18.0	-30.4	-	149	150	1,247
SVE-4	02/22/10	0.0	18.4	-25.5	-	147	150	1,350
SVE-4	03/26/10	0.0	17.9	-28.9	-	147	150	2,160
SVE-4	04/22/10	0.0	18.2	-29.4	-	147	150	412
SVE-4	05/18/10	0.0	18.0	-29.4	-	147	150	2,830
SVE-4	06/29/10	0.0	18.6	-29.8	-	145	150	1,780
SVE-4	07/23/10	0.0	17.6	-28.6	-	150	150	3,120

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-4	08/27/10	0.0	14.9	-28.0	-	153	150	4,680
SVE-4	10/01/10	0.1	14.0	-28.3	-	154	150	26,600
SVE-4	10/22/10	0.1	15.9	-27.8	-	153	150	NA ⁶
SVE-4	11/29/10	0.0	18.1	-25.2	-	151	150	5,930
SVE-4	12/22/10	0.1	18.4	-25.5	-	146	150	1,150
SVE-4	01/24/11	0.1	17.9	-27.7	-	154	150	2,890
SVE-4	02/28/11	0.2	16.8	-28.2	-	150	150	4,781
SVE-4	04/13/11	0.4	18.6	-29.9	-	152	150	6,320
SVE-4	04/29/11	0.0	18.4	-30.3	-	149	150	2,870
SVE-4	05/27/11	0.0	19.5	-30.4	-	145	150	605
SVE-4	06/24/11	0.0	18.8	-32.5	-	157	150	590
SVE-4	07/22/11	0.0	17.7	-33.3	-	146	150	28
SVE-4	08/25/11	0.0	17.3	-32.6	-	156	150	620
SVE-4	09/30/11	0.0	20.8	-40.7	-	148	150	320
SVE-4	10/26/11	0.0	19.3	-43.9	-	133	150	8,850
SVE-4	11/22/11	0.0	19.8	-38.3	-	155	150	6,680
SVE-4	12/29/11	0.0	20.0	-36.8	-	155	150	2,980
SVE-4	01/26/12	0.0	17.6	-35.1	-	153	150	4,740
SVE-4	02/21/12	0.0	18.3	-18.8	-	147	150	2,820
SVE-4	03/30/12	0.0	19.5	-25.5	-	149	150	195
SVE-4	04/27/12	0.0	18.3	-28.4	-	152	150	1,150
SVE-4	05/25/12	0.0	19.4	-22.5	-	150	150	150
SVE-4	06/26/12	0.0	18.7	-28.8	-	155	150	20
SVE-4	07/25/12	0.0	19.4	-33.2	-	148	150	30
SVE-4	08/22/12	0.0	19.4	-39.7	-	149	150	4,960
SVE-4	09/25/12	0.1	19.7	-40.2	-	144	150	7,510
SVE-4	10/30/12	0.0	20.1	-40.4	-	60	150	370 ¹¹
SVE-4	11/21/12	0.0	18.6	-36.3	-	149	150	1,920
SVE-4	12/21/12 ¹²	0.0	18.2	-34.8	-	152	150	28,360
SVE-4	01/03/13 ¹²	0.3	18.2	-19.8	-	150	150	11,020
SVE-4	01/28/13	0.0	20.2	-16.9	-	115	150	1,160
SVE-4	02/27/13	0.0	19.3	-9.0	-	156	150	256
SVE-4	03/25/13	0.0	20.0	-24.6	-	147	150	650
SVE-4	04/26/13	0.2	18.2	-35.2	-	149	150	16,640
SVE-4	05/30/13	0.0	18.6	-37.0	-	149	150	3,710
SVE-4	06/27/13	0.1	18.0	-43.4	-	86	150	2,056
SVE-4	07/25/13	0.0	18.1	-40.8	-	90	150	64
SVE-4	08/30/13	0.0	18.4	-37.2	-	0 ⁴	150	760
SVE-4	09/25/13	0.0	19.8	-48.8	-	88	150	7,590
SVE-4	10/23/13	0.0	18.1	-44.3	-	143	150	1,070
SVE-4	11/20/13	0.0	18.0	-45.6	-	150	150	3,090
SVE-4	12/18/13	0.0	17.8	-47.2	-	155	150	1,790
SVE-4	05/13/14 ¹³	0.1	9.7	17.0	-	148	150	NA ⁶

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-4	05/28/14 ¹³	0.0	17.9	-43.8	-	0 ⁴	150	3,970
SVE-4	06/26/14	0.0	18.4	-45.1	-	149	150	1,930 ¹¹
SVE-4	07/31/14	0.0	13.4	-44.0	-	141	150	2,380
SVE-4	08/28/14	0.6	11.7	-45.0	-	147	150	NA ⁶
SVE-4	09/26/14	0.0	17.4	-45.6	-	138	150	310
SVE-4	10/24/14	0.0	17.8	-46.4	-	164	150	450
SVE-4	11/19/14	0.0	18.1	-46.2	-	161	150	300
SVE-4	12/17/14	0.0	18.7	-34.2	-	170	150	170
SVE-4	01/21/15	0.0	18.4	-33.6	-	168	150	80
SVE-4	02/26/15	0.0	18.6	-31.9	-	152	150	170
SVE-4	03/17/15	0.0	18.7	-31.2	-	143	150	46
SVE-4	04/17/15	0.0	19.7	-24.8	-	144	150	9
SVE-4	05/12/15	0.0	18.5	-27.6	-	155	150	30
SVE-4	06/25/15	0.0	18.5	-37.4	-	117	150	37
SVE-4	07/31/15	0.0	18.7	-37.7	-	155	150	56
SVE-4	08/19/15	0.0	19.0	-34.2	-	153	150	88
SVE-4	09/24/15	0.0	18.6	-30.3	-	147	150	140
SVE-4	10/22/15	0.0	19.8	-27.2	-	150	150	70
SVE-4	11/12/15	0.0	19.7	-6.4	-	69	40 - 50	140
SVE-4	12/17/15	0.0	19.9	-17.2	-	47	40 - 50	340
SVE-4	01/21/16	0.0	17.1	-15.6	35	52	40-50	450
SVE-4	02/24/16	0.0	16.2	-14.9	38	0 ^{4,17}	40-50	300
SVE-4	03/22/16	0.0	15.7	-16.1	42	0 ^{4,17}	40-50	NA ⁶
SVE-4	04/22/16	0.0	17.0	-8.3	50	0 ⁴	40-50	33
SVE-4	05/19/16	0.0	16.9	-11.3	55	43	40-50	1,010
SVE-4	06/14/16	0.0	16.4	-10.6	62	0 ^{4,17}	40-50	1,670
SVE-4	07/27/16	0.2	15.1	-9.2	70	0 ^{4,17}	40-50	520
SVE-4	08/10/16	0.1	15.9	-10.2	70	0 ⁴	40-50	600
SVE-4	09/15/16	0.6	14.8	-9.6	68	0 ⁴	40-50	NA ⁶
SVE-4	10/26/16	0.1	14.7	-11.5	51	40	40-50	900
SVE-4	11/23/16	0.0	14.0	-11.3	50	44	40-50	NA ⁶
SVE-4	12/13/16	0.3	15.9	-13.3	45	63	40-50	NA ⁶
SVE-4	01/10/17	0.0	13.5	-10.8	40	58	40-50	NA ⁶
SVE-4	02/14/17	0.0	15.5	-14.3	44	58	40-50	NA ⁶
SVE-4	03/07/17	0.0	14.3	-14.8	40	57	40-50	NA ⁶
SVE-4	04/05/17	0.0	14.0	-12.3	50	54	40-50	NA ⁶
SVE-4	05/25/17	0.0	12.9	-16.4	53	0 ⁴	40-50	NA ⁶
SVE-4	06/28/17	0.0	16.3	-14.0	63	0 ⁴	40-50	492
SVE-4	07/24/17	0.0	15.7	-14.0	68	0 ⁴	40-50	611
SVE-4	08/14/17	0.0	15.0	-14.0	66	0 ⁴	40-50	NA ⁶
SVE-4	09/13/17	0.3	15.5	-12.4	67	42	40-50	NA ⁶
SVE-4	10/30/17	0.5	14.4	-16.1	54	56	40-50	NA ⁶
SVE-4	11/17/17	0.5	16.0	-12.4	55	64	40-50	NA ⁶

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-4	12/07/17	0.4	16.0	-12.4	52	0 ⁴	40-50	NA ⁶
SVE-4	01/24/18	4.3	13.3	-11.6	37	0 ⁴	40-50	NA ⁶
SVE-4	02/13/18	1.1	15.8	-16.1	44	42	40-50	NA ⁶
SVE-4	03/05/18	1.6	15.7	-15.8	45	43	40-50	NA ⁶
SVE-4	04/04/18	1.9	14.8	-11.3	36	0 ⁴	40-50	NA ⁶
SVE-4	05/17/18	0.5	14.0	-9.1	56	0 ⁴	40-50	-
SVE-4	07/03/18	0.3	16.1	-8.0	68	0 ⁴	40-50	-
SVE-4	07/31/18	0.0	15.0	-10.1	69	0 ⁴	40-50	-
SVE-4	08/30/18	0.0	19.0	-9.6	64	0 ⁴	40-50	-
SVE-4	09/28/18	0.7	14.2	-12.4	56	0 ⁴	40-50	2,873
SVE-4	11/16/18	1.5	15.4	-12.8	50	72	40-50	> 4,194
SVE-4	12/13/18	0.2	14.6	-12.6	42	0 ⁴	40-50	5,038
SVE-4	01/23/19	0.3	14.3	-12.0	37	72	40-50	3,709
SVE-4	02/22/19	0.0	18.7	-11.9	36	90	40-50	244
SVE-4	04/02/19	0.0	14.7	-11.8	41	74	40-50	162
SVE-4	04/26/19	0.1	15.3	-12.9	46	47	40-50	5,297
SVE-4	05/29/19	0.0	14.9	-12.8	54	46	40-50	3,023
SVE-4	06/18/19	0.0	16.4	-12.2	64	42	40-50	2,264
SVE-4	07/23/19	0.0	16.1	-11.9	68	14	40-50	647
SVE-4	08/29/19	0.0	14.6	-11.9	66	39	40-50	3,062
SVE-4	09/12/19	0.2	14.8	-11.7	59	60	40-50	7,344
SVE-4	10/31/19	0.3	16.2	-14.2	54	50	40-50	607
SVE-4	11/25/19	4.4	17.6	-13.1	46	73	40-50	-
SVE-4	02/18/20	0.0	18.5	-15.4	41	44	40-50	5
SVE-4	06/23/20	0.0	16.7	-13.6	70	36	40-50	29
SVE-4	08/17/20	0.0	15.6	-13.8	72	14	40-50	32
SVE-4	11/05/20	0.3	14.8	-12.8	52	44	40-50	-
SVE-4	01/20/21	0.0	16.0	-10.4	36	57	40-50	42
SVE-4	02/19/21	0.0	20.3	-9.7	34	0 ⁴	40-50	7
SVE-4	03/25/21	0.0	13.4	-13.9	44	52	40-50	NA ¹⁸
SVE-4	04/22/21	0.0	17.1	-11.6	48	15	40-50	610
SVE-4	05/21/21	0.0	17.8	-12.5	56	0 ⁴	40-50	0
SVE-4	06/17/21	0.0	18.1	-7.6	65	195	40-50	67
SVE-4	07/15/21	0.0	17.6	-9.5	70	0 ⁴	40-50	NA ¹⁸
SVE-4	08/12/21	0.0	16.3	-11.3	67	0 ⁴	40-50	133
SVE-4	09/23/21	0.0	13.3	-10.8	60	0 ⁴	40-50	3,265
SVE-4	10/21/21	0.5	17.2	-11.8	61	94	40-50	10,160
SVE-4	11/30/21	0.0	14.2	-10.7	40	35	40-50	88
SVE-4	12/21/21	0.0	15.1	-10.7	39	35	40-50	873
SVE-4	01/31/22	0.0	14.1	-11.3	35	61	40-50	62
SVE-4	02/28/22	0.0	17.7	-9.8	42	31	40-50	1,603
SVE-4	03/28/22	0.0	14.5	-12.0	36	0	40-50	84
SVE-4	04/28/22	0.0	17.4	-12.6	46	42	40-50	160

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-4	05/26/22	0.0	16.7	-8.9	54	0	40-50	7
SVE-4	06/23/22	0.0	18.9	-11.8	68	14	40-50	9
SVE-4	07/26/22	0.0	18.4	-11.2	68	0	40-50	37
SVE-4	08/23/22	0.0	17.5	-10.4	74	0	40-50	6.6
SVE-4	09/29/22	0.0	17.1	-10.0	68	30	40-50	516
SVE-4	10/27/22	0.0	17.4	-8.8	58	37	40-50	3,077
SVE-4	12/06/22	0.0	15.3	-9.8	45	45	40-50	1,641
SVE-5	08/27/08 ¹	5.5	14.8	0.3	-	-	-	-
SVE-5	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-5	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-5	10/01/08 ²	-	-	-	-	-	90 - 100	-
SVE-5	10/07/08	3.1	6.1	-47.7	-	0	90 - 100	-
SVE-5	10/15/08	1.2	10.6	-48.1	-	0	90 - 100	-
SVE-5	10/30/08	0.4	12.4	-47.9	-	0	90 - 100	10,100
SVE-5	11/13/08	0.3	12.6	-33.1	-	164	90 - 100	-
SVE-5	11/26/08	0.0	13.1	-49.4	-	31	90 - 100	-
SVE-5	01/22/09 ³	0.0	13.8	-50.7	-	34	90 - 100	6,910
SVE-5	02/05/09	0.0	14.2	-50.3	-	34	90 - 100	NA ⁶
SVE-5	02/16/09	0.0	15.1	-51.2	-	27	90 - 100	2,560
SVE-5	03/16/09	0.0	15.8	-49.7	-	-	90 - 100	4,320
SVE-5	04/24/09	0.0	16.2	-44.6	-	0	90 - 100	7,890
SVE-5	05/20/09	0.0	16.5	-47.2	-	0	90 - 100	4,910
SVE-5	06/23/09	0.0	16.0	-44.9	-	0	90 - 100	5,880
SVE-5	07/23/09	0.0	16.2	-44.7	-	0	90 - 100	20,900
SVE-5	08/20/09	0.0	16.9	-42.8	-	0	100	8,710
SVE-5	09/23/09	0.0	16.9	-43.8	-	0	100	5,610
SVE-5	10/20/09	0.0	17.8	-46.4	-	0	100	5,900
SVE-5	11/24/09	0.0	17.2	-45.8	-	0	100	8,460
SVE-5	12/29/09	0.0	16.5	-46.8	-	0	100	3,480
SVE-5	01/29/10	0.0	17.9	-46.9	-	31	100	2,802
SVE-5	02/22/10	0.0	17.3	-46.2	-	32	100	4,710
SVE-5	03/26/10	0.0	16.3	-46.1	-	0	100	5,850
SVE-5	04/22/10	0.0	17.4	-44.0	-	0	100	2,520
SVE-5	05/18/10	0.0	16.9	-44.4	-	0	100	13,900
SVE-5	06/29/10	0.0	17.1	-44.4	-	0	100	5,430
SVE-5	07/23/10	0.0	17.4	-41.8	-	0	100	5,210
SVE-5	08/27/10	0.8	13.5	-43.7	-	0	100	4,060
SVE-5	10/01/10	0.4	14.0	-46.5	-	0	100	42,900
SVE-5	10/22/10	0.1	14.5	-45.9	-	0	100	26,800
SVE-5	11/29/10	0.1	17.4	-46.5	-	0	100	13,600
SVE-5	12/22/10	0.2	18.0	-48.9	-	31	100	4,130
SVE-5	01/24/11	0.1	18.0	-48.6	-	0	100	3,940

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-5	02/28/11	0.0	16.8	-49.4	-	0	100	1,554
SVE-5	04/13/11	0.0	16.7	-48.8	-	0	100	1,010
SVE-5	04/29/11	0.0	18.0	-47.6	-	0	100	2,160
SVE-5	05/27/11	0.0	18.3	-46.5	-	46	100	2,990
SVE-5	06/24/11	0.0	17.7	-45.0	-	0	100	2,120
SVE-5	07/22/11	0.0	17.0	-43.3	-	0	100	470
SVE-5	08/25/11	0.0	17.1	-44.8	-	0	100	4,300
SVE-5	09/30/11	0.0	18.8	-42.1	-	0	100	470
SVE-5	10/26/11	0.0	17.3	-44.0	-	0	100	3,010
SVE-5	11/22/11	0.0	18.0	-45.0	-	0	100	1,830
SVE-5	12/29/11	0.0	19.8	-44.9	-	0	100	1,820
SVE-5	01/26/12	0.0	17.3	-45.8	-	46	100	6,564
SVE-5	02/21/12	0.0	18.2	-46.6	-	89	100	1,932
SVE-5	03/30/12	0.0	18.0	-46.8	-	49	100	1,888
SVE-5	04/27/12	0.0	16.8	-46.9	-	0 ⁴	100	2,360
SVE-5	05/25/12	0.1	18.3	-34.3	-	0 ⁴	100	2,220
SVE-5	06/26/12	0.0	16.9	-44.4	-	0 ⁴	100	3,050
SVE-5	07/25/12	0.0	16.4	-45.1	-	0 ⁴	100	3,500
SVE-5	08/22/12	0.0	16.8	-40.5	-	0 ⁴	100	2,390
SVE-5	09/25/12	0.0	16.7	-38.0	-	0 ⁴	100	2,270
SVE-5	10/30/12	0.0	17.5	-40.6	-	0 ⁴	100	87 ¹¹
SVE-5	11/21/12	0.0	17.8	-43.4	-	0 ⁴	100	170
SVE-5	12/21/12 ¹²	0.0	14.1	-45.3	-	0 ⁴	100	2,490
SVE-5	01/03/13 ¹²	0.0	17.1	-45.8	-	74	100	1,030
SVE-5	01/28/13	0.0	18.5	-49.1	-	50	100	1,850
SVE-5	02/27/13	0.0	17.9	-49.1	-	91	100	2,780
SVE-5	03/25/13	0.0	17.6	-49.4	-	0 ⁴	100	6,620
SVE-5	04/26/13	0.1	13.8	-49.3	-	0 ⁴	100	7,090
SVE-5	05/30/13	0.0	17.7	-47.6	-	0 ⁴	100	180
SVE-5	06/27/13	0.0	16.8	-43.9	-	96	100	280
SVE-5	07/25/13	0.0	17.8	-41.0	-	0 ⁴	100	78
SVE-5	08/30/13	0.0	18.8	-40.0	-	0 ⁴	100	52
SVE-5	09/25/13	0.0	18.5	-41.6	-	0 ⁴	100	150
SVE-5	10/23/13	0.0	19.1	-44.3	-	55	100	24
SVE-5	11/20/13	0.0	18.9	-45.7	-	107	100	150
SVE-5	12/18/13	0.0	19.3	-47.6	-	112	100	58
SVE-5	05/13/14 ¹³	1.9	7.9	61.0	-	96	100	NA ⁶
SVE-5	05/28/14 ¹³	0.0	15.9	-43.8	-	0 ⁴	100	7,200
SVE-5	06/26/14	0.0	19.0	-45.4	-	0 ⁴	100	550 ¹¹
SVE-5	07/31/14	0.6	18.3	-44.0	-	95	100	12,870
SVE-5	08/28/14	1.4	17.1	-45.1	-	98	100	24,500
SVE-5	09/26/14	0.0	19.5	-45.8	-	108	100	96
SVE-5	10/24/14	0.0	19.9	-46.7	-	91	100	200

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-5	11/19/14	0.0	20.4	-46.0	-	96	100	210
SVE-5	12/17/14	0.0	20.4	-46.2	-	108	100	120
SVE-5	01/21/15	0.0	19.7	-47.7	-	99	100	110
SVE-5	02/26/15	0.0	19.8	-47.2	-	108	100	200
SVE-5	03/17/15	0.0	19.9	-47.1	-	96	100	10
SVE-5	04/17/15	0.0	19.1	-46.0	-	98	100	40
SVE-5	05/12/15	0.0	19.9	-42.5	-	106	100	14
SVE-5	06/25/15	0.0	19.4	-39.7	-	102	100	52
SVE-5	07/31/15	0.0	20.2	-38.6	-	106	100	87
SVE-5	08/19/15	0.0	20.5	-40.1	-	103	100	150
SVE-5	09/24/15	0.0	20.3	-45.5	-	93	100	52
SVE-5	10/22/15	0.0	20.8	-43.7	-	91	100	78
SVE-5	04/22/16	0.0	20.0	-0.2	50	0	-	24
SVE-5	10/26/16	0.0	19.2	0.0	51	0	-	NA ⁶
SVE-5	4/5/2017 ¹⁴	-	-	-	-	-	-	-
SVE-5	10/30/17	0.0	20.3	-0.8	54	0	-	427
SVE-5	05/17/18	0.0	19.2	-8.8	56	0	-	-
SVE-5	11/16/18	1.0	21.2	-12.6	50	0	-	0
SVE-5	04/26/19	0.0	19.8	-11.5	46	0	-	74
SVE-5	10/31/19	0.0	19.4	-13.4	54	0	-	485
SVE-5	06/23/20	0.0	19.1	-1.8	70	0	-	165
SVE-5	11/05/20	0.0	19.2	-12.0	52	0	-	29
SVE-5	04/22/21	0.0	19.4	-13.8	48	0	-	43
SVE-5	10/21/21	0.0	21.0	-10.4	61	0	-	21
SVE-5	04/28/22	0.0	18.3	-12.6	46	0	-	439
SVE-5	10/27/22	0.0	20.4	-10.0	58	0	-	92
SVE-6	08/27/08 ¹	3.0	2.2	0.4	-	-	-	-
SVE-6	09/23/08	27.7	0.3	-15.0	-	96	90 - 100	-
SVE-6	09/25/08	10.7	3.1	-16.9	-	90	90 - 100	-
SVE-6	10/01/08	1.7	6.2	-17.7	-	92	90 - 100	-
SVE-6	10/07/08	0.6	10.0	-17.4	-	91	90 - 100	-
SVE-6	10/15/08	0.1	12.5	-19.4	-	96	90 - 100	-
SVE-6	10/30/08	7.3	14.4	-19.7	-	89	90 - 100	1,150
SVE-6	11/13/08	0.0	15.4	-18.8	-	108	90 - 100	-
SVE-6	11/26/08	0.0	16.5	-20.1	-	103	90 - 100	-
SVE-6	01/22/09 ³	0.0	15.3	-14.0	-	102	90 - 100	6,100
SVE-6	02/05/09	0.0	16.8	-9.7	-	102	90 - 100	608
SVE-6	02/16/09	0.0	17.4	-13.3	-	92	90 - 100	609
SVE-6	03/16/09	0.0	16.6	-15.5	-	96	90 - 100	2,260
SVE-6	04/24/09	0.0	16.8	-14.6	-	96	90 - 100	1,570
SVE-6	05/20/09	0.0	16.9	-14.6	-	97	90 - 100	985
SVE-6	06/23/09	0.0	16.1	-17.7	-	103	90 - 100	1,830

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-6	07/23/09	0.0	16.0	-18.4	-	106	90 - 100	5,640
SVE-6	08/20/09	0.0	16.6	-26.4	-	151	150	5,910
SVE-6	09/23/09	0.0	16.7	-26.6	-	153	150	3,210
SVE-6	10/20/09	0.0	18.0	-24.4	-	144	150	3,280
SVE-6	11/24/09	0.0	18.0	-22.8	-	156	150	1,740
SVE-6	12/29/09	0.0	17.4	-22.4	-	153	150	551
SVE-6	01/29/10	0.0	18.3	-22.7	-	157	150	12
SVE-6	02/22/10	0.0	17.2	-20.4	-	156	150	2,320
SVE-6	03/26/10	0.0	16.8	-22.6	-	155	150	330
SVE-6	04/22/10	0.0	17.7	-25.7	-	147	150	158
SVE-6	05/18/10	0.0	17.3	-24.2	-	150	150	1,880
SVE-6	06/29/10	0.0	17.3	-25.0	-	154	150	698
SVE-6	07/23/10	0.0	17.4	-23.5	-	152	150	935
SVE-6	08/27/10	1.8	8.9	-25.0	-	152	150	NA ⁶
SVE-6	10/01/10	0.8	10.8	-25.2	-	156	150	NA ⁶
SVE-6	10/22/10	1.1	12.6	-24.8	-	153	150	NA ⁶
SVE-6	11/29/10	0.0	18.1	-22.0	-	151	150	920
SVE-6	12/22/10	0.3	17.1	-23.0	-	154	150	4,650
SVE-6	01/24/11	0.0	19.7	-18.8	-	152	150	400
SVE-6	02/28/11	0.0	18.0	-18.8	-	147	150	208
SVE-6	04/13/11	0.0	18.1	-22.8	-	148	150	310
SVE-6	04/29/11	0.0	18.9	-22.9	-	158	150	565
SVE-6	05/27/11	0.0	19.0	-28.1	-	148	150	530
SVE-6	06/24/11	0.0	18.4	-28.4	-	145	150	340
SVE-6	07/22/11	0.0	17.1	-28.1	-	125	150	325
SVE-6	08/25/11	1.5	13.8	-31.5	-	145	150	>50,000
SVE-6	09/30/11	0.0	19.4	-40.1	-	147	150	3,120
SVE-6	10/26/11	0.0	17.6	-40.0	-	153	150	1,240
SVE-6	11/22/11	0.0	18.7	-36.6	-	154	150	650
SVE-6	12/29/11	0.0	21.0	-43.4	-	145	150	115
SVE-6	01/26/12	0.0	17.8	-43.5	-	147	150	20,566
SVE-6	02/21/12	0.0	19.6	-38.1	-	150	150	237
SVE-6	03/30/12	0.0	19.6	-46.2	-	147	150	202
SVE-6	04/27/12	0.0	18.3	-46.5	-	128	150	200
SVE-6	05/25/12	0.0	19.9	-42.0	-	90	150	120
SVE-6	06/26/12	0.0	18.8	-43.4	-	133	150	870
SVE-6	07/25/12	0.0	18.0	-44.9	-	66	150	1,020
SVE-6	08/22/12	0.0	19.0	-39.6	-	0 ⁴	150	310
SVE-6	09/25/12	0.0	19.5	-39.8	-	103	150	80
SVE-6	10/30/12	0.0	19.4	-40.1	-	65	150	NA ¹¹
SVE-6	11/21/12	0.0	19.8	-42.6	-	98	150	93
SVE-6	12/21/12 ¹²	1.5	17.1	-44.4	-	134	150	36,810
SVE-6	01/03/13 ¹²	0.0	20.0	-44.5	-	0 ⁴	150	210

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-6	01/28/13	0.0	21.2	-48.4	-	0 ⁴	150	665
SVE-6	02/27/13	0.0	20.3	-48.2	-	156	150	211
SVE-6	03/25/13	0.0	20.1	-49.9	-	147	150	498
SVE-6	04/26/13	0.0	15.9	-33.6	-	149	150	299
SVE-6	05/30/13	0.0	19.4	-29.2	-	153	150	60
SVE-6	06/27/13	0.0	18.4	-43.7	-	152	150	280
SVE-6	07/25/13	0.0	18.9	-40.6	-	155	150	90
SVE-6	08/30/13	0.0	20.5	-42.0	-	155	150	67
SVE-6	09/25/13	0.0	20.1	-10.2	-	153	150	30
SVE-6	10/23/13	0.0	20.8	-23.4	-	147	150	4
SVE-6	11/20/13	0.0	20.2	-29.5	-	156	150	82
SVE-6	12/18/13	0.0	20.1	-47.4	-	58	150	27
SVE-6	05/13/14 ¹³	1.0	11.6	105.0	-	151	150	48,250
SVE-6	05/28/14 ¹³	0.0	18.5	-45.2	-	60	150	230
SVE-6	06/26/14	0.0	18.9	-45.1	-	147	150	6 ¹¹
SVE-6	07/31/14	0.8	17.6	-44.2	-	141	150	7,350
SVE-6	08/28/14	3.7	10.1	-44.9	-	148	150	NA ⁶
SVE-6	09/26/14	0.0	18.5	-45.8	-	156	150	50
SVE-6	10/24/14	0.0	19.0	-46.6	-	146	150	180
SVE-6	11/19/14	0.0	17.0	-46.3	-	144	150	2,940
SVE-6	12/17/14	0.0	19.8	-45.8	-	153	150	110
SVE-6	01/21/15	0.0	19.5	-47.5	-	146	150	13
SVE-6	02/26/15	0.0	18.9	-48.1	-	149	150	200
SVE-6	03/17/15	0.0	19.6	-47.6	-	0 ⁴	150	58
SVE-6	04/17/15	0.0	18.8	-46.0	-	159	150	11
SVE-6	05/12/15	0.0	19.6	-42.2	-	149	150	29
SVE-6	06/25/15	0.0	18.5	-39.7	-	151	150	44
SVE-6	07/31/15	0.0	19.0	-38.6	-	147	150	6
SVE-6	08/19/15	0.0	19.3	-40.1	-	120	150	50
SVE-6	09/24/15	0.0	19.3	-45.5	-	159	150	59
SVE-6	10/22/15	0.0	19.4	-43.9	-	147	150	83
SVE-6	11/12/15	0.0	21.0	-5.8	-	0 ⁴	40 - 50	34
SVE-6	12/17/15 ¹⁴	-	-	-	-	-	40 - 50	-
SVE-6	1/21/2016 ¹⁸	-	-	-	-	-	40-50	-
SVE-6	02/24/16	0.0	18.2	0.0	38	0 ^{16, 17}	40-50	770
SVE-6	03/22/16	0.0	16.6	-16.1	42	44	40-50	NA ⁶
SVE-6	04/22/16	0.0	18.1	-8.1	50	0 ⁴	40-50	34
SVE-6	05/19/16	0.0	18.1	-10.3	55	0 ^{4, 17}	40-50	480
SVE-6	06/14/16	0.0	17.3	-10.8	62	0 ^{4, 17}	40-50	450
SVE-6	07/27/16	0.0	15.9	-9.4	70	0 ^{4, 17}	40-50	670
SVE-6	08/10/16	0.0	16.1	-10.3	70	0 ^{4, 17}	40-50	970
SVE-6	09/15/16	0.0	14.7	-10.1	68	0 ^{4, 17}	40-50	NA ⁶
SVE-6	10/26/16	0.0	12.4	-11.7	51	47	40-50	NA ⁶

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-6	11/23/16	0.0	13.1	-11.6	50	54	40-50	NA ⁶
SVE-6	12/13/16	0.0	16.4	-0.1	45	49	40-50	830
SVE-6	01/10/17	0.0	18.8	-11.6	40	61	40-50	1,101
SVE-6	02/14/17	0.0	18.3	-14.4	44	48	40-50	949
SVE-6	03/07/17	0.0	18.1	-13.6	40	47	40-50	1,110
SVE-6	04/05/17	0.0	15.0	-13.4	50	41	40-50	NA ⁶
SVE-6	05/25/17	0.0	15.4	-16.4	53	0 ⁴	40-50	NA ⁶
SVE-6	06/28/17	0.0	17.5	-14.0	63	0 ⁴	40-50	NA ⁶
SVE-6	07/24/17	0.0	16.8	-12.8	68	0 ⁴	40-50	991
SVE-6	08/14/17	0.0	17.1	-13.1	66	0 ⁴	40-50	1,106
SVE-6	09/13/17	0.0	16.5	-11.9	67	42	40-50	NA ⁶
SVE-6	10/30/17	0.0	15.2	-16.0	54	46	40-50	NA ⁶
SVE-6	11/17/17	0.0	17.5	-11.9	55	0 ⁴	40-50	511
SVE-6	12/07/17	0.0	18.4	-11.9	52	48	40-50	720
SVE-6	01/24/18	1.6	16.1	-11.7	37	0 ⁴	40-50	NA ⁶
SVE-6	02/13/18	0.0	16.9	-16.2	44	0 ⁴	40-50	811
SVE-6	03/05/18	0.1	16.9	-15.8	45	0 ⁴	40-50	1,208
SVE-6	04/04/18	0.4	15.1	-11.1	36	0 ⁴	40-50	NA ⁶
SVE-6	05/17/18	0.0	14.9	-9.3	56	0 ⁴	40-50	-
SVE-6	07/03/18	0.0	16.7	-8.4	68	0 ⁴	40-50	-
SVE-6	07/31/18	0.0	15.5	-10.1	69	0 ⁴	40-50	-
SVE-6	08/30/18	0.0	15.4	-9.4	64	0 ⁴	40-50	-
SVE-6	09/28/18	0.0	14.6	-12.0	56	0 ⁴	40-50	NA ⁶
SVE-6	11/16/18	0.1	16.0	-13.1	50	57	40-50	2,129
SVE-6	12/13/18	0.0	14.7	-12.7	42	0 ⁴	40-50	1,073
SVE-6	01/23/19	0.0	16.9	-11.9	37	104	40-50	22
SVE-6	02/22/19	0.0	18.7	-12.2	36	72	40-50	58
SVE-6	04/02/19	0.0	16.1	-11.8	41	59	40-50	65
SVE-6	04/26/19	0.0	17.2	-11.8	46	61	40-50	12
SVE-6	05/29/19	0.0	17.6	-13.2	54	54	40-50	0
SVE-6	06/18/19	0.0	17.6	-12.2	64	45	40-50	0
SVE-6	07/23/19	0.0	17.4	-11.9	68	52	40-50	59
SVE-6	08/29/19	0.0	16.2	-12.0	66	66	40-50	29
SVE-6	09/12/19	0.0	17.9	-12.2	59	0 ⁴	40-50	37
SVE-6	10/31/19	0.0	18.2	-15.4	54	72	40-50	29
SVE-6	11/25/19	0.1	18.8	-12.0	46	94	40-50	-
SVE-6	02/18/20	0.0	17.6	-15.4	41	73	40-50	62
SVE-6	06/23/20	0.0	17.4	-13.7	70	63	40-50	10
SVE-6	08/17/20	0.0	16.2	-13.6	72	61	40-50	220
SVE-6	11/05/20	0.0	16.0	-12.3	52	69	40-50	362
SVE-6	01/20/21	0.0	17.9	-10.2	36	77	40-50	71
SVE-6	02/19/21	0.0	21.0	-9.8	34	0	40-50	233
SVE-6	03/25/21	0.0	19.4	-13.8	44	60	40-50	NA ¹⁸

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-6	04/22/21	0.0	18.2	-12.2	48	86	40-50	2
SVE-6	05/21/21	0.0	18.2	-12.4	56	0 ⁴	40-50	0
SVE-6	06/17/21	0.0	18.4	-9.9	65	0 ⁴	40-50	28
SVE-6	07/15/21	0.0	17.3	-9.6	70	90	40-50	NA ¹⁸
SVE-6	08/12/21	0.0	15.8	-9.5	67	0 ⁴	40-50	1,030
SVE-6	09/23/21	0.0	10.6	-10.9	60	0 ⁴	40-50	3,255
SVE-6	10/21/21	0.0	18.6	-11.8	61	87	40-50	194
SVE-6	11/30/21	0.0	16.2	-10.7	40	49	40-50	97
SVE-6	12/21/21	0.0	16.6	-10.7	39	0 ⁴	40-50	702
SVE-6	01/31/22	0.0	15.6	-10.7	35	92	40-50	322
SVE-6	02/28/22	0.0	18.5	-10.0	42	0	40-50	19
SVE-6	03/28/22	0.0	15.4	-11.7	36	98	40-50	22
SVE-6	04/28/22	0.0	17.4	-13.1	46	0	40-50	275
SVE-6	05/26/22	0.0	16.9	-8.8	54	0	40-50	14
SVE-6	06/23/22	0.0	18.8	-11.9	68	71	40-50	6
SVE-6	07/26/22	0.0	17.9	-11.1	68	43	40-50	392
SVE-6	08/23/22	0.0	17.2	-10.5	74	74	40-50	249
SVE-6	09/29/22	0.0	18.2	-10.0	68	77	40-50	62
SVE-6	10/27/22	0.0	17.7	-8.5	58	0	40-50	316
SVE-6	12/06/22	0.0	16.6	-9.8	45	42	40-50	140
SVE-7	08/27/08 ¹	0.3	19.3	0.3	-	-	-	-
SVE-7	09/23/08	44.5	0.0	-19.6	-	117	90 - 100	-
SVE-7	09/25/08	16.1	2.5	-23.9	-	102	90 - 100	-
SVE-7	10/01/08	3.0	6.7	-23.8	-	103	90 - 100	-
SVE-7	10/07/08	1.0	10.5	-24.4	-	103	90 - 100	-
SVE-7	10/15/08	0.6	12.7	-25.4	-	108	90 - 100	-
SVE-7	10/30/08	0.3	14.3	-25.4	-	92	90 - 100	7,320
SVE-7	11/13/08	0.1	15.3	-25.4	-	100	90 - 100	-
SVE-7	11/26/08	0.0	16.7	-26.3	-	106	90 - 100	-
SVE-7	01/22/09 ³	1.0	14.9	-45.9	-	103	90 - 100	40,400
SVE-7	02/05/09	0.0	15.7	-38.8	-	99	90 - 100	4,200
SVE-7	02/16/09	0.0	16.5	-35.9	-	101	90 - 100	4,560
SVE-7	03/16/09	0.0	16.8	-35.7	-	91	90 - 100	5,770
SVE-7	04/24/09	0.0	17.9	-34.1	-	92	90 - 100	608
SVE-7	05/20/09	0.0	18.1	-33.3	-	90	90 - 100	135
SVE-7	06/23/09	0.0	17.4	-35.6	-	93	90 - 100	262
SVE-7	07/23/09	0.0	17.2	-41.8	-	101	90 - 100	1,360
SVE-7	08/20/09	0.0	17.6	-43.7	-	114	150	1,530
SVE-7	09/23/09	0.0	17.7	-44.6	-	109	150	1,500
SVE-7	10/20/09	0.0	18.1	-47.3	-	117	150	3,380
SVE-7	11/24/09	0.0	17.6	-46.7	-	122	150	5,590
SVE-7	12/29/09	0.0	16.5	-47.7	-	123	150	1,380

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-7	01/29/10	0.0	18.8	-47.8	-	151	150	2
SVE-7	02/22/10	0.0	18.2	-46.9	-	147	150	192
SVE-7	03/26/10	0.0	16.7	-46.7	-	159	150	3,070
SVE-7	04/22/10	0.0	17.7	-44.6	-	145	150	600
SVE-7	05/18/10	0.0	17.5	-43.6	-	149	150	4,280
SVE-7	06/29/10	0.0	16.8	-37.0	-	145	150	10,100
SVE-7	07/23/10	0.0	18.2	-33.9	-	151	150	1,710
SVE-7	08/27/10	0.0	16.1	-19.8	-	154	150	1,880
SVE-7	10/01/10	0.0	16.3	-22.1	-	150	150	3,450
SVE-7	10/22/10	0.0	18.5	-17.4	-	153	150	1,120
SVE-7	11/29/10	0.0	20.1	-13.8	-	152	150	42
SVE-7	12/22/10	0.1	19.6	-17.0	-	151	150	150
SVE-7	01/24/11	0.4	18.2	-26.8	-	145	150	9,630
SVE-7	02/28/11	0.5	17.6	-21.7	-	154	150	11,182
SVE-7	04/13/11	0.0	19.3	-17.4	-	153	150	3,140
SVE-7	04/29/11	0.0	20.2	-17.0	-	150	150	560
SVE-7	05/27/11	0.0	20.4	-10.8	-	152	150	280
SVE-7	06/24/11	0.0	19.9	-12.0	-	123	150	240
SVE-7	07/22/11	0.0	18.7	-10.5	-	122	150	200
SVE-7	08/25/11	0.0	19.6	-20.5	-	150	150	1,310
SVE-7	09/30/11	0.0	20.7	-21.7	-	145	150	230
SVE-7	10/26/11	0.0	18.7	-22.9	-	152	150	130
SVE-7	11/22/11	0.0	19.4	-18.0	-	151	150	300
SVE-7	12/29/11	0.0	21.3	-16.3	-	154	150	100
SVE-7	01/26/12	0.0	19.2	-15.2	-	147	150	89
SVE-7	02/21/12	0.0	19.9	-12.9	-	151	150	167
SVE-7	03/30/12	0.0	20.2	-8.2	-	146	150	173
SVE-7	04/27/12	0.0	19.1	-7.6	-	45	150	180
SVE-7	05/25/12	0.0	19.7	-11.7	-	0 ⁴	150	110
SVE-7	06/26/12	0.0	19.2	-9.6	-	70	150	30
SVE-7	07/25/12	2.5	15.3	-19.5	-	94	150	16,800
SVE-7	08/22/12	0.0	19.3	-10.7	-	92	150	300
SVE-7	09/25/12	0.0	20.2	-10.6	-	90	150	6
SVE-7	10/30/12	0.0	20.0	-9.3	-	98	150	NA ¹¹
SVE-7	11/21/12	0.0	20.2	-23.4	-	155	150	15
SVE-7	12/21/12 ¹²	0.0	16.4	-19.8	-	147	150	3,550
SVE-7	01/03/13 ¹²	0.0	19.5	-15.8	-	150	150	301
SVE-7	01/28/13	0.0	19.5	-18.1	-	136	150	888
SVE-7	02/27/13	0.0	19.3	-16.5	-	127	150	886
SVE-7	03/25/13	0.0	18.6	-17.0	-	143	150	4,360
SVE-7	04/26/13	0.0	16.3	-12.4	-	39	150	2,090
SVE-7	05/30/13	0.0	19.4	-13.1	-	0 ⁴	150	120
SVE-7	06/27/13	1.7	15.9	-43.4	-	145	150	42,800

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-7	07/25/13	0.0	17.5	-39.4	-	153	150	2,590
SVE-7	08/30/13	0.2	18.3	-40.6	-	146	150	5,130
SVE-7	09/25/13	0.4	17.8	-40.0	-	147	150	5,960
SVE-7	10/23/13	0.0	18.5	-42.9	-	152	150	5,020
SVE-7	11/20/13	0.1	18.3	-43.6	-	106	150	4,050
SVE-7	12/18/13	0.0	18.1	-45.8	-	157	150	1,920
SVE-7	05/13/14 ¹³	1.6	6.5	253.0	-	197	150	NA ⁶
SVE-7	05/28/14 ¹³	0.1	16.1	-44.0	-	125	150	19,400
SVE-7	06/26/14	0.2	16.2	-44.4	-	0 ⁹	150	2 ¹¹
SVE-7	07/31/14	1.7	13.4	-43.2	-	0 ⁹	150	67
SVE-7	08/28/14	7.6	11.3	-45.1	-	0 ⁹	150	NA ⁶
SVE-7	09/26/14	0.0	16.7	-46.1	-	0 ⁹	150	3,650
SVE-7	10/24/14	0.0	17.3	-47.0	-	0 ⁹	150	4,930
SVE-7	11/19/14	0.0	17.5	-48.4	-	0 ⁹	150	1,110
SVE-7	12/17/14	0.0	17.9	-49.5	-	0 ⁹	150	180
SVE-7	01/21/15	0.0	17.3	-49.8	-	0 ⁹	150	110
SVE-7	02/26/15	0.0	17.3	-48.8	-	0 ⁹	150	130
SVE-7	03/17/15	0.0	16.6	-47.6	-	0 ⁹	150	77
SVE-7	04/17/15	0.0	16.4	-44.1	-	0 ⁹	150	58
SVE-7	05/12/15	0.0	17.5	-42.5	-	0 ⁹	150	43
SVE-7	06/25/15	0.0	16.1	-39.2	-	0 ⁹	150	90
SVE-7	07/31/15	0.0	17.2	-38.7	-	0 ⁹	150	680
SVE-7	08/19/15	0.0	17.7	-40.7	-	0 ⁹	150	660
SVE-7	09/24/15	0.9	17.5	-45.9	-	0 ⁹	150	810
SVE-7	10/22/15	0.1	18.4	-43.2	-	0 ⁹	150	1,980
SVE-7	11/12/15	0.6	15.7	-29.2	-	170	40 - 50	610
SVE-7	12/17/15	0.9	15.4	-21.6	-	141	40 - 50	1,140
SVE-7	01/21/16	0.3	16.2	-16.0	35	147 ⁵	40-50	8,730
SVE-7	02/24/16	0.4	14.0	0.2	38	50	40-50	NA ⁶
SVE-7	03/22/16	0.2	15.2	-16.1	42	45	40-50	NA ⁶
SVE-7	04/22/16	0.4	17.1	-8.1	50	0 ⁴	40-50	2,360
SVE-7	05/19/16	0.2	16.8	-11.1	55	0 ^{4,17}	40-50	5,090
SVE-7	06/14/16	0.2	16.7	-10.6	62	0 ⁴	40-50	7,020
SVE-7	07/27/16	0.7	16.0	-9.1	70	0 ⁴	40-50	7,390
SVE-7	08/10/16	0.6	16.7	-10.0	70	0 ⁴	40-50	7,520
SVE-7	09/15/16	1.4	15.4	-10.0	68	0 ⁴	40-50	NA ⁶
SVE-7	10/26/16	0.9	15.8	-10.4	51	52	40-50	NA ⁶
SVE-7	11/23/16	0.3	15.2	-12.2	50	45	40-50	NA ⁶
SVE-7	12/13/16	0.7	16.5	0.0	45	46	40-50	290
SVE-7	01/10/17	0.3	14.0	-10.8	40	54	40-50	NA ⁶
SVE-7	02/14/17	0.0	16.1	-14.4	44	55	40-50	740
SVE-7	03/07/17	0.0	14.7	-14.1	40	41	40-50	NA ⁶
SVE-7	04/05/17	0.1	13.5	-12.8	50	41	40-50	NA ⁶

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-7	05/25/17	0.6	11.4	-16.3	53	0 ⁴	40-50	NA ⁶
SVE-7	06/28/17	0.3	15.5	-14.1	63	0 ⁴	40-50	NA ⁶
SVE-7	07/24/17	0.5	15.8	-12.6	68	0 ⁴	40-50	408
SVE-7	08/14/17	0.2	16.4	-13.1	66	0 ⁴	40-50	593
SVE-7	09/13/17	0.7	16.5	-12.0	67	41	40-50	NA ⁶
SVE-7	10/30/17	0.8	15.5	-16.2	54	44	40-50	NA ⁶
SVE-7	11/17/17	0.3	16.9	-12.0	55	0 ⁴	40-50	840
SVE-7	12/07/17	0.2	16.8	-12.0	52	0 ⁴	40-50	825
SVE-7	01/24/18	4.1	14.8	-11.7	37	0 ⁴	40-50	NA ⁶
SVE-7	02/13/18	0.8	17.1	-16.1	44	0 ⁴	40-50	1,092
SVE-7	03/05/18	0.0	18.2	-15.9	45	38	40-50	981
SVE-7	04/04/18	0.0	17.6	-11.3	36	0 ⁴	40-50	1,208
SVE-7	05/17/18	0.0	13.8	-9.1	56	0 ⁴	40-50	-
SVE-7	07/03/18	0.0	16.0	-8.1	68	0 ⁴	40-50	-
SVE-7	07/31/18	0.0	14.7	-10.2	69	0 ⁴	40-50	-
SVE-7	08/30/18	0.0	14.7	-9.6	64	0 ⁴	40-50	-
SVE-7	09/28/18	0.7	13.5	-12.5	56	0 ⁴	40-50	> 4,293
SVE-7	11/16/18	2.6	14.8	-12.5	50	64	40-50	NA ⁶
SVE-7	12/13/18	0.5	14.2	-12.7	42	0 ⁴	40-50	> 5,745
SVE-7	01/23/19	0.6	13.3	-12.0	37	73	40-50	9,395
SVE-7	02/22/19	0.0	19.4	-12.0	36	64	40-50	86
SVE-7	04/02/19	0.0	13.8	-11.8	41	49	40-50	35
SVE-7	04/26/19	0.1	14.6	-12.8	46	59	40-50	4,633
SVE-7	05/29/19	0.0	14.9	-13.3	54	47	40-50	2,193
SVE-7	06/18/19	0.0	15.7	-12.2	64	54	40-50	2,513
SVE-7	07/23/19	0.0	16.4	-11.9	68	50	40-50	567
SVE-7	08/29/19	0.0	16.1	-11.8	66	30	40-50	2,407
SVE-7	09/12/19	0.0	16.7	-12.1	59	33	40-50	3,885
SVE-7	10/31/19	0.8	17.0	-15.0	54	37	40-50	13,670
SVE-7	11/25/19	0.5	18.5	-12.7	46	72	40-50	-
SVE-7	02/18/20	0.3	16.3	-15.2	41	48	40-50	5,799
SVE-7	06/23/20	0.0	16.8	-13.7	70	33	40-50	648
SVE-7	08/17/20	0.4	15.5	-13.7	72	39	40-50	4,267
SVE-7	11/05/20	0.0	19.4	-12.9	52	15	40-50	4,327
SVE-7	01/20/21	0.0	18.4	-10.4	36	50	40-50	1,015
SVE-7	02/19/21	0.0	20.6	-10.9	34	0	40-50	194
SVE-7	03/25/21	0.0	13.9	-12.9	44	55	40-50	NA ¹⁸
SVE-7	04/22/21	0.0	16.8	-12.2	48	155	40-50	2,108
SVE-7	05/21/21	0.0	17.3	-11.7	56	96	40-50	89
SVE-7	06/17/21	0.0	17.7	-9.4	65	87	40-50	4
SVE-7	07/15/21	0.0	17.2	-9.6	70	30	40-50	NA ¹⁸
SVE-7	08/12/21	0.0	16.7	-9.6	67	105	40-50	1,112
SVE-7	09/23/21	0.0	12.0	-11.1	60	0 ⁴	40-50	321

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-7	10/21/21	0.0	18.4	-11.9	61	57	40-50	1,485
SVE-7	11/30/21	0.0	15.6	-10.8	40	53	40-50	252
SVE-7	12/21/21	0.0	15.5	-10.6	39	0 ⁴	40-50	577
SVE-7	01/31/22	0.0	14.0	-11.4	35	57	40-50	146
SVE-7	02/28/22	0.0	17.1	-10.1	42	15	40-50	894
SVE-7	03/28/22	0.0	14.4	-11.4	36	0	40-50	486
SVE-7	04/28/22	0.0	16.1	-13.1	46	48	40-50	692
SVE-7	05/26/22	0.0	16.1	-11.7	54	44	40-50	10
SVE-7	06/23/22	0.0	18.3	-11.8	68	0	40-50	47
SVE-7	07/26/22	0.0	17.8	-11.1	68	33	40-50	20
SVE-7	08/23/22	0.0	17.0	-9.7	74	33	40-50	149
SVE-7	09/29/22	0.0	18.2	-10.0	68	33	40-50	85
SVE-7	10/27/22	0.0	18.0	-8.7	58	0	40-50	442
SVE-7	12/06/22	0.0	16.5	-9.9	45	38	40-50	223
SVE-8	08/27/08 ¹	7.6	15.7	0.3	-	-	-	-
SVE-8	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-8	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-8	10/01/08 ²	-	-	-	-	-	90 - 100	-
SVE-8	10/07/08 ²	-	-	-	-	-	90 - 100	-
SVE-8	10/15/08	1.1	4.3	-48.3	-	0	90 - 100	-
SVE-8	10/30/08	0.6	8.1	-48.1	-	0	90 - 100	NA ⁶
SVE-8	11/13/08	0.5	10.0	-47.5	-	34	90 - 100	-
SVE-8	11/26/08	0.3	10.9	-49.6	-	0	90 - 100	-
SVE-8	01/22/09 ³	3.7	6.8	-50.8	-	31	90 - 100	NA ⁶
SVE-8	02/05/09	0.0	7.7	-50.7	-	13	90 - 100	NA ⁶
SVE-8	02/16/09	0.1	8.7	-51.2	-	58	90 - 100	NA ⁶
SVE-8	03/16/09	0.3	9.7	-50.0	-	-	90 - 100	NA ⁶
SVE-8	04/24/09	0.0	10.2	-48.1	-	0	90 - 100	NA ⁶
SVE-8	05/20/09	0.0	11.0	-47.6	-	0	90 - 100	NA ⁶
SVE-8	06/23/09	0.0	10.1	-45.4	-	0	90 - 100	6,370
SVE-8	07/23/09	0.3	9.9	-45.0	-	0	90 - 100	35,400
SVE-8	08/20/09	0.2	10.8	-43.8	-	0	100	43,300
SVE-8	09/23/09	0.5	10.6	-44.7	-	0	100	47,600
SVE-8	10/20/09	0.5	12.0	-47.3	-	0	100	39,200
SVE-8	11/24/09	0.0	12.7	-46.8	-	0	100	12,900
SVE-8	12/29/09	0.0	12.7	-47.8	-	0	100	8,440
SVE-8	01/29/10	0.1	14.7	-47.9	-	13	100	480
SVE-8	02/22/10	0.0	12.9	-47.0	-	25	100	6,410
SVE-8	03/26/10	0.0	12.1	-46.6	-	0	100	6,150
SVE-8	04/22/10	0.0	13.9	-44.6	-	0	100	2,910
SVE-8	05/18/10	0.0	12.5	-44.9	-	0	100	25,100
SVE-8	06/29/10	0.0	13.7	-45.4	-	0	100	6,580

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-8	07/23/10	0.0	13.1	-42.4	-	0	100	20,400
SVE-8	08/27/10	3.3	8.3	-45.1	-	0	100	NA ⁶
SVE-8	10/01/10	3.9	6.7	-47.6	-	0	100	NA ⁶
SVE-8	10/22/10	5.0	9.4	-46.7	-	0	100	NA ⁶
SVE-8	11/29/10	0.4	16.7	-47.0	-	0	100	24,400
SVE-8	12/22/10	0.5	16.6	-49.5	-	44	100	8,700
SVE-8	01/24/11	0.1	15.3	-49.2	-	0	100	3,420
SVE-8	02/28/11	0.1	15.6	-50.1	-	0	100	1,418
SVE-8	04/13/11	0.2	13.7	-49.5	-	0	100	3,560
SVE-8	04/29/11	0.0	15.4	-48.4	-	0	100	8,725
SVE-8	05/27/11	0.0	15.9	-47.3	-	13	100	10,620
SVE-8	06/24/11	0.1	15.7	-45.6	-	30	100	7,210
SVE-8	07/22/11	0.0	15.0	-44.0	-	0	100	2,035
SVE-8	08/25/11	1.0	13.4	-45.1	-	0	100	>50,000
SVE-8	09/30/11	0.3	17.5	-43.7	-	0 ⁴	100	1,890
SVE-8	10/26/11	0.0	16.9	-44.4	-	31	100	4,220
SVE-8	11/22/11	0.0	18.7	-46.1	-	63	100	860
SVE-8	12/29/11	0.0	19.6	-45.5	-	70	100	1,550
SVE-8	01/26/12	0.0	18.4	-46.3	-	71	100	7,170
SVE-8	02/21/12	0.0	19.3	-38.0	-	98	100	1,230
SVE-8	03/30/12	0.0	19.4	-41.7	-	96	100	650
SVE-8	04/27/12	0.0	18.6	-46.6	-	92	100	480
SVE-8	05/25/12	0.0	16.6	-46.4	-	0 ⁴	100	1,310
SVE-8	06/26/12	0.0	15.6	-44.5	-	0 ⁴	100	5,840
SVE-8	07/25/12	0.0	15.6	-45.6	-	0 ⁴	100	5,100
SVE-8	08/22/12	0.0	16.6	-40.5	-	0 ⁴	100	5,830
SVE-8	09/25/12	0.1	18.8	-40.0	-	56	100	1,870
SVE-8	10/30/12	0.0	19.1	-40.8	-	68	100	270 ¹¹
SVE-8	11/21/12	0.0	19.5	-43.3	-	83	100	270
SVE-8	12/21/12 ¹²	0.9	17.9	-45.0	-	94	100	3,890
SVE-8	01/03/13 ¹²	0.0	19.2	0.0	-	0 ⁴	100	926
SVE-8	01/28/13	0.0	20.4	-23.1	-	110	100	750
SVE-8	02/27/13	0.0	17.4	1.2	-	0 ⁴	100	1,030
SVE-8	03/25/13	0.0	19.1	4.1	-	0 ⁴	100	740
SVE-8	04/26/13	0.0	17.6	0.3	-	0 ⁴	100	13,200
SVE-8	05/30/13	0.0	19.6	-14.5	-	0 ⁴	100	100
SVE-8	06/27/13	0.0	16.2	-43.0	-	0 ⁴	100	780
SVE-8	07/25/13	0.0	18.1	-40.4	-	0 ⁴	100	120
SVE-8	08/30/13	0.0	19.8	-42.7	-	66	100	62
SVE-8	09/25/13	0.0	19.5	-47.4	-	47	100	130
SVE-8	10/23/13	0.0	20.0	-44.1	-	97	100	19
SVE-8	11/20/13	0.0	19.8	-45.6	-	107	100	100
SVE-8	12/18/13	0.0	19.7	-47.3	-	87	100	50

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-8	05/13/14 ¹³	5.0	7.8	-42.9	-	90	100	NA ⁶
SVE-8	05/28/14 ¹³	0.0	10.7	-44.0	-	200	100	NA ⁶
SVE-8	06/26/14	0.0	16.3	-44.2	-	114	100	120 ¹¹
SVE-8	07/31/14	2.8	15.7	-42.8	-	80	100	1,010
SVE-8	08/28/14	4.8	12.9	-44.8	-	89	100	20
SVE-8	09/26/14	0.0	19.0	-45.6	-	162	100	64
SVE-8	10/24/14	0.0	19.9	-46.8	-	107	100	240
SVE-8	11/19/14	0.0	20.4	-46.0	-	116	100	110
SVE-8	12/17/14	0.0	20.3	-46.5	-	98	100	490
SVE-8	01/21/15	0.0	19.6	-47.8	-	107	100	240
SVE-8	02/26/15	0.0	19.4	-49.0	-	97	100	280
SVE-8	03/17/15	0.0	19.4	-47.5	-	108	100	89
SVE-8	04/17/15	0.0	18.2	-44.2	-	104	100	61
SVE-8	05/12/15	0.0	19.5	-42.5	-	100	100	73
SVE-8	06/25/15	0.0	18.9	-10.4	-	92	100	48
SVE-8	07/31/15	0.0	19.3	-22.9	-	106	100	17
SVE-8	08/19/15	0.0	20.1	-40.6	-	70	100	110
SVE-8	09/24/15	0.0	18.9	-46.0	-	99	100	160
SVE-8	10/22/15	0.0	20.0	-43.2	-	102	100	180
SVE-8	04/22/16	0.0	18.8	-0.8	50	0	-	39
SVE-8	10/26/2016 ¹⁴	-	-	-	-	-	-	-
SVE-8	04/05/17 ¹⁴	-	-	-	-	-	-	-
SVE-8	10/30/17	0.0	19.6	-0.3	54	0	-	729
SVE-8	05/17/18	0.0	18.1	-8.9	56	0	-	-
SVE-8	11/16/18	0.0	21.0	-12.8	50	0	-	0
SVE-8	04/26/19	0.0	18.3	-12.4	46	0	-	56
SVE-8	10/31/19	0.0	20.4	-13.7	54	0	-	0
SVE-8	06/23/20	0.0	19.2	-0.5	70	0	-	6
SVE-8	11/05/20	0.0	19.7	-12.2	52	0	-	645
SVE-8	04/22/21	0.0	20.4	-14.2	48	0	-	1,103
SVE-8	10/21/21	0.0	20.7	-10.1	61	0	-	239
SVE-8	04/28/22	1.0	13.5	-12.6	46	0	-	NA ¹
SVE-8	10/27/22	0.0	18.0	-8.3	58	0	-	4,385
SVE-9	08/27/08 ¹	40.8	2.1	0.2	-	-	-	-
SVE-9	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-9	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-9	10/01/08 ²	-	-	-	-	-	90 - 100	-
SVE-9	10/07/08	0.2	15.5	-47.8	-	0	90 - 100	-
SVE-9	10/15/08	0.0	17.1	-48.2	-	0	90 - 100	-
SVE-9	10/30/08	0.0	17.8	-47.8	-	0	90 - 100	NA ⁶
SVE-9	11/13/08	0.0	17.9	-47.4	-	0	90 - 100	-
SVE-9	11/26/08	0.0	18.6	-49.5	-	0	90 - 100	-

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-9	01/22/09 ^{3,7}	0.0	15.1	-50.7	-	-	90 - 100	5,480
SVE-9	02/05/09	0.0	16.7	-50.6	-	40	90 - 100	1,030
SVE-9	02/16/09	0.0	17.2	-51.4	-	28	90 - 100	1,160
SVE-9	03/16/09	0.0	16.3	-49.9	-	-	90 - 100	1,310
SVE-9	04/24/09	0.0	17.0	-47.9	-	0	90 - 100	995
SVE-9	05/20/09	0.0	17.0	-47.4	-	0	90 - 100	411
SVE-9	06/23/09	0.0	15.9	-45.2	-	0	90 - 100	604
SVE-9	07/23/09	0.0	15.7	-44.8	-	0	90 - 100	1,430
SVE-9	08/20/09	0.0	15.7	-43.8	-	0	100	1,320
SVE-9	09/23/09	0.0	16.0	-44.6	-	0	100	740
SVE-9	10/20/09	0.0	17.1	-47.2	-	0	100	411
SVE-9	11/24/09	0.0	17.0	-46.6	-	0	100	355
SVE-9	12/29/09	0.0	17.5	-47.6	-	0	100	60
SVE-9	01/29/10	0.0	20.6	-47.5	-	70	100	16
SVE-9	02/22/10	0.0	19.3	-46.5	-	50	100	174
SVE-9	03/26/10	0.0	18.6	-46.0	-	105	100	83
SVE-9	04/22/10	0.0	19.7	-43.9	-	104	100	13
SVE-9	05/18/10	0.0	19.4	-44.1	-	94	100	561
SVE-9	06/29/10	0.0	18.9	-44.6	-	75	100	95
SVE-9	07/23/10	0.0	19.3	-41.8	-	61	100	130
SVE-9	08/27/10	1.8	14.1	-44.6	-	0	100	490
SVE-9	10/01/10	1.1	12.9	-47.8	-	0	100	>50,000
SVE-9	10/22/10	0.0	18.7	-45.8	-	90	100	10,600
SVE-9	11/29/10	0.0	19.9	-46.3	-	90	100	39
SVE-9	12/22/10	0.1	19.5	-48.8	-	98	100	620
SVE-9	01/24/11	0.1	18.8	-48.9	-	78	100	240
SVE-9	02/28/11	0.0	18.8	-49.7	-	94	100	257
SVE-9	04/13/11	0.0	20.1	-16.3	-	0 ⁴	100	251
SVE-9	04/29/11	0.0	20.0	-47.0	-	0 ⁴	100	1,475
SVE-9	05/27/11	0.0	20.6	-46.4	-	96	100	320
SVE-9	06/24/11	0.0	20.0	-44.5	-	100	100	205
SVE-9	07/22/11	0.0	18.4	-43.2	-	30	100	180
SVE-9	08/25/11	0.2	18.2	-44.4	-	100	100	19,410
SVE-9	09/30/11	0.0	20.5	-30.1	-	149 ⁸	100	290
SVE-9	10/26/11	0.0	18.9	-10.3	-	100	100	33
SVE-9	11/22/11	0.0	20.0	-9.3	-	103	100	280
SVE-9	12/29/11	0.0	21.1	-7.2	-	97	100	358
SVE-9	01/26/12	0.0	19.5	-7.2	-	100	100	649
SVE-9	02/21/12	0.0	20.3	-8.7	-	102	100	194
SVE-9	03/30/12	0.0	20.5	-2.1	-	101	100	179
SVE-9	04/27/12	0.0	19.3	-25.2	-	97	100	180
SVE-9	05/25/12	0.0	19.5	-21.2	-	103	100	120
SVE-9	06/26/12	0.0	20.0	-15.7	-	97	100	50

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-9	07/25/12	0.0	19.2	-44.4	-	96	100	60
SVE-9	08/22/12	0.0	18.8	-21.2	-	102	100	200
SVE-9	09/25/12	0.0	19.7	-25.6	-	106	100	14
SVE-9	10/30/12	0.0	19.6	-9.4	-	102	100	NA ¹¹
SVE-9	11/21/12	0.0	20.2	-8.7	-	96	100	25
SVE-9	12/21/12 ¹²	0.8	18.8	-11.5	-	96	100	46,340
SVE-9	01/03/13 ¹²	0.0	20.2	-8.8	-	104	100	230
SVE-9	01/28/13	0.0	21.2	-4.6	-	99	100	571
SVE-9	02/27/13	0.0	20.5	-17.8	-	98	100	120
SVE-9	03/25/13	0.0	19.8	-28.6	-	105	100	489
SVE-9	04/26/13	0.1	18.5	-28.1	-	102	100	391
SVE-9	05/30/13	0.0	20.4	-5.4	-	0 ⁴	100	100
SVE-9	06/27/13	0.0	19.5	-38.6	-	92	100	750
SVE-9	07/25/13	0.0	19.7	-17.9	-	105	100	64
SVE-9	08/30/13	0.0	20.4	-19.8	-	100	100	65
SVE-9	09/25/13	0.0	20.1	-26.7	-	100	100	56
SVE-9	10/23/13	0.0	20.4	-31.7	-	103	100	5
SVE-9	11/20/13	0.0	20.3	-34.4	-	99	100	140
SVE-9	12/18/13	0.0	20.6	-2.2	-	0 ⁴	100	22
SVE-9	05/13/14 ¹³	0.4	14.7	21.0	-	68	100	28,900
SVE-9	05/28/14 ¹³	0.0	19.2	-43.1	-	102	100	230
SVE-9	06/26/14	0.0	19.7	-42.9	-	0 ⁴	100	9 ¹¹
SVE-9	07/31/14	0.6	19.8	-40.6	-	116	100	7,860
SVE-9	08/28/14	1.4	18.9	-42.7	-	101	100	17,950
SVE-9	09/26/14	0.0	20.0	-9.6	-	98	100	17
SVE-9	10/24/14	0.0	20.1	-10.9	-	108	100	190
SVE-9	11/19/14	0.0	21.0	-8.8	-	98	100	58
SVE-9	12/17/14	0.0	20.7	-13.0	-	0 ⁴	100	100
SVE-9	01/21/15	0.0	19.9	-22.2	-	104	100	52
SVE-9	02/26/15	0.0	20.1	-16.3	-	93	100	97
SVE-9	03/17/15	0.0	20.3	-24.8	-	102	100	34
SVE-9	04/17/15	0.0	19.7	-27.9	-	99	100	19
SVE-9	05/12/15	0.0	20.1	-26.2	-	97	100	11
SVE-9	06/25/15	0.0	19.1	-30.5	-	98	100	55
SVE-9	07/31/15	0.0	20.2	-26.7	-	101	100	18
SVE-9	08/19/15	0.0	20.8	-38.4	-	101	100	50
SVE-9	09/24/15	0.0	20.6	-44.3	-	105	100	55
SVE-9	10/22/15	0.0	21.2	-40.8	-	104	100	78
SVE-9	04/22/16	0.0	19.8	0.1	50	0 ¹⁶	-	73
SVE-9	10/26/16	0.0	14.1	0.0	51	0	-	NA ⁶
SVE-9	04/05/17	0.0	15.0	-0.1	50	0	-	NA ⁶
SVE-9	10/30/17	0.2	13.8	0.0	54	0	-	NA ⁶
SVE-9	05/17/18	0.0	18.4	-9.0	56	0	-	-

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-9	11/16/18	0.0	20.5	-12.6	50	0	-	0
SVE-9	04/26/19	0.0	14.7	-12.2	46	0	-	40
SVE-9	10/31/19	0.0	20.4	-14.6	54	0	-	40
SVE-9	06/23/20	0.0	17.2	-0.1	70	0	-	29
SVE-9	11/05/20	0.0	19.6	-11.6	52	0	-	0
SVE-9	04/22/21	0.0	20.5	-11.8	48	0	-	20
SVE-9	10/21/21	0.0	19.9	-11.4	61	0	-	1,508
SVE-9	04/28/22	0.0	18.6	-11.6	46	0	-	3,721
SVE-9	10/27/22	0.0	20.0	-7.8	58	0	-	18
SVE-10	08/27/08 ¹	0.0	19.9	0.4	-	-	-	-
SVE-10	09/23/08	40.4	0.0	-18.8	-	105	90 - 100	-
SVE-10	09/25/08	15.3	0.7	-21.0	-	101	90 - 100	-
SVE-10	10/01/08	1.5	8.5	-21.8	-	107	90 - 100	-
SVE-10	10/07/08	0.6	11.7	-22.4	-	104	90 - 100	-
SVE-10	10/15/08	0.3	13.5	-22.9	-	109	90 - 100	-
SVE-10	10/30/08	0.2	14.7	-22.8	-	103	90 - 100	6,120
SVE-10	11/13/08	0.2	15.9	-22.9	-	110	90 - 100	-
SVE-10	11/26/08	0.0	16.7	-21.4	-	95	90 - 100	-
SVE-10	01/22/09 ^{3,7}	0.0	21.0	-18.9	-	-	90 - 100	30,800
SVE-10	02/05/09	0.0	20.5	-15.4	-	101	90 - 100	5,600
SVE-10	02/16/09	0.0	20.9	-29.9	-	100	90 - 100	209
SVE-10	03/16/09 ⁵	0.0	20.0	-10.1	-	-	90 - 100	4,880
SVE-10	04/24/09	0.0	17.7	-19.6	-	104	90 - 100	3,310
SVE-10	05/20/09	0.0	17.6	-19.0	-	103	90 - 100	1,880
SVE-10	06/23/09	0.0	16.8	-19.4	-	102	90 - 100	2,810
SVE-10	07/23/09	0.0	16.8	-18.9	-	106	90 - 100	11,300
SVE-10	08/20/09	0.0	16.9	-29.0	-	155	150	12,900
SVE-10	09/23/09	0.0	16.8	-32.4	-	144	150	9,850
SVE-10	10/20/09	0.0	16.8	-31.1	-	151	150	16,700
SVE-10	11/24/09	0.1	16.7	-25.0	-	153	150	22,200
SVE-10	12/29/09	0.1	15.8	-23.2	-	156	150	8,690
SVE-10	01/29/10	0.2	19.0	-23.3	-	157	150	4,800
SVE-10	02/22/10	0.0	19.0	-18.6	-	155	150	2,650
SVE-10	03/26/10	0.0	19.4	-12.1	-	280 ⁸	150	36
SVE-10	04/22/10	0.0	20.0	-14.4	-	156	150	9
SVE-10	05/18/10	0.0	20.1	-11.7	-	147	150	1,410
SVE-10	06/29/10	0.0	18.9	-17.1	-	139	150	6,460
SVE-10	07/23/10	0.0	18.8	-17.5	-	145	150	2,290
SVE-10	08/27/10	0.0	19.8	-12.3	-	142	150	150
SVE-10	10/01/10	0.0	19.1	-20.8	-	153	150	7,730
SVE-10	10/22/10	0.3	14.3	-21.0	-	143	150	>50,000
SVE-10	11/29/10	0.1	17.9	-18.7	-	154	150	9,570

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**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-10	12/22/10	0.3	17.5	-17.5	-	150	150	3,250
SVE-10	01/24/11	0.1	17.5	-13.5	-	147	150	1,320
SVE-10	02/28/11	0.1	19.1	-18.6	-	147	150	143
SVE-10	04/13/11	0.0	19.9	-16.4	-	147	150	970
SVE-10	04/29/11	0.0	17.6	-29.3	-	153	150	10,330
SVE-10	04/27/11	0.1	17.0	-31.8	-	142	150	16,430
SVE-10	06/24/11	0.3	15.7	-31.0	-	145	150	15,520
SVE-10	07/22/11	0.1	14.9	-30.4	-	131	150	2,715
SVE-10	08/25/11	0.5	13.9	-26.8	-	129	150	44,430
SVE-10	09/30/11	0.2	17.7	-28.9	-	- ⁹	150	2,570
SVE-10	10/26/11	0.0	16.1	-38.0	-	- ⁹	150	10,270
SVE-10	11/22/11	0.2	16.8	-23.0	-	153	150	10,630
SVE-10	12/29/11	0.0	18.2	-23.0	-	153	150	5,280
SVE-10	01/26/12	0.0	16.0	-23.0	-	153	150	6,691
SVE-10	02/21/12	0.2	17.0	-16.6	-	149	150	6,700
SVE-10	03/30/12	0.0	18.2	-14.9	-	145	150	490
SVE-10	04/27/12	0.0	17.7	-15.7	-	44 ¹⁰	150	580
SVE-10	05/25/12	0.0	17.9	-15.3	-	30 ¹⁰	150	690
SVE-10	06/26/12	0.0	16.6	-13.5	-	54 ¹⁰	150	770
SVE-10	07/25/12	0.0	18.0	-3.8	-	0 ⁴	150	620
SVE-10	08/22/12	0.0	17.5	-33.6	-	153	150	930
SVE-10	09/25/12	0.6	17.2	-33.2	-	155	150	7,020
SVE-10	10/30/12	0.0	17.5	-25.8	-	150	150	340 ¹¹
SVE-10	11/21/12	0.0	18.0	-25.8	-	154	150	2,040
SVE-10	12/21/12 ¹²	1.0	12.6	-29.6	-	135	150	NA ⁶
SVE-10	01/03/13 ¹²	0.0	18.4	-14.6	-	157	150	846
SVE-10	01/28/13	0.0	20.5	-13.0	-	101	150	1,040
SVE-10	02/27/13	0.0	20.3	-11.4	-	149	150	240
SVE-10	03/25/13	0.0	19.7	-12.4	-	90	150	655
SVE-10	04/26/13	0.1	16.8	-6.4	-	147	150	6,510
SVE-10	05/30/13	0.0	19.9	-7.6	-	0 ⁴	150	110
SVE-10	06/27/13	0.0	20.1	0.0	-	0 ⁴	150	35
SVE-10	07/25/13	0.0	19.6	-1.5	-	0 ⁴	150	110
SVE-10	08/30/13	0.0	20.5	-0.7	-	0 ⁴	150	92
SVE-10	09/25/13	0.0	20.4	-1.0	-	0 ⁴	150	62
SVE-10	10/23/13	0.0	20.8	-1.4	-	142	150	0
SVE-10	11/20/13	0.0	20.6	-0.6	-	0 ⁴	150	10
SVE-10	12/18/13	0.0	20.8	-0.9	-	156	150	47
SVE-10	05/13/14 ¹³	0.0	20.6	-4.1	-	0 ⁴	150	270
SVE-10	05/28/14 ¹³	0.0	19.6	-2.4	-	38	150	170
SVE-10	06/26/14	0.0	20.1	-2.4	-	0 ⁴	150	3 ¹¹
SVE-10	07/31/14	0.0	20.7	0.2	-	0 ⁴	150	80
SVE-10	08/28/14	0.0	20.7	-1.2	-	32	150	95

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-10	09/26/14	0.0	20.2	-0.8	-	0 ⁴	150	47
SVE-10	10/24/14	0.0	20.4	-1.5	-	15	150	210
SVE-10	11/19/14	0.0	21.5	-0.6	-	0 ⁴	150	23
SVE-10	12/17/14	0.0	20.9	-2.5	-	0 ⁴	150	64
SVE-10	01/21/15	0.0	20.2	-16.1	-	0 ¹⁵	150	9
SVE-10	02/26/15	0.0	20.6	-1.4	-	0 ¹⁵	150	56
SVE-10	03/17/15	0.0	21.0	-3.1	-	0 ¹⁵	150	40
SVE-10	04/17/15	0.0	20.2	-1.5	-	0 ¹⁵	150	19
SVE-10	05/12/15	0.0	20.3	-4.0	-	0 ¹⁵	150	6
SVE-10	06/25/15	0.0	19.2	-1.7	-	0 ¹⁵	150	48
SVE-10	07/31/15	0.0	20.3	-3.0	-	0 ¹⁵	150	35
SVE-10	08/19/15	0.0	20.9	-4.0	-	0 ¹⁵	150	44
SVE-10	09/24/15	0.0	21.2	-5.1	-	0 ¹⁵	150	210
SVE-10	10/22/15	0.0	21.0	-3.8	-	0 ¹⁵	150	180
SVE-10	04/22/16	0.0	20.3	-15.7	50	0 ^{4,5}	-	45
SVE-10	10/26/16	0.0	20.5	-0.3	51	0	-	380
SVE-10	04/05/17	0.0	20.1	0.0	50	0	-	599
SVE-10	10/30/17	0.0	15.0	0.0	54	0	-	NA ⁶
SVE-10	05/17/18	0.0	19.4	-9.1	56	0	-	-
SVE-10	11/16/18	0.0	20.0	-12.5	50	0	-	0
SVE-10	04/26/19	0.0	16.5	-12.4	46	0	-	784
SVE-10	10/31/19	0.0	18.5	-14.8	54	0	-	548
SVE-10	06/23/20	0.0	14.6	-13.5	70	0	-	1,835
SVE-10	11/05/20	0.0	16.0	-12.9	52	0	-	1,214
SVE-10	04/22/21	0.3	15.3	-12.1	48	0	-	9,412
SVE-10	10/21/21	0.0	18.0	-11.8	61	0	-	2,075
SVE-10	04/28/22	0.0	13.3	-10.6	46	0	-	1,410
SVE-10	10/27/22	0.0	17.8	-8.8	58	0	-	1,267
SVE-11	08/27/08 ¹	0.9	19.0	0.4	-	-	-	-
SVE-11	09/23/08	47.1	0.0	-16.8	-	94	90 - 100	-
SVE-11	09/25/08	47.0	0.0	-18.4	-	88	90 - 100	-
SVE-11	10/01/08	9.7	0.0	-19.2	-	92	90 - 100	-
SVE-11	10/07/08	3.3	2.4	-19.3	-	88	90 - 100	-
SVE-11	10/15/08	1.9	5.3	-19.6	-	90	90 - 100	-
SVE-11	10/30/08	1.1	6.7	-19.2	-	68	90 - 100	NA ⁶
SVE-11	11/13/08	0.9	9.1	-20.6	-	86	90 - 100	-
SVE-11	11/26/08	0.5	10.8	-20.6	-	103	90 - 100	-
SVE-11	01/22/09 ³	6.7	5.9	-15.6	-	101	90 - 100	NA ⁶
SVE-11	02/05/09	0.3	9.9	-12.9	-	94	90 - 100	26,800
SVE-11	02/16/09	0.0	14.9	-9.1	-	99	90 - 100	13,400
SVE-11	03/16/09	0.1	15.9	-13.0	-	98	90 - 100	38,500
SVE-11	04/24/09	0.1	10.1	-15.0	-	98	90 - 100	NA ⁶

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-11	05/20/09	0.0	10.6	-14.3	-	92	90 - 100	NA ⁶
SVE-11	06/23/09	0.1	9.7	-14.2	-	94	90 - 100	10,600
SVE-11	07/23/09	0.4	10.5	-13.2	-	91	90 - 100	41,900
SVE-11	08/20/09	0.3	10.5	-18.6	-	148	150	41,200
SVE-11	09/23/09	0.5	12.7	-17.6	-	146	150	39,000
SVE-11	10/20/09	0.2	16.4	-20.8	-	153	150	30,200
SVE-11	11/24/09	0.0	19.2	-11.9	-	156	150	410
SVE-11	12/29/09	0.0	18.5	-11.3	-	156	150	1,400
SVE-11	01/29/10	0.1	20.2	-12.7	-	145	150	1,825
SVE-11	02/22/10	0.0	17.4	-20.9	-	147	150	5,810
SVE-11	03/26/10	0.0	17.2	-12.9	-	410 ⁸	150	6,490
SVE-11	04/22/10	0.0	18.7	-12.1	-	148	150	2,620
SVE-11	05/18/10	0.0	18.2	-10.9	-	150	150	20,200
SVE-11	06/29/10	0.0	19.7	-5.8	-	0 ¹⁰	150	96
SVE-11	07/23/10	0.3	13.0	-26.4	-	116 ¹⁰	150	34,400
SVE-11	08/27/10	2.4	9.3	-27.2	-	128 ¹⁰	150	NA ⁶
SVE-11	10/01/10	2.6	8.1	-35.1	-	60 ¹⁰	150	NA ⁶
SVE-11	10/22/10	0.4	14.0	-37.9	-	50 ¹⁰	150	NA ⁶
SVE-11	11/29/10	0.9	13.6	-41.8	-	0 ¹⁰	150	>50,000
SVE-11	12/22/10	0.6	15.0	-43.1	-	109 ¹⁰	150	15,200
SVE-11	01/24/11	0.5	16.9	-39.0	-	164	150	14
SVE-11	02/28/11	0.1	19.0	-45.1	-	110	150	211
SVE-11	04/13/11	0.0	20.1	-40.2	-	0 ⁴	150	620
SVE-11	04/29/11	0.0	20.5	-31.0	-	0 ⁴	150	33,125
SVE-11	05/27/11	0.0	20.6	-35.5	-	0 ⁴	150	16,020
SVE-11	06/24/11	0.0	20.2	-40.6	-	0 ⁴	150	30,860
SVE-11	07/22/11	0.0	18.8	-41.2	-	0 ⁴	150	6,500
SVE-11	08/25/11	0.0	19.7	-43.3	-	105	150	> 50,000
SVE-11	09/30/11	0.5	16.9	-41.8	-	147	150	10,120
SVE-11	10/26/11	0.2	15.6	-16.0	-	154	150	18,660
SVE-11	11/22/11	0.4	17.9	-12.9	-	146	150	260
SVE-11	12/29/11	0.0	19.2	-13.0	-	147	150	390
SVE-11	01/26/12	0.2	17.2	-12.6	-	146	150	260
SVE-11	02/21/12	0.0	20.4	-10.7	-	150	150	1,610
SVE-11	03/30/12	0.5	15.6	-15.4	-	149	150	149
SVE-11	04/27/12	0.0	17.1	-39.5	-	156	150	3,710
SVE-11	05/25/12	0.5	14.1	-45.7	-	108	150	2,880
SVE-11	06/26/12	0.2	14.4	-26.7	-	150	150	5,290
SVE-11	07/25/12	0.0	18.4	-44.1	-	49	150	4,310
SVE-11	08/22/12	0.3	15.3	-39.6	-	75	150	220
SVE-11	09/25/12	0.9	16.7	-36.9	-	0 ⁴	150	12,760
SVE-11	10/30/12	0.1	18.1	-40.1	-	92	150	NA ¹¹
SVE-11	11/21/12	0.0	18.6	-41.4	-	93	150	130

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-11	12/21/12 ¹²	4.1	8.8	-44.2	-	78	150	NA ⁶
SVE-11	01/03/13 ¹²	0.8	14.6	-17.3	-	146	150	1,820
SVE-11	01/28/13	0.2	16.3	-47.3	-	102	150	4,620
SVE-11	02/27/13	0.2	16.8	-47.1	-	100	150	216
SVE-11	03/25/13	0.3	16.2	-47.1	-	150	150	651
SVE-11	04/26/13	0.6	14.6	-9.4	-	156	150	2,470
SVE-11	05/30/13	0.0	17.3	-41.6	-	0 ⁴	150	230
SVE-11	06/27/13	0.0	20.0	-42.2	-	0 ⁴	150	55
SVE-11	07/25/13	0.0	19.7	-42.4	-	0 ⁴	150	21
SVE-11	08/30/13	0.0	20.4	-41.4	-	0 ⁴	150	34
SVE-11	09/25/13	0.0	20.5	-20.8	-	0 ⁴	150	120
SVE-11	10/23/13	0.0	20.6	-45.7	-	110	150	4
SVE-11	11/20/13	0.0	20.7	-48.5	-	143	150	79
SVE-11	12/18/13	0.0	20.7	-47.0	-	60	150	48
SVE-11	05/13/14 ¹³	0.9	16.6	89.0	-	156	150	1,350
SVE-11	05/28/14 ¹³	0.0	19.3	-45.8	-	50	150	155
SVE-11	06/26/14	0.0	20.0	-47.4	-	156	150	5 ¹¹
SVE-11	07/31/14	0.2	20.2	-43.2	-	182	150	66
SVE-11	08/28/14	0.6	20.2	-44.8	-	100	150	1,370
SVE-11	09/26/14	0.0	20.1	-44.8	-	191	150	NA ⁶
SVE-11	10/24/14	0.0	20.4	-47.7	-	157	150	300
SVE-11	11/19/14	0.0	21.2	-47.1	-	142	150	110
SVE-11	12/17/14	0.0	20.8	-47.9	-	153	150	160
SVE-11	01/21/15	0.0	20.2	-47.8	-	156	150	13
SVE-11	02/26/15	0.0	20.5	-50.1	-	0 ⁴	150	170
SVE-11	03/17/15	0.0	20.9	-48.1	-	143	150	52
SVE-11	04/17/15	0.0	19.9	-44.4	-	162	150	38
SVE-11	05/12/15	0.0	20.0	-43.2	-	152	150	59
SVE-11	06/25/15	0.0	19.2	-36.3	-	151	150	51
SVE-11	07/31/15	0.0	20.0	-38.3	-	145	150	43
SVE-11	08/19/15	0.0	20.3	-39.0	-	88	150	210
SVE-11	09/24/15	0.0	20.6	-45.0	-	162	150	290
SVE-11	10/22/15	0.2	19.9	-42.3	-	165	150	2,350
SVE-11	04/22/16	0.0	20.3	0.0	50	0	-	460
SVE-11	10/26/16	0.0	19.9	-10.0	51	0	-	610
SVE-11	04/05/17	0.0	18.7	-0.4	50	0	-	781
SVE-11	10/30/17	0.0	15.2	0.0	54	0	-	NA ⁶
SVE-11	05/17/18	3.2	12.8	-8.8	56	0	-	-
SVE-11	11/16/18	1.2	16.4	-12.9	50	0	-	> 4,193
SVE-11	04/26/19	1.0	13.9	-12.6	46	0	-	27,144
SVE-11	10/31/19	0.0	20.8	-15.1	54	0	-	698
SVE-11	06/23/20	0.2	16.0	-13.3	70	0	-	4,084
SVE-11	11/05/20	1.7	13.8	-12.6	52	0	-	31,505

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-11	04/22/21	1.9	15.9	-14.2	48	0	-	38,711
SVE-11	10/21/21	1.9	15.9	-10.6	61	0	-	NA ⁶
SVE-11	04/28/22	1.5	16.0	-13.0	46	0	-	NA ¹
SVE-11	10/27/22	0.7	18.1	-8.4	58	0	-	18,985
SVE-12	08/27/08 ¹	0.0	19.3	0.7	-	-	-	-
SVE-12	09/23/08	13.7	0.0	-35.2	-	96	90 - 100	-
SVE-12	09/25/08	9.1	0.0	-36.9	-	98	90 - 100	-
SVE-12	10/01/08	0.9	3.2	-36.6	-	104	90 - 100	-
SVE-12	10/07/08	0.3	6.5	-35.4	-	101	90 - 100	-
SVE-12	10/15/08	0.0	9.8	-36.2	-	102	90 - 100	-
SVE-12	10/30/08	0.0	11.9	-36.6	-	85	90 - 100	1,050
SVE-12	11/13/08	0.0	14.1	-17.3	-	87	90 - 100	-
SVE-12	11/26/08	0.0	13.7	-6.2	-	34	90 - 100	-
SVE-12	01/22/09 ³	0.5	12.3	-43.4	-	102	90 - 100	24,100
SVE-12	02/05/09	0.0	14.3	-42.4	-	102	90 - 100	3,150
SVE-12	02/16/09	0.0	15.1	-35.6	-	96	90 - 100	3,750
SVE-12	03/16/09	0.0	15.7	-38.7	-	97	90 - 100	3,480
SVE-12	04/24/09	0.0	16.1	-37.4	-	92	90 - 100	3,030
SVE-12	05/20/09	0.0	16.2	-41.0	-	104	90 - 100	1,630
SVE-12	06/23/09	0.0	15.5	-39.5	-	95	90 - 100	2,290
SVE-12	07/23/09	0.0	15.6	-39.1	-	93	90 - 100	8,520
SVE-12	08/20/09	0.0	16.1	-42.1	-	102	150	9,410
SVE-12	09/23/09	0.0	16.3	-42.8	-	96	150	7,220
SVE-12	10/20/09	0.0	17.0	-45.1	-	109	150	7,610
SVE-12	11/24/09	0.0	16.5	-44.4	-	109	150	6,440
SVE-12	12/29/09	0.0	15.4	-45.7	-	94	150	3,240
SVE-12	01/29/10	0.0	18.2	-45.8	-	120	150	2,300
SVE-12	02/22/10	0.0	16.4	-44.3	-	108	150	5,130
SVE-12	03/26/10	0.0	15.4	-44.7	-	111	150	4,810
SVE-12	04/22/10	0.0	16.2	-42.4	-	96	150	2,960
SVE-12	05/18/10	0.0	15.9	-42.6	-	98	150	14,400
SVE-12	06/29/10	0.0	15.9	-44.4	-	91	150	8,090
SVE-12	07/23/10	0.0	16.9	-41.0	-	82	150	4,930
SVE-12	08/27/10	2.6	10.7	-43.8	-	94	150	NA ⁶
SVE-12	10/01/10	0.9	11.0	-46.6	-	103	150	NA ⁶
SVE-12	10/22/10	0.4	13.7	-45.2	-	100	150	21,300
SVE-12	11/29/10	0.1	17.2	-45.8	-	93	150	10,400
SVE-12	12/22/10	0.4	16.4	-48.2	-	112	150	5,770
SVE-12	01/24/11	0.3	16.7	-47.8	-	102	150	5,870
SVE-12	02/28/11	0.2	16.4	-49.1	-	87	150	4,195
SVE-12	04/13/11	0.3	16.0	-48.8	-	93	150	6,170
SVE-12	04/29/11	0.0	17.3	-47.2	-	84	150	10,750

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-12	05/27/11	0.0	18.3	-46.1	-	91	150	1,460
SVE-12	06/24/11	0.0	18.0	-45.0	-	97	150	420
SVE-12	07/22/11	0.0	16.4	-43.4	-	45	150	97
SVE-12	08/25/11	0.0	16.0	-44.3	-	76	150	8,250
SVE-12	09/30/11	0.0	18.3	-41.8	-	40	150	310
SVE-12	10/26/11	0.0	16.6	-44.4	-	46	150	890
SVE-12	11/22/11	0.0	17.6	-45.3	-	61	150	2,530
SVE-12	12/29/11	0.0	18.6	-44.8	-	70	150	7,840
SVE-12	01/26/12	0.0	17.3	-44.9	-	102	150	27,614
SVE-12	02/21/12	0.0	17.6	-46.2	-	108	150	4,800
SVE-12	03/30/12	0.0	18.0	-47.1	-	123	150	1,771
SVE-12	04/27/12	0.0	18.1	-46.1	-	149	150	2,730
SVE-12	05/25/12	0.0	18.1	-44.8	-	106	150	802
SVE-12	06/26/12	0.0	16.8	-41.8	-	113	150	5,430
SVE-12	07/25/12	0.2	15.7	-44.2	-	110	150	6,360
SVE-12	08/22/12	0.0	17.3	-38.7	-	98	150	6,320
SVE-12	09/25/12	0.2	17.8	-5.7	-	152	150	2,520
SVE-12	10/30/12	0.0	18.8	-21.8	-	0 ⁴	150	440 ¹¹
SVE-12	11/21/12	0.0	19.0	-36.1	-	147	150	1,360
SVE-12	12/21/12 ¹²	2.4	15.0	-30.2	-	151	150	>50,000
SVE-12	01/03/13 ¹²	0.2	18.7	-23.8	-	153	150	5,420
SVE-12	01/28/13	0.0	19.7	-23.2	-	144	150	3,940
SVE-12	02/27/13	0.1	19.3	-20.8	-	154	150	5,710
SVE-12	03/25/13	0.1	19.0	-21.8	-	147	150	7,960
SVE-12	04/26/13	1.6	12.8	-12.6	-	151	150	NA ⁶
SVE-12	05/30/13	0.0	17.0	-42.1	-	122	150	2,340
SVE-12	06/27/13	0.0	20.1	-39.0	-	99	150	230
SVE-12	07/25/13	0.0	18.4	-38.6	-	156	150	1,740
SVE-12	08/30/13	0.0	19.1	-38.5	-	157	150	1,610
SVE-12	09/25/13	0.1	19.0	-46.4	-	155	150	2,300
SVE-12	10/23/13	0.0	19.4	-19.6	-	149	150	1,900
SVE-12	11/20/13	0.1	19.5	-19.3	-	146	150	3,120
SVE-12	12/18/13	0.0	19.8	-13.8	-	147	150	20
SVE-12	05/13/14 ¹³	5.4	6.7	464.0	-	149	150	NA ⁶
SVE-12	05/28/14 ¹³	0.0	17.0	-22.1	-	147	150	27,700
SVE-12	06/26/14	0.0	18.0	-25.7	-	148	150	6,390 ¹¹
SVE-12	07/31/14	0.6	18.5	-17.6	-	153	150	10,160
SVE-12	08/28/14	2.0	17.4	-21.9	-	155	150	18,770
SVE-12	09/26/14	0.0	19.0	-36.9	-	141	150	920
SVE-12	10/24/14	0.0	19.3	-21.0	-	150	150	2,080
SVE-12	11/19/14	0.0	20.0	-17.2	-	160	150	1,330
SVE-12	12/17/14	0.0	20.1	-22.4	-	159	150	1,390
SVE-12	01/21/15	0.0	19.4	-23.1	-	145	150	780

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-12	02/26/15	0.0	19.9	-16.5	-	0 ⁴	150	1,190
SVE-12	03/17/15	0.0	20.2	-22.2	-	151	150	410
SVE-12	04/17/15	0.0	19.1	-18.2	-	0 ⁴	150	400
SVE-12	05/12/15	0.0	19.6	-19.2	-	155	150	110
SVE-12	06/25/15	0.0	18.4	-16.5	-	153	150	530
SVE-12	07/31/15	0.0	19.6	-17.7	-	153	150	250
SVE-12	08/19/15	0.0	20.1	-19.3	-	88	150	500
SVE-12	09/24/15	0.1	19.8	-41.6	-	144	150	780
SVE-12	10/22/15	0.0	20.5	-37.8	-	150	150	520
SVE-12	11/12/15	0.4	17.0	-10.8	-	0 ¹⁵	40 - 50	690
SVE-12	12/17/15	0.1	18.1	-16.2	-	0 ¹⁵	40 - 50	1,020
SVE-12	01/21/16	0.0	18.9	-7.2	35	43	40-50	4,140
SVE-12	02/24/16	0.1	18.7	0.1	38	51	40-50	2,340
SVE-12	03/22/16	0.0	16.2	-7.5	42	46	40-50	NA ⁶
SVE-12	04/22/16	0.2	18.5	-4.1	50	0 ⁴	40-50	100
SVE-12	05/19/16	0.0	18.5	-6.2	55	49	40-50	2,810
SVE-12	06/14/16	0.0	18.2	-5.6	62	0 ⁴	40-50	4,260
SVE-12	07/27/16	0.3	17.6	-4.5	70	0 ⁴	40-50	4,050
SVE-12	08/10/16	0.2	18.5	-4.8	70	0 ⁴	40-50	1,430
SVE-12	09/15/16	0.2	18.0	-6.6	68	0 ⁴	40-50	1,610
SVE-12	10/26/16	0.6	18.4	-6.4	51	0 ⁴	40-50	1,240
SVE-12	11/23/16	0.6	17.8	-7.2	50	52	40-50	1,000
SVE-12	12/13/16	0.3	18.4	-7.9	45	56	40-50	1,330
SVE-12	01/10/17	0.8	17.0	-6.4	40	70	40-50	1,244
SVE-12	02/14/17	0.0	18.1	-8.8	44	49	40-50	1,314
SVE-12	03/07/17	0.2	18.0	-10.3	40	55	40-50	841
SVE-12	04/05/17	0.1	18.3	-11.9	50	47	40-50	1,011
SVE-12	05/25/17	0.8	12.9	-12.0	53	0 ⁴	40-50	NA ⁶
SVE-12	06/28/17	0.1	17.9	-8.6	63	0 ⁴	40-50	911
SVE-12	07/24/17	0.1	18.1	-8.7	68	0 ⁴	40-50	1,022
SVE-12	08/14/17	0.1	19.0	-9.0	66	0 ⁴	40-50	989
SVE-12	09/13/17	0.2	18.6	-7.7	67	42	40-50	904
SVE-12	10/30/17	0.1	19.1	0.0	54	52	40-50	1,410
SVE-12	11/17/17	0.0	19.1	-7.7	55	0 ⁴	40-50	1,591
SVE-12	12/07/17	0.0	19.6	-7.7	52	0 ⁴	40-50	1,308
SVE-12	01/24/18	5.4	18.8	-7.2	37	0 ⁴	40-50	1,691
SVE-12	02/13/18	0.4	19.0	-10.4	44	44	40-50	1,725
SVE-12	03/05/18	0.0	19.6	-16.1	45	0 ⁴	40-50	1,449
SVE-12	04/04/18	0.0	18.9	-6.8	36	0 ⁴	40-50	1,911
SVE-12	05/17/18	0.1	19.1	-9.6	56	0 ⁴	40-50	-
SVE-12	07/03/18	0.0	18.3	-7.6	68	0 ⁴	40-50	-
SVE-12	07/31/18	0.0	18.2	-7.0	69	0 ⁴	40-50	-
SVE-12	08/30/18	0.0	18.1	-8.8	64	0 ⁴	40-50	-

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-12	09/28/18	0.3	18.6	-12.1	56	0 ⁴	40-50	NA ⁶
SVE-12	11/16/18	0.8	17.9	-11.7	50	0 ⁴	40-50	> 4,193
SVE-12	12/13/18	0.5	18.4	-11.8	42	0 ⁴	40-50	> 5,745
SVE-12	01/23/19	0.3	16.5	-11.6	37	84	40-50	4,372
SVE-12	02/22/19	0.0	19.5	-12.0	36	84	40-50	295
SVE-12	04/02/19	0.0	17.2	-11.2	41	71	40-50	115
SVE-12	04/26/19	0.0	18.4	-11.7	46	52	40-50	457
SVE-12	05/29/19	0.0	17.0	-13.5	54	66	40-50	588
SVE-12	06/18/19	0.0	17.5	-11.3	64	73	40-50	447
SVE-12	07/23/19	0.0	18.1	-11.1	68	69	40-50	195
SVE-12	08/29/19	0.0	17.3	-11.5	66	72	40-50	1,665
SVE-12	09/12/19	0.0	18.6	-12.0	59	0 ⁴	40-50	3,081
SVE-12	10/31/19	0.2	18.5	-14.2	54	85	40-50	2,683
SVE-12	11/25/19	0.5	20.3	-12.2	46	22	40-50	-
SVE-12	02/18/20	0.0	18.3	-14.9	41	92	40-50	1,055
SVE-12	06/23/20	0.0	18.7	-12.8	70	80	40-50	68
SVE-12	08/17/20	0.0	17.5	-13.1	72	42	40-50	243
SVE-12	11/05/20	0.0	18.0	-11.8	52	64	40-50	619
SVE-12	01/20/21	0.0	19.3	-9.5	36	60	40-50	646
SVE-12	02/19/21	0.0	20.5	-10.3	34	0 ⁴	40-50	200
SVE-12	03/25/21	0.0	14.0	-14.6	44	92	40-50	NA ¹⁸
SVE-12	04/22/21	0.0	18.8	-14.0	48	59	40-50	377
SVE-12	05/21/21	0.0	18.2	-11.9	56	98	40-50	0
SVE-12	06/17/21	0.0	18.5	-9.4	65	80	40-50	34
SVE-12	07/15/21	0.0	18.5	-8.9	70	53	40-50	NA ¹⁸
SVE-12	08/12/21	0.0	19.3	-9.4	67	0 ⁴	40-50	132
SVE-12	09/23/21	0.0	10.0	-9.7	60	0 ⁴	40-50	3,520
SVE-12	10/21/21	0.0	18.8	-10.6	61	102	40-50	1,535
SVE-12	11/30/21	0.0	16.7	-10.5	40	45	40-50	2,990
SVE-12	12/21/21	0.0	17.2	-10.2	39	74	40-50	4,579
SVE-12	01/31/22	0.0	15.9	-11.0	35	128	40-50	476
SVE-12	02/28/22	0.0	18.9	-9.6	42	74	40-50	201
SVE-12	03/28/22	0.0	14.1	-11.7	36	0	40-50	194
SVE-12	04/28/22	0.0	17.8	-11.7	46	0	40-50	1,810
SVE-12	05/26/22	0.0	16.9	-11.6	54	96	40-50	40
SVE-12	06/23/22	0.0	19.0	-11.3	68	69	40-50	19
SVE-12	07/26/22	0.0	18.6	-10.9	68	99	40-50	157
SVE-12	08/23/22	0.0	17.9	-9.9	74	43	40-50	300
SVE-12	09/29/22	0.0	18.8	-9.4	68	55	40-50	619
SVE-12	10/27/22	0.0	18.5	-8.4	58	74	40-50	1,073
SVE-12	12/06/22	0.0	17.3	-9.2	45	84	40-50	1,141
SVE-13	08/27/08 ¹	0.5	16.2	0.3	-	-	-	-

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-13	09/23/08	34.2	0.0	-46.7	-	0	90 - 100	-
SVE-13	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-13	10/01/08	0.0	11.0	-48.6	-	46	90 - 100	-
SVE-13	10/07/08	0.0	14.9	-47.2	-	0	90 - 100	-
SVE-13	10/15/08	0.0	16.3	-47.7	-	0	90 - 100	-
SVE-13	10/30/08	0.0	17.0	-47.3	-	33	90 - 100	365
SVE-13	11/13/08	0.0	17.9	-47.4	-	0	90 - 100	-
SVE-13	11/26/08	0.0	18.1	-48.7	-	0	90 - 100	-
SVE-13	01/22/09 ³	0.0	18.4	-11.9	-	99	90 - 100	2,040
SVE-13	02/05/09	0.0	18.8	-11.5	-	103	90 - 100	303
SVE-13	02/16/09	0.0	19.4	-12.8	-	90	90 - 100	364
SVE-13	03/16/09	0.0	18.6	-11.4	-	97	90 - 100	1,030
SVE-13	04/24/09	0.0	18.8	-12.0	-	94	90 - 100	750
SVE-13	05/20/09	0.0	18.4	-11.8	-	104	90 - 100	510
SVE-13	06/23/09	0.0	16.9	-11.9	-	100	90 - 100	594
SVE-13	07/23/09	0.0	16.7	-11.5	-	99	90 - 100	1,740
SVE-13	08/20/09	0.0	15.9	-12.8	-	99	100	2,430
SVE-13	09/23/09	0.0	16.1	-12.8	-	98	100	1,580
SVE-13	10/20/09	0.0	16.8	-14.0	-	96	100	1,560
SVE-13	11/24/09	0.0	17.5	-13.2	-	103	100	1,550
SVE-13	12/29/09	0.0	16.8	-12.8	-	94	100	545
SVE-13	01/29/10	0.0	19.5	-12.8	-	104	100	404
SVE-13	02/22/10	0.0	18.7	-11.4	-	101	100	620
SVE-13	03/26/10	0.0	17.8	-13.4	-	96	100	1,720
SVE-13	04/22/10	0.0	18.4	-11.8	-	105	100	664
SVE-13	05/18/10	0.0	17.8	-11.7	-	94	100	3,730
SVE-13	06/29/10	0.0	16.3	-12.7	-	106	100	1,830
SVE-13	07/23/10	0.0	16.1	-12.7	-	101	100	1,630
SVE-13	08/27/10	0.0	13.0	-10.3	-	102	100	1,790
SVE-13	10/01/10	0.0	14.0	-10.4	-	99	100	4,930
SVE-13	10/22/10	0.0	13.9	-9.8	-	100	100	6,680
SVE-13	11/29/10	0.0	17.3	-9.8	-	94	100	1,640
SVE-13	12/22/10	0.1	18.0	-10.3	-	106	100	350
SVE-13	01/24/11	0.2	17.6	-10.2	-	102	100	1,770
SVE-13	02/28/11	0.1	17.3	-11.0	-	95	100	1,243
SVE-13	04/13/11	0.0	18.3	-10.1	-	97	100	1,120
SVE-13	04/29/11	0.0	18.3	-12.2	-	100	100	4,184
SVE-13	05/27/11	0.0	18.7	-11.9	-	98	100	2,150
SVE-13	06/24/11	0.0	17.1	-13.2	-	102	100	1,170
SVE-13	07/22/11	0.0	16.1	-12.8	-	109	100	248
SVE-13	08/25/11	0.0	15.6	-12.3	-	100	100	3,180
SVE-13	09/30/11	0.0	17.9	-13.3	-	98	100	440
SVE-13	10/26/11	0.0	16.9	-14.2	-	99	100	860

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-13	11/22/11	0.0	18.5	-12.4	-	105	100	650
SVE-13	12/29/11	0.0	19.9	-13.3	-	102	100	850
SVE-13	01/26/12	0.0	18.0	-11.4	-	105	100	10,905
SVE-13	02/21/12	0.0	18.7	-8.3	-	102	100	2,260
SVE-13	03/30/12	0.0	19.1	-11.4	-	106	100	483
SVE-13	04/27/12	0.0	18.3	-14.8	-	102	100	1,210
SVE-13	05/25/12	0.0	18.3	-13.6	-	103	100	280
SVE-13	06/26/12	0.0	16.3	-14.8	-	103	100	1,680
SVE-13	07/25/12	0.0	14.2	-17.0	-	101	100	2,100
SVE-13	08/22/12	0.0	16.8	-16.8	-	101	100	1,690
SVE-13	09/25/12	0.0	17.5	-16.8	-	108	100	540
SVE-13	10/30/12	0.0	18.3	-16.2	-	110	100	280 ¹¹
SVE-13	11/21/12	0.0	18.2	-16.0	-	103	100	260
SVE-13	12/21/12 ¹²	0.0	14.5	-14.6	-	97	100	4,470
SVE-13	01/03/13 ¹²	0.0	19.2	-14.1	-	101	100	750
SVE-13	01/28/13	0.0	19.6	-14.9	-	101	100	1,700
SVE-13	02/27/13	0.0	19.8	-8.0	-	101	100	275
SVE-13	03/25/13	0.0	19.6	-9.0	-	97	100	515
SVE-13	04/26/13	0.0	17.5	-32.1	-	92	100	207
SVE-13	05/30/13	0.1	18.0	-37.3	-	99	100	4,460
SVE-13	06/27/13	0.1	15.5	-35.7	-	0 ⁴	100	2,420
SVE-13	07/25/13	0.0	17.2	-23.9	-	97	100	700
SVE-13	08/30/13	0.0	18.0	-20.7	-	103	100	480
SVE-13	09/25/13	0.0	17.7	-21.6	-	101	100	120
SVE-13	10/23/13	0.0	18.6	-11.9	-	101	100	260
SVE-13	11/20/13	0.0	18.9	-10.8	-	106	100	290
SVE-13	12/18/13	0.0	19.2	-13.2	-	94	100	220
SVE-13	05/13/14 ¹³	1.2	5.3	56.0	-	96	100	NA ⁶
SVE-13	05/28/14 ¹³	0.0	17.5	-20.2	-	92	100	620
SVE-13	06/26/14	0.0	16.7	-21.4	-	71	100	140 ¹¹
SVE-13	07/31/14	0.2	17.7	-16.0	-	0 ⁴	100	2,290
SVE-13	08/28/14	0.4	10.4	-18.0	-	94	100	NA ⁶
SVE-13	09/26/14	0.0	17.4	-8.0	-	111	100	46
SVE-13	10/24/14	0.0	18.4	-8.5	-	106	100	110
SVE-13	11/19/14	0.0	18.6	-8.8	-	107	100	1,050
SVE-13	12/17/14	0.0	20.0	-9.1	-	98	100	93
SVE-13	01/21/15	0.0	19.6	-8.9	-	0	100	90
SVE-13	02/26/15	0.0	19.7	-43.4	-	102	100	80
SVE-13	03/17/15	0.0	18.2	-45.2	-	110	100	27
SVE-13	04/17/15	0.0	18.5	-28.1	-	108	100	33
SVE-13	05/12/15	0.0	18.8	-29.2	-	105	100	19
SVE-13	06/25/15	0.0	17.5	-27.5	-	94	100	64
SVE-13	07/31/15	0.0	18.2	-28.3	-	110	100	42

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible					VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)	
SVE-13	08/19/15	0.0	18.8	-21.9	-	101	100	150	
SVE-13	09/24/15	0.0	17.4	-23.6	-	125	100	55	
SVE-13	10/22/15	0.0	18.9	-18.6	-	0	100	59	
SVE-13	11/12/15	0.0	18.7	-2.9	-	0	40 - 50	110	
SVE-13	12/17/15	0.0	17.7	-5.8	-	46	40 - 50	250	
SVE-13	01/21/16	0.0	17.2	-1.2	35	55	40-50	150	
SVE-13	02/24/16	0.0	15.8	0.1	38	44	40-50	22	
SVE-13	03/22/16	0.0	13.5	-14.2	42	42	40-50	NA ⁶	
SVE-13	04/22/16	0.0	16.6	-9.0	50	48	40-50	15	
SVE-13	05/19/16	0.0	16.3	-11.0	55	44	40-50	540	
SVE-13	06/14/16	0.0	15.3	-10.6	62	0 ⁴	40-50	NA ⁶	
SVE-13	07/27/16	0.0	12.5	-8.9	70	0 ⁴	40-50	NA ⁶	
SVE-13	08/10/16	0.0	13.1	-8.4	70	0 ⁴	40-50	NA ⁶	
SVE-13	09/15/16	0.0	10.9	-10.1	68	0 ⁴	40-50	NA ⁶	
SVE-13	10/26/16	0.0	11.5	-12.0	51	0 ⁴	40-50	NA ⁶	
SVE-13	11/23/16	0.0	12.5	-12.7	50	58	40-50	NA ⁶	
SVE-13	12/13/16	0.0	15.0	-0.2	45	111	40-50	NA ⁶	
SVE-13	01/10/17	0.0	13.4	-10.9	40	50	40-50	NA ⁶	
SVE-13	02/14/17	0.0	15.7	-15.0	44	48	40-50	NA ⁶	
SVE-13	03/07/17	0.0	14.0	-14.9	40	51	40-50	NA ⁶	
SVE-13	04/05/17	0.0	14.8	-13.6	50	44	40-50	NA ⁶	
SVE-13	05/25/17	0.0	12.2	-16.2	53	0 ⁴	40-50	NA ⁶	
SVE-13	06/28/17	0.0	14.9	-14.2	63	0 ⁴	40-50	NA ⁶	
SVE-13	07/24/17	0.0	14.3	-14.0	68	0 ⁴	40-50	NA ⁶	
SVE-13	08/14/17	0.0	13.9	-14.1	66	48	40-50	NA ⁶	
SVE-13	09/13/17	0.0	13.6	-12.1	67	44	40-50	NA ⁶	
SVE-13	10/30/17	0.0	13.9	0.0	54	49	40-50	NA ⁶	
SVE-13	11/17/17	0.0	14.2	-12.1	55	0 ⁴	40-50	NA ⁶	
SVE-13	12/07/17	0.0	14.6	-12.1	52	40	40-50	NA ⁶	
SVE-13	01/24/18	4.2	12.7	-11.9	37	0 ⁴	40-50	NA ⁶	
SVE-13	02/13/18	0.0	14.9	-16.4	44	0 ⁴	40-50	NA ⁶	
SVE-13	03/05/18	0.0	20.0	-15.9	45	52	40-50	727	
SVE-13	04/04/18	0.0	19.5	-11.4	36	44	40-50	806	
SVE-13	05/17/18	0.0	13.2	-9.1	56	0 ⁴	40-50	-	
SVE-13	07/03/18	0.0	15.4	-8.2	68	0 ⁴	40-50	-	
SVE-13	07/31/18	0.0	13.7	-10.3	69	0 ⁴	40-50	-	
SVE-13	08/30/18	0.0	12.4	-9.7	64	0 ⁴	40-50	-	
SVE-13	09/28/18	0.0	9.2	-12.8	56	0 ⁴	40-50	NA ⁶	
SVE-13	11/16/18	0.6	11.4	-13.4	50	30	40-50	> 4,194	
SVE-13	12/13/18	0.0	11.6	-12.6	42	0 ⁴	40-50	951	
SVE-13	01/23/19	0.2	10.0	-11.8	37	45	40-50	3,727	
SVE-13	02/22/19	0.0	15.3	-12.7	36	56	40-50	33	
SVE-13	04/02/19	0.0	13.3	-11.9	41	45	40-50	55	

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-13	04/26/19	0.0	14.2	-12.2	46	31	40-50	28
SVE-13	05/29/19	0.0	14.9	-13.3	54	41	40-50	20
SVE-13	06/18/19	0.0	14.9	-12.2	64	36	40-50	14
SVE-13	07/23/19	0.0	14.6	-11.9	68	14	40-50	66
SVE-13	08/29/19	0.0	12.3	-12.3	66	33	40-50	842
SVE-13	09/12/19	0.0	14.6	-10.0	59	0 ⁴	40-50	208
SVE-13	10/31/19	0.0	15.2	-15.4	54	30	40-50	905
SVE-13	11/25/19	0.3	17.1	-13.8	46	93	40-50	-
SVE-13	02/18/20	0.0	16.4	-14.9	41	34	40-50	67
SVE-13	06/23/20	0.0	15.4	-13.5	70	0 ⁴	40-50	121
SVE-13	08/17/20	0.0	13.4	-13.6	72	0 ⁴	40-50	0
SVE-13	11/05/20	0.0	13.4	-12.9	52	0 ⁴	40-50	8
SVE-13	01/20/21	0.0	16.2	-10.3	36	36	40-50	9
SVE-13	02/19/21	0.0	20.8	-3.8	34	0 ⁴	40-50	NA ¹⁸
SVE-13	03/25/21	0.0	14.4	-14.0	44	45	40-50	NA ¹⁸
SVE-13	04/22/21	0.0	16.6	-12.8	48	119	40-50	284
SVE-13	05/21/21	0.0	16.5	-11.1	56	0 ⁴	40-50	0
SVE-13	06/17/21	0.0	16.1	-9.8	70	0 ⁴	40-50	158
SVE-13	07/15/21	0.0	14.9	-9.5	70	0 ⁴	40-50	NA ¹⁸
SVE-13	08/12/21	0.0	13.7	-10.7	67	0 ⁴	40-50	NA ¹⁸
SVE-13	09/23/21	0.0	10.9	-11.9	60	0 ⁴	40-50	1,055
SVE-13	10/21/21	0.0	14.7	-11.7	61	0 ⁴	40-50	778
SVE-13	11/30/21	0.0	12.3	-10.7	40	35	40-50	343
SVE-13	12/21/21	0.0	13.3	-10.7	39	0 ⁴	40-50	245
SVE-13	01/31/22	0.0	13.9	-11.4	35	39	40-50	188
SVE-13	02/28/22	0.0	15.7	-10.0	42	0	40-50	137
SVE-13	03/28/22	0.0	16.1	-11.7	36	0	40-50	886
SVE-13	04/28/22	0.0	16.3	-13.0	46	0	40-50	120
SVE-13	05/26/22	0.0	16.0	-12.3	54	0	40-50	7
SVE-13	06/23/22	0.0	17.3	-11.1	68	39	40-50	29
SVE-13	07/26/22	0.0	16.3	-10.7	68	114	40-50	242
SVE-13	08/23/22	0.0	14.8	-10.2	74	36	40-50	119
SVE-13	09/29/22	0.0	15.7	-10.0	68	33	40-50	51
SVE-13	10/27/22	0.0	16.1	-8.8	58	46	40-50	165
SVE-13	12/06/22	0.0	15.4	-9.8	45	15	40-50	157
SVE-14	08/27/08 ¹	0.0	3.4	0.6	-	-	-	-
SVE-14	09/23/08	7.4	1.4	-10.8	-	104	90 - 100	-
SVE-14	09/25/08	6.2	5.6	-12.6	-	102	90 - 100	-
SVE-14	10/01/08	0.5	9.9	-13.0	-	103	90 - 100	-
SVE-14	10/07/08	0.4	11.9	-13.3	-	86	90 - 100	-
SVE-14	10/15/08	0.0	15.9	-9.8	-	81	90 - 100	-
SVE-14	10/30/08	0.0	17.0	-8.8	-	83	90 - 100	263

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-14	11/13/08	0.0	18.1	-7.7	-	97	90 - 100	-
SVE-14	11/26/08	0.0	16.1	-11.4	-	105	90 - 100	-
SVE-14	01/22/09 ³	0.8	13.4	-14.9	-	101	90 - 100	39,800
SVE-14	02/05/09	0.0	14.4	-13.4	-	102	90 - 100	4,100
SVE-14	02/16/09	0.0	15.8	-12.6	-	102	90 - 100	5,450
SVE-14	03/16/09	0.0	15.0	-13.4	-	102	90 - 100	4,360
SVE-14	04/24/09	0.0	15.4	-14.5	-	97	90 - 100	3,890
SVE-14	05/20/09	0.0	15.6	-13.9	-	94	90 - 100	1,710
SVE-14	06/23/09	0.0	14.6	-14.6	-	92	90 - 100	3,050
SVE-14	07/23/09	0.0	14.4	-14.0	-	90	90 - 100	13,500
SVE-14	08/20/09	0.0	15.0	-14.5	-	96	100	22,200
SVE-14	09/23/09	0.1	14.9	-14.6	-	97	100	17,050
SVE-14	10/20/09	0.1	15.7	-15.5	-	98	100	19,100
SVE-14	11/24/09	0.0	15.4	-14.5	-	104	100	17,300
SVE-14	12/29/09	0.0	14.8	-14.6	-	101	100	5,510
SVE-14	01/29/10	0.1	17.2	-14.4	-	107	100	3,340
SVE-14	02/22/10	0.0	15.6	-13.2	-	103	100	7,610
SVE-14	03/26/10	0.0	14.6	-14.0	-	108	100	2,200
SVE-14	04/22/10	0.0	15.3	-13.8	-	98	100	3,660
SVE-14	05/18/10	0.0	14.9	-13.4	-	98	100	25,100
SVE-14	06/29/10	0.0	14.6	-14.9	-	96	100	17,800
SVE-14	07/23/10	0.0	15.1	-15.0	-	103	100	16,300
SVE-14	08/27/10	1.0	8.5	-13.1	-	106	100	NA ⁶
SVE-14	10/01/10	0.8	8.7	-12.1	-	96	100	NA ⁶
SVE-14	10/22/10	1.2	12.7	-12.8	-	106	100	NA ⁶
SVE-14	11/29/10	0.4	15.1	-13.3	-	104	100	2,100
SVE-14	12/22/10	0.6	14.5	-14.3	-	104	100	3,200
SVE-14	01/24/11	0.5	14.8	-13.3	-	105	100	16,140
SVE-14	02/28/11	0.8	13.8	-14.4	-	93	100	23,210
SVE-14	04/13/11	1.0	14.1	-13.6	-	99	100	NA ⁶
SVE-14	04/29/11	0.3	15.8	-14.9	-	105	100	35,701
SVE-14	05/27/11	0.1	16.0	-14.5	-	106	100	21,400
SVE-14	06/24/11	0.2	15.6	-16.8	-	104	100	9,240
SVE-14	07/22/11	0.1	14.4	-17.2	-	109	100	2,505
SVE-14	08/25/11	0.4	13.6	-17.5	-	102	100	36,400
SVE-14	09/30/11	0.4	15.9	-18.0	-	101	100	3,640
SVE-14	10/26/11	0.1	15.0	-17.6	-	105	100	16,510
SVE-14	11/22/11	0.1	15.4	-27.4	-	154	150	9,250
SVE-14	12/29/11	0.0	16.4	-29.3	-	155	150	8,710
SVE-14	01/26/12	0.1	15.3	-29.8	-	130	150	28,259
SVE-14	02/21/12	0.3	15.5	-15.9	-	140	150	16,370
SVE-14	03/30/12	0.2	16.3	-14.9	-	106	150	8,810
SVE-14	04/27/12	0.0	18.0	-35.5	-	146	150	12,820

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-14	05/25/12	0.1	15.7	-36.2	-	136	150	3,560
SVE-14	06/26/12	0.1	14.9	-28.6	-	152	150	16,330
SVE-14	07/25/12	1.0	14.0	-36.2	-	145	150	19,200
SVE-14	08/22/12	0.0	14.7	-37.8	-	109	150	10,630
SVE-14	09/25/12	0.5	14.4	-39.7	-	139	150	6,760
SVE-14	10/30/12	0.0	15.9	-40.9	-	138	150	NA ¹¹
SVE-14	11/21/12	0.0	15.8	-42.4	-	143	150	2,130
SVE-14	12/21/12 ¹²	2.4	12.3	-44.8	-	140	150	NA ⁶
SVE-14	01/03/13 ¹²	0.2	15.4	-47.6	-	144	150	140
SVE-14	01/28/13	0.0	16.4	-48.6	-	168	150	2,070
SVE-14	02/27/13	0.0	16.9	-47.2	-	141	150	11,260
SVE-14	03/25/13	0.1	16.1	-48.4	-	149	150	11,020
SVE-14	04/26/13	2.7	13.4	-48.3	-	153	150	NA ⁶
SVE-14	05/30/13	0.0	16.3	-45.6	-	33	150	3,980
SVE-14	06/27/13	0.5	15.0	-42.6	-	0 ⁴	150	13,140
SVE-14	07/25/13	0.0	16.1	-43.2	-	67	150	3,430
SVE-14	08/30/13	0.2	16.4	0.3	-	71	150	4,940
SVE-14	09/25/13	0.3	16.1	-38.1	-	85	150	7,590
SVE-14	10/23/13	0.0	16.5	-45.9	-	152	150	9,840
SVE-14	11/20/13	0.3	15.9	-47.3	-	74	150	5,880
SVE-14	12/18/13	0.0	17.2	-46.7	-	38	150	2,920
SVE-14	05/13/14 ¹³	4.5	8.0	-46.6	-	156	150	NA ⁶
SVE-14	05/28/14 ¹³	0.2	13.4	-46.4	-	78	150	24,600
SVE-14	06/26/14	0.0	15.3	-47.5	-	141	150	2,890 ¹¹
SVE-14	07/31/14	0.4	14.2	-43.2	-	146	150	8,450
SVE-14	08/28/14	2.2	12.0	-45.6	-	124	150	NA ⁶
SVE-14	09/26/14	0.0	14.5	-46.1	-	122	150	2,020
SVE-14	10/24/14	0.0	15.6	-48.2	-	58	150	3,420
SVE-14	11/19/14	0.0	14.8	-47.7	-	136	150	2,360
SVE-14	12/17/14	0.0	16.3	-48.0	-	122	150	1,580
SVE-14	01/21/15	0.0	15.8	-48.5	-	142	125 - 150	960
SVE-14	02/26/15	0.0	15.9	-49.0	-	144	125 - 150	840
SVE-14	03/17/15	0.0	15.3	-48.2	-	131	125 - 150	NA ⁶
SVE-14	04/17/15	0.0	14.6	-44.5	-	0 ⁴	125 - 150	NA ⁶
SVE-14	05/12/15	0.0	15.7	-42.7	-	129	125 - 150	NA ⁶
SVE-14	06/25/15	0.0	15.3	-37.4	-	135	125 - 150	720
SVE-14	07/31/15	0.0	15.7	-37.9	-	154	125 - 150	2,140
SVE-14	08/19/15	0.0	16.7	-39.7	-	88	125 - 150	1,120
SVE-14	09/24/15	0.2	16.5	-46.1	-	125	125 - 150	200
SVE-14	10/22/15	0.1	16.9	-43.8	-	126	125 - 150	1,470
SVE-14	11/12/15	0.2	15.2	-29.0	-	167	40 - 50	1,330
SVE-14	12/17/15	0.4	14.2	-9.7	-	45	40 - 50	NA ⁶
SVE-14	01/21/16	0.3	13.3	-6.1	35	67	40-50	NA ⁶

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-14	2/24/2016 ¹⁴	-	-	-	-	-	40-50	-
SVE-14	03/22/16	0.0	14.5	-11.9	42	0 ⁴	40-50	NA ⁶
SVE-14	04/22/16	0.7	13.2	-9.4	50	0 ⁴	40-50	4,660
SVE-14	05/19/16	0.2	13.9	-9.4	55	41	40-50	NA ⁶
SVE-14	06/14/16	0.1	13.9	-9.9	62	0 ⁴	40-50	NA ⁶
SVE-14	07/27/16	0.7	13.3	-8.3	70	0 ⁴	40-50	NA ⁶
SVE-14	08/10/16	0.6	13.9	-8.8	70	0 ⁴	40-50	NA ⁶
SVE-14	09/15/16	1.2	12.8	-9.5	68	0 ⁴	40-50	NA ⁶
SVE-14	10/26/16	1.4	13.3	-11.2	51	0 ⁴	40-50	NA ⁶
SVE-14	11/23/16	1.0	12.8	-12.0	50	48	40-50	NA ⁶
SVE-14	12/13/16	1.4	12.5	0.0	45	54	40-50	NA ⁶
SVE-14	01/10/17	0.4	13.8	-9.2	40	44	40-50	NA ⁶
SVE-14	02/14/17	0.0	13.2	-13.9	44	59	40-50	NA ⁶
SVE-14	03/07/17	0.2	12.7	-14.0	40	53	40-50	NA ⁶
SVE-14	04/05/17	0.2	13.4	-13.6	50	50	40-50	NA ⁶
SVE-14	05/25/17	0.7	11.0	-15.0	53	0 ⁴	40-50	NA ⁶
SVE-14	06/28/17	0.2	13.6	-13.2	63	0 ⁴	40-50	NA ⁶
SVE-14	07/24/17	0.3	13.3	-13.1	68	0 ⁴	40-50	NA ⁶
SVE-14	08/14/17	0.2	13.4	-13.4	66	0 ⁴	40-50	NA ⁶
SVE-14	09/13/17	0.5	14.3	-11.8	67	54	40-50	NA ⁶
SVE-14	10/30/17	0.4	14.2	0.0	54	44	40-50	NA ⁶
SVE-14	11/17/17	0.4	14.6	-11.8	55	0 ⁴	40-50	NA ⁶
SVE-14	12/07/17	0.3	15.1	-11.8	52	0 ⁴	40-50	NA ⁶
SVE-14	01/24/18	4.3	14.9	-11.3	37	0 ⁴	40-50	NA ⁶
SVE-14	02/13/18	0.2	15.4	-16.1	44	0 ⁴	40-50	NA ⁶
SVE-14	03/05/18	0.0	18.7	-15.9	45	0 ⁴	40-50	899
SVE-14	04/04/18	0.0	19.5	-11.3	36	47	40-50	1,007
SVE-14	05/17/18	0.4	11.1	-8.1	56	0 ⁴	40-50	-
SVE-14	07/03/18	0.0	13.2	-7.6	68	0 ⁴	40-50	-
SVE-14	07/31/18	0.0	12.9	-9.6	69	0 ⁴	40-50	-
SVE-14	08/30/18	0.0	20.6	-7.2	64	0 ⁴	40-50	-
SVE-14	09/28/18	0.8	11.6	-12.0	56	0 ⁴	40-50	NA ⁶
SVE-14	11/16/18	3.1	11.0	-12.8	50	37	40-50	NA ⁶
SVE-14	12/13/18	0.6	13.5	-12.4	42	0 ⁴	40-50	> 5,745
SVE-14	01/23/19	0.8	11.4	-12.0	37	15	40-50	10,628
SVE-14	02/22/19	0.0	17.0	-12.5	36	0 ¹⁴	40-50	53
SVE-14	04/02/19	0.0	12.8	-11.8	41	15	40-50	NA ⁶
SVE-14	04/26/19	0.1	11.9	-12.9	46	45	40-50	NA ⁶
SVE-14	05/29/19	0.0	14.0	-14.0	54	0 ⁴	40-50	28
SVE-14	06/18/19	0.0	12.5	-12.1	64	14	40-50	22
SVE-14	07/23/19	0.0	13.5	-11.9	68	0 ⁴	40-50	13
SVE-14	08/29/19	0.0	12.1	-12.2	66	0 ⁴	40-50	557
SVE-14	09/12/19	0.0	14.8	-12.1	59	0 ⁴	40-50	11

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)			
SVE-14	10/31/19	0.3	14.6	-15.2	54	21	40-50	548
SVE-14	11/25/19	0.7	15.9	-13.8	46	81	40-50	-
SVE-14	02/18/20	0.6	11.6	-15.4	41	0 ⁴	40-50	NA ⁶
SVE-14	06/23/20	0.0	14.4	-13.7	70	14	40-50	11
SVE-14	08/17/20	0.0	12.3	-13.6	72	0 ⁴	40-50	0
SVE-14	11/05/20	0.2	11.0	-12.8	52	0 ⁴	40-50	-
SVE-14	01/20/21	0.0	15.4	-10.2	36	46	40-50	16
SVE-14	02/19/21	0.0	21.1	-7.8	34	0 ⁴	40-50	NA ¹⁸
SVE-14	03/25/21	0.0	12.5	-14.5	44	42	40-50	NA ¹⁸
SVE-14	04/22/21	0.0	14.2	-14.3	48	126	40-50	47
SVE-14	05/21/21	0.0	13.3	-12.5	56	68	40-50	0
SVE-14	06/17/21	0.0	14.2	-10.2	65	134	40-50	43
SVE-14	07/15/21	0.0	13.3	-9.3	70	0 ⁴	40-50	NA ¹⁸
SVE-14	08/12/21	0.0	12.7	-11.6	67	0 ⁴	40-50	36
SVE-14	09/23/21	0.0	10.0	-12.3	60	0 ⁴	40-50	305
SVE-14	10/21/21	0.1	13.2	-10.9	61	102	40-50	6,193
SVE-14	11/30/21	0.0	13.1	-10.8	40	45	40-50	60
SVE-14	12/21/21	0.0	13.8	-10.8	39	0 ⁴	40-50	2,478
SVE-14	01/31/22	0.0	13.4	-11.4	35	0	40-50	63
SVE-14	02/28/22	0.0	17.7	-10.0	42	15	40-50	751
SVE-14	03/28/22	0.0	12.7	-12.3	36	32	40-50	343
SVE-14	04/28/22	0.0	13.3	-12.5	46	0	40-50	4,385
SVE-14	05/26/22	0.0	13.2	-12.2	54	34	40-50	26
SVE-14	06/23/22	0.0	15.3	-11.2	68	0	40-50	9
SVE-14	07/26/22	0.0	14.9	-11.3	68	0	40-50	59
SVE-14	08/23/22	0.0	14.3	-10.5	74	0	40-50	315
SVE-14	09/29/22	0.0	14.7	-9.8	68	0	40-50	876
SVE-14	10/27/22	0.0	13.7	-9.6	58	130	40-50	1,259
SVE-14	12/06/22	0.0	14.9	-9.8	45	38	40-50	279
SVE-15	08/27/08 ¹	1.3	17.8	0.4	-	-	-	-
SVE-15	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-15	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-15	10/01/08	1.1	4.6	-48.3	-	90	90 - 100	-
SVE-15	10/07/08	0.4	10.0	-47.0	-	80	90 - 100	-
SVE-15	10/15/08	0.2	13.0	-47.0	-	80	90 - 100	-
SVE-15	10/30/08	0.1	14.9	-46.5	-	72	90 - 100	4,220
SVE-15	11/13/08	0.1	15.9	-46.6	-	96	90 - 100	-
SVE-15	11/26/08	0.0	16.4	-47.2	-	96	90 - 100	-
SVE-15	01/22/09 ³	0.0	14.7	-49.6	-	36	90 - 100	5,280
SVE-15	02/05/09	0.0	16.3	-49.3	-	78	90 - 100	3,830
SVE-15	02/16/09	0.0	17.2	-47.8	-	91	90 - 100	3,920
SVE-15	03/16/09	0.0	16.8	-48.6	-	90	90 - 100	4,050

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-15	04/24/09	0.0	17.6	-46.7	-	58	90 - 100	4,040
SVE-15	05/20/09	0.0	17.5	-46.2	-	70	90 - 100	2,040
SVE-15	06/23/09	0.0	16.8	-44.3	-	55	90 - 100	2,030
SVE-15	07/23/09	0.0	16.5	-43.9	-	57	90 - 100	6,080
SVE-15	08/20/09	0.0	16.8	-42.7	-	39	100	7,930
SVE-15	09/23/09	0.0	17.5	-43.5	-	69	100	3,870
SVE-15	10/20/09	0.0	17.7	-46.6	-	50	100	4,130
SVE-15	11/24/09	0.0	17.3	-46.3	-	56	100	4,570
SVE-15	12/29/09	0.0	16.6	-47.0	-	34	100	1,600
SVE-15	01/29/10	0.0	19.3	-46.8	-	92	100	1,465
SVE-15	02/22/10	0.1	18.8	-45.8	-	34	100	10,200
SVE-15	03/26/10	0.0	16.5	-46.3	-	34	100	1,680
SVE-15	04/22/10	0.0	17.6	-43.6	-	57	100	1,090
SVE-15	05/18/10	0.0	17.0	-44.8	-	76	100	4,920
SVE-15	06/29/10	0.0	16.8	-45.5	-	52	100	1,990
SVE-15	07/23/10	0.0	17.3	-42.1	-	49	100	1,930
SVE-15	08/27/10	0.9	12.2	-43.8	-	51	100	2,510
SVE-15	10/01/10	0.8	11.3	-47.3	-	72	100	NA ⁶
SVE-15	10/22/10	0.4	13.9	-45.9	-	98	100	42,200
SVE-15	11/29/10	0.0	18.1	-37.7	-	103	100	3,400
SVE-15	12/22/10	0.7	17.0	-40.3	-	103	100	10,800
SVE-15	01/24/11	0.2	16.9	-33.0	-	117	100	3,610
SVE-15	02/28/11	0.1	16.4	-27.1	-	97	100	250
SVE-15	04/13/11	0.0	16.0	-14.1	-	105	100	2,110
SVE-15	04/29/11	0.0	16.9	-12.8	-	101	100	1,020
SVE-15	05/27/11	0.0	18.3	-9.9	-	104	100	2,060
SVE-15	06/24/11	0.0	17.5	-4.3	-	100	100	260
SVE-15	07/22/11	0.0	17.2	-8.0	-	99	100	197
SVE-15	08/25/11	0.0	15.5	-9.8	-	103	100	6,900
SVE-15	09/30/11	0.0	18.3	-6.8	-	99	100	210
SVE-15	10/26/11	0.0	18.4	-9.3	-	104	100	55
SVE-15	11/22/11	0.0	19.0	-14.3	-	102	100	250
SVE-15	12/29/11	0.0	19.8	-16.3	-	103	100	560
SVE-15	01/26/12	0.0	17.9	-12.3	-	95	100	2,907
SVE-15	02/21/12	0.0	18.8	-13.4	-	0 ⁴	100	197
SVE-15	03/30/12	0.0	18.6	-27.2	-	100	100	200
SVE-15	04/27/12	0.0	18.6	-19.8	-	96	100	240
SVE-15	05/25/12	0.0	19.6	-36.7	-	0 ⁴	100	438
SVE-15	06/26/12	0.0	19.0	-14.8	-	102	100	430
SVE-15	07/25/12	0.0	17.6	-41.8	-	105	100	480
SVE-15	08/22/12	0.0	18.4	-4.0	-	100	100	150
SVE-15	09/25/12	0.0	19.4	-5.4	-	98	100	26
SVE-15	10/30/12	0.0	19.1	-5.4	-	104	100	27 ¹¹

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-15	11/21/12	0.0	19.7	-5.8	-	104	100	71
SVE-15	12/21/12 ¹²	0.1	16.4	-7.6	-	98	100	3,170
SVE-15	01/03/13 ¹²	0.0	18.5	-3.2	-	105	100	223
SVE-15	01/28/13	0.0	20.2	-2.6	-	0 ⁴	100	547
SVE-15	02/27/13	0.0	20.3	-1.8	-	101	100	272
SVE-15	03/25/13	0.0	20.2	-2.9	-	100	100	361
SVE-15	04/26/13	0.0	20.0	-2.8	-	86	100	1,060
SVE-15	05/30/13	0.0	19.4	-15.8	-	0 ⁴	100	140
SVE-15	06/27/13	0.0	20.1	-2.2	-	0 ⁴	100	120
SVE-15	07/25/13	0.0	19.1	-0.8	-	100	100	180
SVE-15	08/30/13	0.0	20.0	-36.0	-	106	100	120
SVE-15	09/25/13	0.0	20.1	-37.7	-	98	100	222
SVE-15	10/23/13	0.0	19.4	-41.0	-	98	100	100
SVE-15	11/20/13	0.0	19.3	-42.8	-	96	100	110
SVE-15	12/18/13	0.0	19.0	-42.5	-	99	100	30
SVE-15	05/13/14 ¹³	3.4	8.6	-40.7	-	99	100	NA ⁶
SVE-15	05/28/14 ¹³	0.0	17.0	-5.4	-	122	100	350
SVE-15	06/26/14	0.0	18.4	-2.3	-	111	100	33 ¹¹
SVE-15	07/31/14	0.0	19.4	-0.4	-	100	100	420
SVE-15	08/28/14	0.3	18.5	-2.5	-	119	100	4,180
SVE-15	09/26/14	0.0	19.9	-0.3	-	98	100	160
SVE-15	10/24/14	0.0	19.8	-1.6	-	96	100	53
SVE-15	11/19/14	0.0	20.0	-2.0	-	103	100	33
SVE-15	12/17/14	0.0	19.3	-2.6	-	97	100	52
SVE-15	01/21/15	0.0	19.7	-3.1	-	98	100	110
SVE-15	02/26/15	0.0	20.1	-1.4	-	106	100	41
SVE-15	03/17/15	0.0	20.4	-2.5	-	111	100	15
SVE-15	04/17/15	0.0	19.6	-34.3	-	104	100	17
SVE-15	05/12/15	0.0	19.9	-31.8	-	92	100	17
SVE-15	06/25/15	0.0	18.5	-23.2	-	108	100	68
SVE-15	07/31/15	0.0	19.8	-23.0	-	93	100	39
SVE-15	08/19/15	0.0	20.1	-23.3	-	167 ¹⁰	100	130
SVE-15	09/24/15	0.0	19.9	-36.7	-	161 ¹⁰	100	180
SVE-15	10/22/15	0.0	20.6	-34.0	-	103	100	16
SVE-15	04/22/16	0.0	19.8	-1.2	50	0	-	690
SVE-15	10/26/16	0.0	19.7	-1.4	51	0	-	740
SVE-15	04/05/17	0.0	19.6	-0.1	50	0	-	940
SVE-15	10/30/17	0.1	17.4	0.0	54	0	-	1,230
SVE-15	05/17/18	0.0	20.2	-11.9	56	0	-	-
SVE-15	11/16/18	0.0	19.6	-12.2	50	0	-	0
SVE-15	04/26/19	0.0	20.3	-13.0	46	0	-	42
SVE-15	10/31/19	0.0	20.5	-14.6	54	0	-	74
SVE-15	06/23/20	0.0	20.1	-13.1	70	0	-	12

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-15	11/05/20	0.0	19.0	-12.2	52	0	-	135
SVE-15	04/22/21	0.0	20.3	-14.5	48	0	-	36
SVE-15	10/21/21	0.0	20.9	-11.0	61	0	-	47
SVE-15	04/28/22	0.0	19.9	-12.5	46	0	-	3,734
SVE-15	10/27/22	0.0	20.1	-8.8	58	0	-	133
SVE-16	08/27/08 ¹	3.9	14.3	0.3	-	-	-	-
SVE-16	09/23/08	32.5	0.0	-31.8	-	93	90 - 100	-
SVE-16	09/25/08	13.7	0.3	-33.5	-	93	90 - 100	-
SVE-16	10/01/08	1.2	8.4	-34.2	-	91	90 - 100	-
SVE-16	10/07/08	0.4	13.0	-35.0	-	94	90 - 100	-
SVE-16	10/15/08	0.2	14.5	-35.1	-	95	90 - 100	-
SVE-16	10/30/08	0.1	15.8	-34.6	-	101	90 - 100	3,250
SVE-16	11/13/08	0.0	16.5	-34.9	-	110	90 - 100	-
SVE-16	11/26/08	0.0	17.3	-35.7	-	100	90 - 100	-
SVE-16	01/22/09 ³	0.5	12.9	-33.8	-	100	90 - 100	26,900
SVE-16	02/05/09	0.0	16.0	-35.2	-	98	90 - 100	2,330
SVE-16	02/16/09	0.0	16.7	-33.9	-	104	90 - 100	2,310
SVE-16	03/16/09	0.0	16.4	-35.2	-	95	90 - 100	2,750
SVE-16	04/24/09	0.0	16.9	-34.5	-	95	90 - 100	2,350
SVE-16	05/20/09	0.0	16.8	-38.6	-	100	90 - 100	1,210
SVE-16	06/23/09	0.0	15.8	-37.6	-	91	90 - 100	1,680
SVE-16	07/23/09	0.0	16.5	-26.6	-	96	90 - 100	3,390
SVE-16	08/20/09	0.0	17.5	-21.5	-	100	100	3,110
SVE-16	09/23/09	0.0	18.0	-14.7	-	95	100	1,700
SVE-16	10/20/09	0.0	18.3	-16.8	-	95	100	1,060
SVE-16	11/24/09	0.0	17.5	-19.9	-	97	100	3,240
SVE-16	12/29/09	0.0	16.4	-21.7	-	92	100	1,960
SVE-16	01/29/10	0.0	19.2	-26.2	-	108	100	1,540
SVE-16	02/22/10	0.0	17.1	-24.4	-	92	100	2,920
SVE-16	03/26/10	0.0	15.9	-46.3	-	96	100	5,080
SVE-16	04/22/10	0.0	17.3	-44.2	-	0 ⁴	100	1,140
SVE-16	05/18/10	0.0	16.9	-13.9	-	100	100	4,660
SVE-16	06/29/10	0.0	16.1	-17.7	-	103	100	3,050
SVE-16	07/23/10	0.0	16.4	-14.9	-	100	100	1,830
SVE-16	08/27/10	0.4	11.8	-8.8	-	52	100	2,470
SVE-16	10/01/10	0.0	12.4	-13.7	-	95	100	15,300
SVE-16	10/22/10	0.2	13.1	-11.9	-	98	100	36,300
SVE-16	11/29/10	0.0	16.8	-10.8	-	104	100	1,920
SVE-16	12/22/10	0.1	16.1	-13.2	-	103	100	662
SVE-16	01/24/11	0.2	16.2	-10.7	-	97	100	4,670
SVE-16	02/28/11	0.2	15.3	-14.9	-	97	100	3,460
SVE-16	04/13/11	0.3	15.5	-12.8	-	96	100	3,620

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**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-16	04/29/11	0.0	16.3	-13.1	-	92	100	8,910
SVE-16	05/27/11	0.0	16.9	-14.1	-	97	100	6,960
SVE-16	06/24/11	0.0	16.0	-15.0	-	98	100	4,230
SVE-16	07/22/11	0.0	15.4	-13.9	-	94	100	405
SVE-16	08/25/11	0.1	14.5	-15.3	-	100	100	20,410
SVE-16	09/30/11	0.0	20.7	-11.9	-	- ⁹	100	0
SVE-16	10/26/11	0.0	16.4	-19.6	-	- ⁹	100	2,080
SVE-16	11/22/11	0.0	20.2	-28.6	-	105	100	2,000
SVE-16	12/29/11	0.0	20.1	-39.1	-	104	100	1,600
SVE-16	01/26/12	0.0	18.8	-28.5	-	106	100	6,720
SVE-16	02/21/12	0.0	19.6	-13.3	-	92	100	1,500
SVE-16	03/30/12	0.0	19.1	-15.2	-	96	100	2,365
SVE-16	04/27/12	0.0	19.0	-36.3	-	99	100	2,250
SVE-16	05/25/12	0.1	19.8	-45.5	-	58	100	1,422
SVE-16	06/26/12	0.0	18.4	-13.1	-	107	100	420
SVE-16	07/25/12	0.0	18.6	-38.6	-	95	100	350
SVE-16	08/22/12	0.0	19.6	-23.9	-	105	100	340
SVE-16	09/25/12	0.0	20.1	-9.3	-	100	100	6
SVE-16	10/30/12	0.0	20.1	-6.2	-	97	100	NA ¹¹
SVE-16	11/21/12	0.0	20.4	-6.0	-	102	100	83
SVE-16	12/21/12 ¹²	0.0	20.5	-9.1	-	86	100	731
SVE-16	01/03/13 ¹²	0.0	20.4	-12.5	-	106	100	20
SVE-16	01/28/13	0.0	20.8	-34.0	-	0 ⁴	100	190
SVE-16	02/27/13	0.0	21.1	-44.8	-	0 ⁴	100	84
SVE-16	03/25/13	0.0	18.4	-48.3	-	105	100	2,400
SVE-16	04/26/13	0.0	20.0	-46.8	-	0 ⁴	100	501
SVE-16	05/30/13	0.0	20.3	-42.8	-	97	100	21
SVE-16	06/27/13	0.0	20.2	-40.8	-	0 ⁴	100	28
SVE-16	07/25/13	0.0	19.7	-42.3	-	0 ⁴	100	120
SVE-16	08/30/13	0.0	20.0	-40.1	-	0 ⁴	100	10
SVE-16	09/25/13	0.0	20.3	-40.8	-	0 ⁴	100	56
SVE-16	10/23/13	0.0	20.5	-43.8	-	102	100	8
SVE-16	11/20/13	0.0	20.2	-44.6	-	109	100	1
SVE-16	12/18/13	0.0	20.1	-44.4	-	103	100	14
SVE-16	05/13/14 ¹³	0.0	20.4	-43.5	-	0 ⁴	100	25,620
SVE-16	05/28/14 ¹³	0.0	19.8	-17.7	-	83	100	3,630
SVE-16	06/26/14	0.0	20.0	-6.8	-	0 ⁴	100	27 ¹¹
SVE-16	07/31/14	0.0	17.8	-9.6	-	0 ⁴	100	1,120
SVE-16	08/28/14	0.0	20.7	-12.9	-	0 ⁴	100	5,250
SVE-16	09/26/14	0.0	20.2	-1.4	-	0 ⁴	100	22
SVE-16	10/24/14	0.0	20.4	-2.2	-	0 ⁴	100	88
SVE-16	11/19/14	0.0	20.5	-2.8	-	0 ⁴	100	4
SVE-16	12/17/14	0.0	20.9	-4.3	-	97	100	95

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**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-16	01/21/15	0.0	20.3	-4.3	-	0 ¹⁵	100	70
SVE-16	02/26/15	0.0	20.8	-3.8	-	94	100	93
SVE-16	03/17/15	0.0	21.0	-4.7	-	0 ¹⁵	100	20
SVE-16	04/17/15	0.0	20.2	-3.6	-	0 ¹⁵	100	18
SVE-16	05/12/15	0.0	20.3	-5.8	-	0 ¹⁵	100	31
SVE-16	06/25/15	0.0	19.1	-2.2	-	0 ¹⁵	100	8
SVE-16	07/31/15	0.0	20.4	-2.0	-	0 ¹⁵	100	38
SVE-16	08/19/15	0.0	21.1	-4.2	-	0 ¹⁵	100	25
SVE-16	09/24/15	0.0	20.9	-2.4	-	0 ¹⁵	100	56
SVE-16	10/22/15	0.0	21.3	-2.4	-	0 ¹⁵	100	9
SVE-16	04/22/16	0.0	18.9	-2.7	50	0	-	77
SVE-16	10/26/16	0.0	19.2	-0.9	51	0	-	88
SVE-16	04/05/17	0.0	19.4	0.3	50	0	-	407
SVE-16	10/30/17	0.0	19.1	0.0	54	0	-	611
SVE-16	05/17/18	0.0	17.3	-9.0	56	0	-	-
SVE-16	11/16/18	0.0	21.0	-12.9	50	0	-	453
SVE-16	04/26/19	0.0	20.4	-11.5	46	0	-	48
SVE-16	10/31/19	0.0	21.7	-15.0	54	0	-	208
SVE-16	06/23/20	0.0	19.5	-3.6	70	0	-	4
SVE-16	11/05/20	0.0	19.0	-12.6	52	0	-	0
SVE-16	04/22/21	0.0	20.4	-14.0	48	0	-	32
SVE-16	10/21/21	0.0	19.1	-10.9	61	0	-	0
SVE-16	04/28/22	0.0	20.9	-12.0	46	0	-	0
SVE-16	10/27/22	0.0	20.1	-9.6	58	0	-	1
SVE-17	08/27/08 ¹	1.1	0.7	0.4	-	-	-	-
SVE-17	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-17	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-17	10/01/08 ²	-	-	-	-	-	90 - 100	-
SVE-17	10/07/08	0.0	9.6	-47.2	-	0	90 - 100	-
SVE-17	10/15/08	0.0	12.6	-47.3	-	0	90 - 100	-
SVE-17	10/30/08	0.0	14.4	-47.0	-	0	90 - 100	290
SVE-17	11/13/08	0.0	16.0	-47.0	-	0	90 - 100	-
SVE-17	11/26/08	0.0	16.9	-47.9	-	0	90 - 100	-
SVE-17	01/22/09 ^{3,7}	0.0	15.9	-49.5	-	-	90 - 100	430
SVE-17	02/05/09	0.0	16.9	-49.9	-	28	90 - 100	70
SVE-17	02/16/09	0.0	17.9	-48.2	-	39	90 - 100	134
SVE-17	03/16/09	0.0	17.5	-49.1	-	-	90 - 100	99
SVE-17	04/24/09	0.0	18.1	-47.0	-	0	90 - 100	303
SVE-17	05/20/09	0.0	18.1	-46.5	-	0	90 - 100	77
SVE-17	06/23/09	0.0	17.5	-44.4	-	0	90 - 100	176
SVE-17	07/23/09	0.0	17.5	-43.9	-	0	90 - 100	354
SVE-17	08/20/09	0.0	17.9	-42.7	-	0	50	242

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-17	09/23/09	0.0	18.1	-43.6	-	0	50	278
SVE-17	10/20/09	0.0	18.3	-47.0	-	0	50	21
SVE-17	11/24/09	0.0	18.0	-46.6	-	0	50	92
SVE-17	12/29/09	0.0	16.9	-47.2	-	0	50	152
SVE-17	01/29/10	0.0	19.5	-47.4	-	0	50	14
SVE-17	02/22/10	0.0	18.8	-46.2	-	0	50	176
SVE-17	03/26/10	0.0	17.2	-46.4	-	0	50	214
SVE-17	04/22/10	0.0	18.1	-43.7	-	0	50	20
SVE-17	05/18/10	0.0	17.8	-45.2	-	0	50	750
SVE-17	06/29/10	0.0	17.8	-45.6	-	0	50	155
SVE-17	07/23/10	0.0	18.5	-42.4	-	0	50	134
SVE-17	08/27/10	1.1	11.6	-44.2	-	0	50	3,270
SVE-17	10/01/10	1.3	13.6	-47.5	-	0	50	NA ⁶
SVE-17	10/22/10	0.2	16.2	-46.3	-	0	50	29,500
SVE-17	11/29/10	0.0	18.3	-47.3	-	0	50	290
SVE-17	12/22/10	0.2	18.1	-49.4	-	31	50	2,170
SVE-17	01/24/11	0.1	17.7	-49.2	-	0	50	250
SVE-17	02/28/11	0.1	17.2	-49.9	-	0	50	139
SVE-17	04/13/11	0.0	18.5	-48.7	-	0	50	220
SVE-17	04/29/11	0.0	19.8	-3.9	-	46	50	615
SVE-17	05/27/11	0.0	20.3	-1.5	-	49	50	660
SVE-17	06/24/11	0.0	20.1	-1.9	-	52	50	200
SVE-17	07/22/11	0.0	18.7	-3.7	-	48	50	140
SVE-17	08/25/11	0.9	17.6	-27.4	-	48	50	> 50,000
SVE-17	09/30/11	0.0	20.7	-3.2	-	51	50	0
SVE-17	10/26/11	0.0	19.1	-2.4	-	55	50	9
SVE-17	11/22/11	0.0	20.2	-1.9	-	46	50	210
SVE-17	12/29/11	0.0	20.3	-3.5	-	47	50	350
SVE-17	01/26/12	0.0	19.9	-1.6	-	55	50	88
SVE-17	02/21/12	0.0	20.3	-1.1	-	47	50	107
SVE-17	03/30/12	0.0	20.6	-0.2	-	54	50	91
SVE-17	04/27/12	0.0	18.8	-44.8	-	61	50	150
SVE-17	05/25/12	0.0	19.9	-4.1	-	34	50	87
SVE-17	06/26/12	0.0	19.2	-5.4	-	55	50	550
SVE-17	07/25/12	0.0	17.9	-26.2	-	0 ⁴	50	540
SVE-17	08/22/12	0.0	19.1	-8.7	-	54	50	110
SVE-17	09/25/12	0.0	19.7	-8.9	-	54	50	6
SVE-17	10/30/12	0.0	19.7	-6.1	-	52	50	NA ¹¹
SVE-17	11/21/12	0.0	20.2	-1.3	-	49	50	79
SVE-17	12/21/12 ¹²	0.2	20.1	-5.5	-	46	50	2,260
SVE-17	01/03/13 ¹²	0.0	20.0	-4.3	-	50	50	145
SVE-17	01/28/13	0.0	20.7	-4.6	-	0 ⁴	50	271
SVE-17	02/27/13	0.0	20.5	-4.8	-	42	50	107

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-17	03/25/13	0.0	20.2	-0.2	-	47	50	318
SVE-17	04/26/13	0.0	18.1	-30.6	-	66	50	2,800
SVE-17	05/30/13	0.0	19.5	-17.3	-	66	50	300
SVE-17	06/27/13	0.0	20.2	-40.9	-	50	50	1,190
SVE-17	07/25/13	0.0	18.9	-36.6	-	54	50	38
SVE-17	08/30/13	0.0	19.9	0.4	-	58	50	33
SVE-17	09/25/13	0.0	20.2	-28.0	-	52	50	48
SVE-17	10/23/13	0.0	20.1	-14.2	-	57	50	8
SVE-17	11/20/13	0.0	20.1	-14.4	-	55	50	52
SVE-17	12/18/13	0.0	20.0	-6.4	-	57	50	43
SVE-17	05/13/14 ^{13,14}	-	-	-	-	-	50	-
SVE-17	05/28/14 ¹³	0.0	19.4	-21.4	-	0 ⁴	50	100
SVE-17	06/26/14	0.0	20.0	0.0	-	0 ⁴	50	4 ¹¹
SVE-17	07/31/14	0.0	20.7	1.3	-	0 ⁴	50	64
SVE-17	08/28/14	0.0	20.6	-0.3	-	50	50	60
SVE-17	09/26/14	0.0	20.2	0.6	-	45	50	6
SVE-17	10/24/14	0.0	20.1	0.0	-	42	50	16
SVE-17	11/19/14	0.0	20.5	-0.3	-	65	50	20
SVE-17	12/17/14	0.0	20.9	-0.5	-	54	50	38
SVE-17	01/21/15	0.0	20.3	-0.6	-	51	50	22
SVE-17	02/26/15	0.0	20.6	-1.1	-	57	50	60
SVE-17	03/17/15	0.0	21.0	-46.7	-	47	50	17
SVE-17	04/17/15	0.0	18.7	-43.5	-	57	50	22
SVE-17	05/12/15	0.0	19.7	-42.0	-	47	50	12
SVE-17	06/25/15	0.0	18.2	-36.9	-	54	50	21
SVE-17	07/31/15	0.0	20.2	-36.6	-	0 ⁴	50	31
SVE-17	08/19/15	0.0	20.3	-39.5	-	48	50	32
SVE-17	09/24/15	0.0	20.2	-46.0	-	50	50	51
SVE-17	10/22/15	0.0	20.5	-43.3	-	65	50	18
SVE-17	04/22/16	0.0	18.9	-0.2	50	0	-	25
SVE-17	10/26/16	0.0	15.8	-0.8	51	0	-	NA ⁶
SVE-17	04/05/17	0.0	15.0	-0.1	50	0	-	NA ⁶
SVE-17	10/30/17	0.0	15.2	0.0	54	0	-	NA ⁶
SVE-17	05/17/18	0.0	19.3	-11.6	56	0	-	-
SVE-17	11/16/18	0.0	20.4	-12.8	50	0	-	123
SVE-17	04/26/19	0.0	20.1	-12.3	46	0	-	74
SVE-17	10/31/19	0.0	21.3	-14.1	54	0	-	115
SVE-17	06/23/20	0.0	20.0	-13.0	70	0	-	369
SVE-17	11/05/20	0.0	19.8	-12.0	52	0	-	1,277
SVE-17	04/22/21	0.0	20.5	-14.0	48	0	-	13
SVE-17	10/21/21	0.0	20.9	-10.8	61	0	-	832
SVE-17	04/28/22	0.0	20.2	-11.6	46	0	-	9
SVE-17	10/27/22	0.0	20.2	-8.7	58	0	-	374

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-18	08/27/08 ¹	0.2	5.2	0.6	-	-	-	-
SVE-18	09/23/08	2.8	1.6	-25.8	-	86	90 - 100	-
SVE-18	09/25/08	0.7	4.9	-27.4	-	80	90 - 100	-
SVE-18	10/01/08	0.0	12.1	-28.0	-	90	90 - 100	-
SVE-18	10/07/08	0.0	14.7	-27.7	-	93	90 - 100	-
SVE-18	10/15/08	0.0	16.1	-27.9	-	96	90 - 100	-
SVE-18	10/30/08	0.0	17.3	-26.8	-	88	90 - 100	0
SVE-18	11/13/08	0.0	17.9	-25.9	-	102	90 - 100	-
SVE-18	11/26/08	0.0	18.9	-26.9	-	99	90 - 100	-
SVE-18	01/22/09 ³	0.0	18.0	-11.6	-	101	90 - 100	52
SVE-18	02/05/09	0.0	18.1	-11.0	-	96	90 - 100	0
SVE-18	02/16/09	0.0	18.7	-11.2	-	104	90 - 100	135
SVE-18	03/16/09	0.0	18.7	-10.0	-	100	90 - 100	32
SVE-18	04/24/09	0.0	19.0	-11.0	-	99	90 - 100	212
SVE-18	05/20/09	0.0	18.8	-9.6	-	100	90 - 100	61
SVE-18	06/23/09	0.0	17.8	-9.5	-	97	90 - 100	136
SVE-18	07/23/09	0.0	17.5	-8.8	-	101	90 - 100	232
SVE-18	08/20/09	0.0	18.1	-5.0	-	46	50	140
SVE-18	09/23/09	0.0	17.9	-4.4	-	46	50	216
SVE-18	10/20/09	0.0	18.3	-4.6	-	45	50	0
SVE-18	11/24/09	0.0	18.1	-4.3	-	48	50	45
SVE-18	12/29/09	0.0	17.1	-4.7	-	36	50	138
SVE-18	01/29/10	0.0	19.5	-4.8	-	30	50	1
SVE-18	02/22/10	0.0	18.6	-4.4	-	38	50	162
SVE-18	03/26/10	0.0	17.3	-3.8	-	46	50	135
SVE-18	04/22/10	0.0	18.1	-5.4	-	45	50	4
SVE-18	05/18/10	0.0	17.5	-5.4	-	55	50	671
SVE-18	06/29/10	0.0	17.4	-6.1	-	54	50	105
SVE-18	07/23/10	0.0	17.3	-5.4	-	46	50	133
SVE-18	08/27/10	0.0	11.9	-4.1	-	53	50	280
SVE-18	10/01/10	0.0	15.0	-5.5	-	51	50	113
SVE-18	10/22/10	0.0	16.5	-4.6	-	51	50	287
SVE-18	11/29/10	0.0	17.4	-5.2	-	48	50	133
SVE-18	12/22/10	0.1	18.0	-5.8	-	56	50	80
SVE-18	01/24/11	0.1	3.1	5.0	-	47	50	290
SVE-18	02/28/11	0.0	16.6	-5.0	-	46	50	86
SVE-18	04/13/11	0.0	17.6	-5.1	-	0 ⁴	50	83
SVE-18	04/29/11	0.0	18.3	-7.0	-	49	50	725
SVE-18	05/27/11	0.0	18.1	-5.0	-	49	50	560
SVE-18	06/24/11	0.0	17.8	-7.6	-	47	50	40
SVE-18	07/22/11	0.0	16.3	-6.4	-	57	50	45
SVE-18	08/25/11	0.0	17.1	-6.8	-	56	50	610
SVE-18	09/30/11	0.0	20.6	-2.9	-	51	50	0
SVE-18	10/26/11	0.0	16.9	-4.7	-	48	50	3
SVE-18	11/22/11	0.0	18.1	-4.4	-	45	50	29

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-18	12/29/11	0.0	18.4	-6.1	-	47	50	310
SVE-18	01/26/12	0.0	18.6	-4.1	-	46	50	70
SVE-18	02/21/12	0.0	18.4	-7.5	-	53	50	33
SVE-18	03/30/12	0.0	18.4	-3.7	-	50	50	76
SVE-18	04/27/12	0.0	17.5	-9.7	-	55	50	160
SVE-18	05/25/12	0.0	17.8	-10.7	-	58	50	180
SVE-18	06/26/12	0.0	17.2	-5.2	-	45	50	140
SVE-18	07/25/12	0.0	17.8	-9.3	-	47	50	170
SVE-18	08/22/12	0.0	17.1	-4.2	-	51	50	150
SVE-18	09/25/12	0.0	17.3	-8.9	-	47	50	9
SVE-18	10/30/12	0.0	18.0	-4.4	-	52	50	NA ¹¹
SVE-18	11/21/12	0.0	18.2	-4.6	-	54	50	0
SVE-18	12/21/12 ¹²	0.1	16.5	-5.1	-	57	50	386
SVE-18	01/03/13 ¹²	0.0	18.2	-5.4	-	0 ⁴	50	80
SVE-18	01/28/13	0.0	18.4	-5.8	-	0 ⁴	50	457
SVE-18	02/27/13	0.0	18.7	-2.0	-	0 ⁴	50	41
SVE-18	03/25/13	0.0	18.5	-2.3	-	50	50	524
SVE-18	04/26/13	0.0	17.5	-0.4	-	51	50	75
SVE-18	05/30/13	0.0	18.4	-11.0	-	54	50	17
SVE-18	06/27/13	0.0	20.4	2.9	-	93	50	38
SVE-18	07/25/13	0.0	17.6	-4.9	-	46	50	73
SVE-18	08/30/13	0.0	18.1	0.4	-	0 ⁴	50	7
SVE-18	09/25/13	0.0	18.3	-3.7	-	52	50	37
SVE-18	10/23/13	0.0	18.4	-3.9	-	51	50	11
SVE-18	11/20/13	0.0	17.9	-3.4	-	56	50	41
SVE-18	12/18/13	0.0	18.9	-3.3	-	57	50	4
SVE-18	05/13/14 ¹³	0.0	14.1	-6.7	-	45	50	910
SVE-18	05/28/14 ^{13, 14}	-	-	-	-	-	50	-
SVE-18	06/26/14	0.0	17.2	-11.0	-	0 ⁴	50	3 ¹¹
SVE-18	07/31/14	0.0	19.1	-12.3	-	54	50	82
SVE-18	08/28/14	0.0	15.2	-14.4	-	63	50	330
SVE-18	09/26/14	0.0	16.7	-2.2	-	62	50	29
SVE-18	10/24/14	0.0	17.6	-2.7	-	55	50	150
SVE-18	11/19/14	0.0	17.9	-2.8	-	55	50	8
SVE-18	12/17/14	0.0	19.3	-3.0	-	57	50	33
SVE-18	01/21/15	0.0	18.3	-3.2	-	60	50	61
SVE-18	02/26/15	0.0	18.6	-3.2	-	46	50	110
SVE-18	03/17/15	0.0	19.3	-3.3	-	0 ⁴	50	71
SVE-18	04/17/15	0.0	18.6	-17.0	-	47	50	37
SVE-18	05/12/15	0.0	18.9	-20.2	-	43	50	94
SVE-18	06/25/15	0.0	17.5	-17.1	-	43	50	28
SVE-18	07/31/15	0.0	18.5	-17.4	-	48	50	42
SVE-18	08/19/15	0.0	18.9	-5.8	-	53	50	26
SVE-18	09/24/15	0.0	18.1	-4.6	-	54	50	47
SVE-18	10/22/15	0.0	18.8	-4.2	-	0 ⁴	50	12
SVE-18	04/22/16	0.0	16.8	-2.4	50	0	-	12
SVE-18	10/26/16	0.0	19.4	-1.0	51	0	-	100

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)				
SVE-18	04/05/17	0.0	19.2	-0.3	50	0	-	394
SVE-18	10/30/17	0.0	20.1	0.0	54	0	-	890
SVE-18	05/17/18	0.0	14.8	-8.4	56	0	-	-
SVE-18	11/16/18	0.0	15.4	-8.9	50	0	-	0
SVE-18	04/26/19	0.0	15.3	-8.4	46	0	-	56
SVE-18	10/31/19	0.0	15.6	-9.0	54	0	-	139
SVE-18	06/23/20	0.0	19.9	-0.1	70	0	-	0
SVE-18	11/05/20	0.0	13.7	-8.3	52	0	-	0
SVE-18	04/22/21	0.0	15.6	-13.3	48	0	-	7
SVE-18	10/21/21	0.0	20.8	-7.6	61	0	-	25
SVE-18	04/28/22	0.0	15.7	-7.7	46	0	-	0
SVE-18	10/27/22	0.0	14.5	-6.6	58	0	-	47
SVE-19	08/27/08 ¹	8.8	2.1	0.2	-	-	-	-
SVE-19	09/23/08 ²	-	-	-	-	-	90 - 100	-
SVE-19	09/25/08 ²	-	-	-	-	-	90 - 100	-
SVE-19	10/01/08	0.0	9.0	-49.3	-	40	90 - 100	-
SVE-19	10/07/08	0.0	13.3	-46.8	-	33	90 - 100	-
SVE-19	10/15/08	0.0	15.3	-46.9	-	54	90 - 100	-
SVE-19	10/30/08	0.0	16.1	-46.2	-	52	90 - 100	80
SVE-19	11/13/08	0.0	16.5	-46.2	-	55	90 - 100	-
SVE-19	11/26/08	0.0	17.2	-47.2	-	53	90 - 100	-
SVE-19	01/22/09 ³	0.0	17.1	-49.2	-	31	90 - 100	569
SVE-19	02/05/09	0.0	18.0	-49.4	-	24	90 - 100	35
SVE-19	02/16/09	0.0	18.5	-47.7	-	42	90 - 100	135
SVE-19	03/16/09	0.0	17.7	-48.7	-	40	90 - 100	418
SVE-19	04/24/09	0.0	17.4	-46.4	-	50	90 - 100	312
SVE-19	05/20/09	0.0	17.8	-45.8	-	37	90 - 100	83
SVE-19	06/23/09	0.0	17.3	-44.0	-	30	90 - 100	169
SVE-19	07/23/09	0.0	17.2	-43.6	-	55	90 - 100	345
SVE-19	08/20/09	0.0	18.2	-27.7	-	51	50	215
SVE-19	09/23/09	0.0	18.5	-10.4	-	46	50	295
SVE-19	10/20/09	0.0	18.2	-14.2	-	47	50	10
SVE-19	11/24/09	0.0	18.0	-9.9	-	58	50	0
SVE-19	01/29/10	0.0	19.5	-10.5	-	55	50	13
SVE-19	02/22/10	0.0	18.9	-8.7	-	52	50	184
SVE-19	03/26/10	0.0	17.4	-16.5	-	48	50	162
SVE-19	04/22/10	0.0	18.1	-11.9	-	55	50	12
SVE-19	05/18/10	0.0	17.6	-15.0	-	50	50	697
SVE-19	06/29/10	0.0	17.2	-18.3	-	53	50	164
SVE-19	07/23/10	0.0	18.1	-16.0	-	56	50	148
SVE-19	08/27/10	0.0	14.9	-15.6	-	52	50	312
SVE-19	10/01/10	0.0	14.4	-11.2	-	54	50	2,100
SVE-19	10/22/10	0.0	16.5	-8.8	-	40	50	4,280
SVE-19	11/29/10	0.0	17.8	-8.3	-	52	50	157
SVE-19	12/22/10	0.1	17.1	-8.4	-	47	50	145
SVE-19	01/24/11	0.1	17.3	-7.1	-	15	50	128
SVE-19	02/28/11	0.0	16.4	-18.2	-	48	50	113

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration		
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	by FID (ppm)
SVE-19	04/13/11	0.0	16.7	-12.9	-	0 ⁴	50	120
SVE-19	04/29/11	0.0	16.4	-3.8	-	50	50	915
SVE-19	05/29/11	0.0	18.3	-46.9	-	56	50	630
SVE-19	06/24/11	0.0	17.3	-8.1	-	51	50	166
SVE-19	07/22/11	0.0	18.0	-35.4	-	56	50	150
SVE-19	08/25/11	0.0	15.4	-9.7	-	54	50	4,210
SVE-19	09/30/11	0.0	17.7	-7.6	-	54	50	300
SVE-19	10/26/11	0.0	16.4	-3.7	-	45	50	8
SVE-19	11/22/11	0.0	17.7	-6.0	-	52	50	170
SVE-19	12/29/11	0.0	17.9	-3.2	-	52	50	370
SVE-19	01/26/12	0.0	18.6	-1.4	-	46	50	114
SVE-19	02/21/12	0.0	18.8	-2.6	-	50	50	135
SVE-19	03/30/12	0.0	19.5	-15.0	-	55	50	59
SVE-19	04/27/12	0.0	17.8	-6.9	-	0 ⁴	50	50
SVE-19	05/25/12	0.0	19.1	-1.8	-	0 ⁴	50	46
SVE-19	06/26/12	0.0	18.6	-45.2	-	0 ⁴	50	100
SVE-19	07/25/12	0.0	18.3	-45.1	-	0 ⁴	50	110
SVE-19	08/22/12	0.0	16.9	-33.0	-	50	50	100
SVE-19	09/25/12	0.0	20.0	-6.6	-	51	50	8
SVE-19	10/30/12	0.0	18.2	-9.2	-	0 ⁴	50	NA ¹¹
SVE-19	11/21/12	0.0	18.4	-20.8	-	49	50	120
SVE-19	12/21/12 ¹²	0.0	15.9	-12.2	-	56	50	169
SVE-19	01/03/13 ¹²	0.0	18.0	-11.6	-	0 ⁴	50	68
SVE-19	01/28/13	0.0	19.2	-42.8	-	60	50	112
SVE-19	02/27/13	0.0	19.1	-27.4	-	70	50	58
SVE-19	03/25/13	0.0	19.2	-27.6	-	69	50	320
SVE-19	04/26/13	0.0	16.0	-0.6	-	0 ⁴	50	177
SVE-19	05/30/13	0.0	19.6	-33.2	-	55	50	23
SVE-19	06/27/13	0.0	18.0	-32.0	-	51	50	42
SVE-19	07/25/13	0.0	18.3	-40.8	-	47	50	120
SVE-19	08/30/13	0.0	18.6	-37.5	-	0 ⁴	50	20
SVE-19	09/25/13	0.0	20.4	-38.7	-	45	50	87
SVE-19	10/23/13	0.0	18.3	-43.5	-	0 ⁴	50	11
SVE-19	11/20/13	0.0	18.3	0.0	-	42	50	53
SVE-19	12/18/13	0.0	19.0	-43.2	-	0 ⁴	50	15
SVE-19	05/13/14 ¹³	0.4	15.6	72.0	-	50	50	440
SVE-19	05/28/14 ¹³	0.0	15.6	-21.4	-	33	50	130
SVE-19	06/26/14	0.0	17.0	-7.2	-	0 ⁴	50	6 ¹¹
SVE-19	07/31/14	0.0	19.1	-14.2	-	58	50	890
SVE-19	08/28/14	0.7	15.5	-22.3	-	65	50	9,190
SVE-19	09/26/14	0.0	17.7	-5.0	-	68	50	14
SVE-19	10/24/14	0.0	18.2	-6.2	-	55	50	130
SVE-19	11/19/14	0.0	18.2	0.0	-	60	50	NA ⁶
SVE-19	12/17/14	0.0	19.1	0.0	-	50	50	57
SVE-19	01/21/15	0.0	19.6	-10.3	-	56	50	14
SVE-19	02/26/15	0.0	19.1	-10.8	-	49	50	1,210

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					
SVE-19	03/17/15	0.0	17.5	-9.4	-	0 ⁴	50	740
SVE-19	04/17/15	0.0	19.2	-41.4	-	0 ⁴	50	300
SVE-19	05/12/15	0.0	19.8	-39.8	-	55	50	280
SVE-19	06/25/15	0.0	19.0	-35.9	-	0 ¹⁵	50	20
SVE-19	07/31/15	0.0	19.6	-35.1	-	0 ¹⁵	50	4
SVE-19	08/19/15	0.0	19.5	-41.0	-	0 ¹⁵	50	21
SVE-19	09/24/15	0.0	18.4	-44.3	-	0 ¹⁵	50	44
SVE-19	10/22/15	0.0	19.9	-42.1	-	0 ¹⁵	50	30
SVE-19	04/22/16	0.0	19.2	-13.2	50	0	-	19
SVE-19	10/26/16	0.0	19.9	-10.0	51	0	-	260
SVE-19	04/05/17	0.0	18.7	-0.9	50	0	-	681
SVE-19	10/30/17	0.0	20.4	0.0	54	0	-	1,046
SVE-19	05/17/18	0.0	19.7	-10.9	56	0	-	-
SVE-19	11/16/18	0.0	20.3	-13.2	50	0	-	226
SVE-19	04/26/19	0.0	20.2	-12.2	46	0	-	42
SVE-19	10/31/19	0.0	21.1	-14.6	54	0	-	7
SVE-19	06/23/20	0.0	19.3	-12.2	70	0	-	0
SVE-19	11/05/20	0.0	19.4	-11.7	52	0	-	135
SVE-19	04/22/21	0.0	20.9	-14.4	48	0	-	2,946
SVE-19	10/21/21	0.0	20.3	-10.9	61	0	-	97
SVE-19	04/28/22	0.0	20.9	-11.2	46	0	-	2
SVE-19	10/27/22	0.0	20.0	-8.8	58	0	-	26

Notes:

- ¹ Pre-startup readings
- ² No Air Flow due to obstructed well screen; therefore, field data was not collected
- ³ System was restarted on 1/19/09 after being down for a month for SVE well cleaning and condensate collection system installation.
- ⁴ Air flow is heard through the pipe, but no flow measurement could be determined.
- ⁵ Valve was frozen shut
- ⁶ No reading could be obtained; FID flamed out because of low oxygen level.
- ⁷ Air flow could not be determined because ice formed in pitot tube lines during well cleaning.
- ⁸ Air flow was higher due to vacuum in annular space around well.
- ⁹ Air flow is heard through the pipe, but no flow measurement could be determined because valve on Pitot Tube was closed.
- ¹⁰ Valve is stuck in place due to a bent valve stem and debris in valve.
- ¹¹ FID taken with Thermo Scientific TVA 1000 Vapor Analyzer.
- ¹² System was shutdown on 11/21/12 following monthly monitoring for 1 month shutdown period.
Post 1 month shutdown monitoring was conducted at startup (12/21/12) and two weeks after startup (1/3/13).
- ¹³ System was shutdown on 1/10/14 for a 4 month shutdown period.
Post 4 month shutdown monitoring was conducted at startup (5/13/14) and two weeks after startup (5/28/14).
- ¹⁴ No reading could be obtained due to blockage/water in the pipe.
- ¹⁵ Well turned off due to vacuum in annular space around the well.
- ¹⁶ Well is not under vacuum; unable to obtain flow reading.
- ¹⁷ Valve is fully open.

Appendix E.2

**Historical SVE Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	Target Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)					

¹⁸ Values could not be determined due to equipment error.

With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and operating only SVE wells SVE-4, SVE-6, SVE-7, SVE-12, SVE-13, and SVE-14. These wells are monitored on a monthly basis. All other SVE wells will be monitored on a semi-annual basis (April and October) and will be "turned on" on an as needed basis.

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-1	08/27/08 ¹	52.1	0.0	0.1	70	-	-
LFG-1	09/23/08	53.4	0.0	-2.6	62	10	-
LFG-1	09/25/08	15.1	0.0	-3.2	58	10	-
LFG-1	10/01/08	2.9	0.0	-2.7	59	10	-
LFG-1	10/07/08	1.9	1.8	-2.9	62	11	-
LFG-1	10/15/08	1.2	3.5	-3.6	60	10	-
LFG-1	10/30/08	1.0	6.1	-2.8	64	9	-
LFG-1	11/13/08	1.1	5.3	-4.2	52	10	-
LFG-1	11/26/08	0.8	6.5	-3.7	54	10	-
LFG-1	01/22/09 ²	2.3	7.0	-4.8	45	10	NA ³
LFG-1	02/05/09	0.0	15.5	-3.3	44	10	19,500
LFG-1	02/16/09	0.0	9.9	-6.8	40	10	25,200
LFG-1	03/16/09	0.0	12.6	-5.0	50	10	13,800
LFG-1	04/24/09	0.0	15.7	-4.3	54	10	12,100
LFG-1	05/20/09	0.0	14.0	-4.3	60	10	5,840
LFG-1	06/23/09	0.0	11.2	-4.1	70	10	6,150
LFG-1	07/23/09	0.1	10.4	-3.0	74	10	16,000
LFG-1	08/20/09	0.0	10.8	-5.4	73	20	21,500
LFG-1	09/23/09	0.3	12.0	-4.2	80	20	31,800
LFG-1	10/20/09	0.5	11.6	-6.0	72	20	38,400
LFG-1	11/24/09	0.3	13.8	-5.6	66	20	4,230
LFG-1	12/29/09	0.3	14.2	-5.1	54	20	16,600
LFG-1	01/29/10	0.5	16.6	-5.1	47	20	13,380
LFG-1	02/22/10	0.8	13.2	-5.1	46	20	42,500
LFG-1	03/26/10	0.1	15.0	-4.7	49	20	19,360
LFG-1	04/22/10	0.0	14.8	-4.5	60	20	9,540
LFG-1	05/18/10	0.1	14.0	-4.2	62	20	36,800
LFG-1	06/29/10	0.3	10.2	-6.0	68	20	-
LFG-1	07/23/10	0.2	10.3	-4.7	74	20	NA ³
LFG-1	08/27/10	15.0	0.0	-5.1	80	20	NA ³
LFG-1	10/01/10	9.8	0.4	-6.8	72	20	NA ³
LFG-1	10/22/10	6.7	3.0	-4.8	74	20	NA ³
LFG-1	11/29/10	1.1	9.4	-6.8	62	20	NA ³
LFG-1	12/22/10	3.0	7.3	-5.5	67	20	NA ³
LFG-1	01/24/11	0.8	15.1	-5.2	63	20	26,030
LFG-1	02/28/11	0.6	15.6	-5.9	52	20	18,170
LFG-1	04/13/11	0.4	15.5	-7.0	55	20	16,300
LFG-1	04/29/11	0.6	13.4	-10.0	58	20	467
LFG-1	05/27/11	0.3	15.3	-6.6	52	20	39,400

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-1	06/24/11	0.6	12.2	-5.8	76	20	2,540
LFG-1	07/22/11	0.5	10.2	-4.8	66	20	NA ³
LFG-1	08/25/11	7.8	1.1	-5.5	88	20	NA ³
LFG-1	09/30/11	0.8	13.6	-6.2	88	20	32,100
LFG-1	10/26/11	0.6	13.9	-4.0	88	20	49,030
LFG-1	11/22/11	0.7	13.9	-3.9	82	25	45,100
LFG-1	12/29/11	0.6	14.1	-4.1	74	25	42,300
LFG-1	01/26/12	1.3	9.2	-4.0	72	25	NA ³
LFG-1	02/21/12	0.4	16.8	-3.9	68	25	22,690
LFG-1	03/30/12	0.2	15.1	-5.0	70	25	10,054
LFG-1	04/27/12	0.1	14.3	-5.6	72	25	14,630
LFG-1	05/25/12	0.4	11.2	-8.8	80	25	NA ³
LFG-1	06/26/12	1.0	7.6	-6.5	84	25	NA ³
LFG-1	07/25/12	1.2	8.0	-8.3	92	25	NA ³
LFG-1	08/22/12	0.4	11.9	-5.0	84	25	34,850
LFG-1	09/25/12	1.2	10.2	-4.3	80	25	NA ³
LFG-1	10/30/12	0.6	14.2	-4.6	75	25	NA ⁶
LFG-1	11/21/12	0.3	15.0	-4.2	68	25	40,670
LFG-1	12/21/12 ⁷	13.0	3.5	-4.0	52	25	NA ³
LFG-1	01/03/13 ⁷	0.9	15.7	-4.3	75	25	39,470
LFG-1	01/28/13	0.4	16.7	-4.8	72	24	19,280
LFG-1	02/27/13	0.1	17.7	-4.6	51	25	9,290
LFG-1	03/25/13	0.5	16.2	-3.7	44	24	34,890
LFG-1	04/26/13	1.6	13.8	-8.5	80	25	12,620
LFG-1	05/30/13	0.1	17.7	-46.8	68	25	2,530
LFG-1	06/27/13	0.2	18.0	-13.6	75	26	15,490
LFG-1	07/25/13	0.1	15.3	-7.8	82	25	9,070
LFG-1	08/30/13	0.5	13.7	-5.0	85	25	9,040
LFG-1	09/25/13	0.6	14.6	-2.2	88	25	17,160
LFG-1	10/23/13	0.2	15.6	-4.4	82	25	10,390
LFG-1	11/20/13	0.6	16.0	-4.3	75	25	9,720
LFG-1	12/18/13	0.3	18.2	-4.5	67	25	NA ⁹
LFG-1	05/13/14 ¹⁰	10.4	7.9	-25.3	56	25	NA ³
LFG-1	05/28/14 ¹⁰	0.3	13.1	-13.0	61	25	27,900
LFG-1	06/26/14	0.0	16.2	-13.2	68	25	1,910 ⁶
LFG-1	07/31/14	13.8	11.4	-6.8	74	25	7,750
LFG-1	08/28/14	24.8	2.1	-6.2	73	25	NA ³
LFG-1	09/26/14	0.3	13.8	-4.4	82	25	2,330
LFG-1	10/24/14	0.3	15.8	-4.4	75	25	2,170

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-1	11/19/14	0.6	11.0	-5.4	71	25	6,240
LFG-1	12/17/14	0.0	19.3	-3.5	60	25	1,170
LFG-1	01/21/15	0.0	17.6	-4.0	62	25	940
LFG-1	02/26/15	0.3	11.8	-4.4	58	25	NA ³
LFG-1	03/17/15	0.2	14.0	-4.1	48	25	NA ³
LFG-1	04/17/15	0.1	11.3	-3.2	67	10	NA ³
LFG-1	05/12/15	0.0	17.3	-3.9	60	25	490
LFG-1	06/25/15	0.0	15.5	-5.1	72	25	1,010
LFG-1	07/31/15	0.0	15.4	-5.4	77	25	22
LFG-1	08/19/15	0.1	15.4	-2.7	77	24	2,510
LFG-1	09/24/15	0.7	13.0	-4.5	80	25	2,790
LFG-1	10/22/15	0.2	16.8	-3.8	77	26	810
LFG-1	11/12/15	9.3	0.4	-0.9	73	6	NA ³
LFG-1	12/17/15	37.3	0.7	-8.3	51	7	NA ³
LFG-1	01/21/16	2.7	5.5	-2.6	63	7	NA ³
LFG-1	02/24/16	2.4	3.7	0.8	51	8	NA ³
LFG-1	03/22/16	1.1	4.5	-0.4	58	7	NA ³
LFG-1	04/22/16	1.1	9.3	-2.0	56	9	NA ³
LFG-1	05/19/16	0.1	14.2	-2.7	59	9	NA ³
LFG-1	06/14/16	0.3	12.3	-2.1	66	10	NA ³
LFG-1	07/27/16	0.9	9.5	-1.1	70	0 ⁸	NA ³
LFG-1	08/10/16	0.7	10.9	-0.8	75	9	NA ³
LFG-1	09/15/16	1.5	8.8	-2.0	74	5	NA ³
LFG-1	10/26/16	5.7	2.4	-1.9	44	10	NA ³
LFG-1	11/23/16	7.2	0.7	-1.5	52	5	NA ³
LFG-1	12/13/16	1.0	12.9	-1.3	33	7	870
LFG-1	01/10/17	5.7	3.3	-0.9	35	9	NA ³
LFG-1	02/14/17	0.2	11.2	-1.7	46	6	NA ³
LFG-1	03/07/17	4.4	2.1	-0.9	46	6	NA ³
LFG-1	04/05/17	4.3	3.4	-14.0	51	10	NA ³
LFG-1	05/25/17	5.8	2.1	-2.4	66	0 ⁸	NA ³
LFG-1	06/28/17	1.0	10.0	-1.0	68	0 ⁸	NA ³
LFG-1	07/24/17	1.5	9.6	-0.7	68	0 ⁸	NA ³
LFG-1	08/14/17	1.6	10.1	-1.1	68	0 ⁸	NA ³
LFG-1	09/13/17	1.9	8.6	-1.0	77	10	NA ³
LFG-1	10/30/17	6.0	0.8	0.1	44	0 ⁸	NA ³
LFG-1	11/17/17	1.6	10.0	-1.0	41	0 ⁸	NA ³
LFG-1	12/07/17	1.4	12.4	-1.0	37	10	NA ³
LFG-1	01/24/18	3.1	9.7	-12.0	62	0 ⁸	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				VOC Concentration	
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	by FID (ppm)
LFG-1	02/13/18	0.2	18.0	-16.5	64	9	744
LFG-1	03/05/18	0.0	17.6	-16.2	49	8	811
LFG-1	04/04/18	0.0	19.0	-12.0	43	9	1,139
LFG-1	05/17/18	2.4	1.9	-9.1	56	0 ⁸	-
LFG-1	07/03/18	0.8	8.4	-8.2	60	0 ⁸	-
LFG-1	07/31/18	0.6	5.9	-10.2	70	0 ⁸	-
LFG-1	08/30/18	12.0	0.1	-9.6	64	0 ⁸	-
LFG-1	09/28/18	3.8	2.3	-12.4	54	0 ⁸	NA ³
LFG-1	11/16/18	4.1	6.0	-12.6	50	6	NA ³
LFG-1	12/13/18	1.6	2.8	-12.7	48	5	NA ³
LFG-1	01/23/19	3.4	1.6	-12.4	46	7	NA ³
LFG-1	02/22/19	1.7	5.7	-12.2	42	7	NA ³
LFG-1	04/02/19	0.6	8.9	-12.1	48	6	2,076
LFG-1	04/26/19	1.4	11.2	-12.3	52	5	NA ³
LFG-1	05/29/19	0.3	9.2	-13.0	65	5	113
LFG-1	06/18/19	0.0	13.4	-12.2	66	5	NA ³
LFG-1	07/23/19	0.6	10.9	-12.2	76	7	4,112
LFG-1	08/29/19	1.2	6.7	-12.3	78	6	NA ³
LFG-1	09/12/19	1.7	8.9	-12.2	68	6	8,070
LFG-1	10/31/19	0.6	15.1	-14.3	58	6	9,757
LFG-1	11/25/19	1.7	16.1	-3.2	61	- ⁹	-
LFG-1	02/18/20	0.8	17.3	-15.6	46	8	NA ³
LFG-1	06/23/20	0.4	13.3	-14.0	67	5	2,832
LFG-1	08/17/20	1.0	10.7	-13.6	73	11	NA ³
LFG-1	11/05/20	1.1	10.5	-12.9	69	15	NA ³
LFG-1	01/20/21	1.3	5.2	-10.5	48	12	NA ¹
LFG-1	02/19/21	0.0	20.4	-4.9	34	0 ⁸	NA ⁹
LFG-1	03/25/21	2.1	6.2	-13.8	44	13	NA ⁹
LFG-1	04/22/21	0.0	17.8	-7.4	56	NA ⁹	2,133
LFG-1	05/21/21	0.0	16.5	-12.3	60	5	0
LFG-1	06/17/21	0.0	15.7	-12.6	75	0 ⁸	674
LFG-1	07/15/21	0.0	14.4	-4.6	59	16	NA ⁹
LFG-1	08/12/21	2.7	2.5	-2.7	61	0 ⁸	NA ³
LFG-1	09/23/21	7.4	1.1	-5.4	74	54	NA ³
LFG-1	10/21/21	0.7	15.4	-11.8	71	6	15,090
LFG-1	11/30/21	4.8	2.0	-10.6	54	12	NA ³
LFG-1	12/21/21	2.1	4.2	-5.4	45	11	NA ³
LFG-1	01/31/22	1.7	4.7	-11.5	50	4	1,056
LFG-1	02/28/22	0.6	17.6	-5.1	50	10	4,591

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-1	03/28/22	0.7	6.9	-5.5	46	11	NA ¹
LFG-1	04/28/22	0.6	15.3	-8.2	47	8	12,376
LFG-1	05/26/22	0.0	11.7	-7.4	53	6	2,920
LFG-1	06/23/22	0.0	15.1	-3.0	74	5	858
LFG-1	07/26/22	0.4	14.1	-11.4	76	3	4,572
LFG-1	08/23/22	0.4	13.4	-4.0	81	0	12,279
LFG-1	09/29/22	0.8	14.5	-3.9	69	8	1,023
LFG-1	10/27/22	0.5	15.4	-3.4	59	12	13,271
LFG-1	12/06/22	2.8	3.3	-6.4	44	15	NA ¹
LFG-2	08/27/08 ¹	47.8	0.0	0.3	70	-	-
LFG-2	09/23/08	50.2	0.0	-6.7	59	10	-
LFG-2	09/25/08	11.1	0.6	-7.3	56	8	-
LFG-2	10/01/08	0.7	5.8	-7.2	58	10	-
LFG-2	10/07/08	1.1	6.0	-8.4	60	10	-
LFG-2	10/15/08	1.0	5.3	-10.5	60	10	-
LFG-2	10/30/08	0.4	8.4	-15.6	64	10	-
LFG-2	11/13/08	0.4	6.5	-15.3	60	10	-
LFG-2	11/26/08	0.0	8.8	-15.2	60	10	-
LFG-2	01/22/09 ²	1.2	7.9	-13.6	52	10	NA ³
LFG-2	02/05/09	0.0	12.6	-13.3	50	10	3,200
LFG-2	02/16/09	0.0	10.1	-13.6	47	10	5,090
LFG-2	03/16/09	0.0	13.0	-13.8	54	10	1,750
LFG-2	04/24/09	0.0	15.8	-13.3	62	10	975
LFG-2	05/20/09	0.0	15.3	-13.2	62	10	466
LFG-2	06/23/09	0.0	13.1	-13.3	70	10	1,240
LFG-2	07/23/09	0.0	12.0	-12.6	74	10	5,620
LFG-2	08/20/09	0.0	11.2	-11.8	78	10	14,000
LFG-2	09/23/09	0.0	12.1	-10.7	84	10	8,730
LFG-2	10/20/09	0.0	11.1	-11.6	82	10	10,100
LFG-2	11/24/09	0.0	13.1	-12.2	76	10	1,740
LFG-2	12/29/09	0.0	14.0	-11.3	65	10	2,580
LFG-2	01/29/10	0.0	16.8	-11.3	50	10	1,133
LFG-2	02/22/10	0.3	12.8	-11.3	53	10	19,700
LFG-2	03/26/10	0.0	15.0	-11.0	55	10	2,340
LFG-2	04/22/10	0.0	15.9	-9.9	62	10	1,130
LFG-2	05/18/10	0.0	15.0	-9.2	68	10	5,710
LFG-2	06/29/10	0.0	12.7	-10.7	68	10	-
LFG-2	07/23/10	0.0	13.0	-9.1	80	10	6,930

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-2	08/27/10	12.7	0.0	-9.5	80	10	NA ³
LFG-2	10/01/10	7.0	0.9	-11.4	77	10	NA ³
LFG-2	10/22/10	3.5	4.8	-9.4	78	10	NA ³
LFG-2	11/29/10	0.1	9.8	-9.8	62	10	NA ³
LFG-2	12/22/10	1.9	9.9	-9.4	60	10	NA ³
LFG-2	01/24/11	0.3	16.1	-10.9	55	10	4,260
LFG-2	02/28/11	0.1	16.3	-12.9	54	10	2,240
LFG-2	04/13/11	0.0	16.9	-15.9	56	10	2,140
LFG-2	04/29/11	0.0	16.5	-15.0	55	10	4,914
LFG-2	05/27/11	0.0	16.9	-13.9	52	10	5,510
LFG-2	06/24/11	0.0	16.2	-13.8	71	10	36,680
LFG-2	07/22/11	0.0	14.2	-12.2	66	10	1,590
LFG-2	08/25/11	3.3	9.6	-12.8	86	10	NA ³
LFG-2	09/30/11	0.1	17.3	-12.8	94	10	3,400
LFG-2	10/26/11	0.0	16.0	-9.0	82	10	6,540
LFG-2	11/22/11	0.0	16.5	-8.4	82	10	5,170
LFG-2	12/29/11	0.0	16.6	-8.6	76	10	4,310
LFG-2	01/26/12	1.1	10.2	-8.1	72	10	NA ³
LFG-2	02/21/12	0.0	17.6	-6.4	66	10	2,780
LFG-2	03/30/12	0.0	17.0	-6.2	65	10	1,565
LFG-2	04/27/12	0.0	16.4	-7.4	67	10	2,620
LFG-2	05/25/12	0.1	15.6	-10.7	80	10	2,350
LFG-2	06/26/12	0.4	9.1	-7.8	77	10	NA ³
LFG-2	07/25/12	0.3	12.7	-11.1	86	10	6,240
LFG-2	08/22/12	0.0	15.8	-8.8	84	10	5,100
LFG-2	09/25/12	0.1	15.7	-6.9	70	10	2,580
LFG-2	10/30/12	0.0	16.7	-1.2	70	0 ⁵	250 ⁶
LFG-2	11/21/12	0.0	17.7	-6.3	64	10	200
LFG-2	12/21/12 ⁷	6.7	7.4	-4.8	51	10	NA ³
LFG-2	01/03/13 ⁷	0.1	18.2	-4.9	68	10	4,940
LFG-2	01/28/13	0.0	19.0	-5.4	65	15	823
LFG-2	02/27/13	0.0	15.2	-1.7	63	11	17,530
LFG-2	03/25/13	0.1	17.2	-4.5	55	10	9,280
LFG-2	04/26/13	0.3	17.2	-11.6	80	10	12,140
LFG-2	05/30/13	0.0	18.9	-44.8	66	10	190
LFG-2	06/27/13	0.0	18.8	-12.4	75	11	1,590
LFG-2	07/25/13	0.0	17.2	-5.8	80	10	650
LFG-2	08/30/13	0.0	16.9	-4.9	81	10	120
LFG-2	09/25/13	0.1	17.3	-2.6	81	10	2,550

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-2	10/23/13	0.0	17.3	-3.2	76	10	1,680
LFG-2	11/20/13	0.2	17.6	-1.9	65	11	2,520
LFG-2	12/18/13 ⁴	-	-	-	-	-	-
LFG-2	05/13/14 ¹⁰	10.2	10.1	-12.3	56	10	NA ³
LFG-2	05/28/14 ¹⁰	0.0	16.4	-9.3	63	10	2,600
LFG-2	06/26/14	0.0	18.0	-11.7	68	11	320 ⁶
LFG-2	07/31/14	3.9	12.0	-1.3	74	10	4,410
LFG-2	08/28/14	15.7	1.6	-2.0	76	10	NA ³
LFG-2	09/26/14	0.0	17.4	-1.6	77	13	920
LFG-2	10/24/14	0.0	17.9	-2.4	68	10	1,300
LFG-2	11/19/14	0.0	15.1	-9.5	63	0 ⁸	3,300
LFG-2	12/17/14	0.0	19.8	-3.5	58	10	270
LFG-2	01/21/15	0.0	18.9	-5.0	53	10	200
LFG-2	02/26/15	0.0	15.9	-8.0	52	10	700
LFG-2	03/17/15	0.0	15.9	-6.8	55	10	NA ³
LFG-2	04/17/15	0.0	14.8	-4.4	67	10	NA ³
LFG-2	05/12/15	0.0	18.7	-5.4	56	10	100
LFG-2	06/25/15	0.0	17.0	-1.6	67	10	230
LFG-2	07/31/15	0.0	17.7	-4.6	77	10	67
LFG-2	08/19/15	0.0	18.2	-3.2	72	10	180
LFG-2	09/24/15	0.0	17.6	-3.6	74	10	310
LFG-2	10/22/15	0.0	19.8	-2.8	73	10	330
LFG-2	11/12/15	2.0	1.6	-0.4	64	0 ¹¹	780
LFG-2	12/17/15	15.1	6.0	-0.1	51	0 ¹¹	NA ³
LFG-2	01/21/16	1.1	0.7	-18.1	36	0 ⁸	NA ³
LFG-2	02/24/16	1.4	7.0	-14.9	47	10	NA ³
LFG-2	03/22/16	0.6	7.0	-12.2	56	5	NA ³
LFG-2	04/22/16	0.0	17.0	-10.5	61	0 ⁸	270
LFG-2	05/19/16	0.0	16.2	-7.0	60	9	1,180
LFG-2	06/14/16	0.0	15.5	-4.8	66	7	NA ³
LFG-2	07/27/16	0.0	13.1	-4.0	70	0 ⁸	NA ³
LFG-2	08/10/16	0.0	14.5	-2.2	76	10	NA ³
LFG-2	09/15/16	0.1	9.7	-1.2	71	8	NA ³
LFG-2	10/26/16	3.1	1.3	-0.7	43	7	NA ³
LFG-2	11/23/16	3.2	0.2	-1.2	47	8	NA ³
LFG-2	12/13/16	0.0	16.9	-0.1	35	7	1,000
LFG-2	01/10/17	2.7	2.4	-0.7	37	10	NA ³
LFG-2	02/14/17	0.0	12.1	-1.2	41	10	NA ³
LFG-2	03/07/17	0.8	1.8	-0.8	44	8	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-2	04/05/17	0.5	1.9	-14.1	50	8	NA ³
LFG-2	05/25/17	1.1	2.2	-2.0	71	0 ⁸	NA ³
LFG-2	06/28/17	0.0	14.5	-0.8	70	0 ⁸	NA ³
LFG-2	07/24/17	0.0	14.7	-0.8	69	0 ⁸	NA ³
LFG-2	08/14/17	0.0	13.9	-0.6	68	8	NA ³
LFG-2	09/13/17	0.1	13.6	-1.1	71	10	NA ³
LFG-2	10/30/17	0.5	2.8	-0.6	41	0 ⁸	NA ³
LFG-2	11/17/17	0.0	20.7	-1.1	38	0 ⁸	629
LFG-2	12/07/17	0.0	20.1	-1.1	36	0 ⁸	590
LFG-2	01/24/18	0.4	17.8	-12.1	49	0 ⁸	1,314
LFG-2	02/13/18	0.0	20.4	-16.4	55	0 ⁸	471
LFG-2	03/05/18	0.0	19.8	-16.1	52	0 ⁸	505
LFG-2	04/04/18	0.0	19.2	-11.9	48	0 ⁸	870
LFG-2	05/17/18	0.0	8.1	-9.2	56	0 ⁸	-
LFG-2	07/03/18	0.0	15.4	-8.2	58	0 ⁸	-
LFG-2	07/31/18	0.0	14.4	-10.2	68	0 ⁸	-
LFG-2	08/30/18	3.4	0.1	-9.2	61	0 ⁸	-
LFG-2	09/28/18	0.4	6.7	-11.7	54	0 ⁸	NA ³
LFG-2	11/16/18	0.0	16.7	-12.5	50	7	1,485
LFG-2	12/13/18	11.4	1.2	-13.0	52	6	NA ³
LFG-2	01/23/19	0.2	3.4	-11.9	39	8	NA ³
LFG-2	02/22/19	0.1	8.7	-12.1	42	5	119
LFG-2	04/02/19	0.0	9.2	-11.7	50	6	1,630
LFG-2	04/26/19	0.0	15.8	-12.3	50	5	40
LFG-2	05/29/19	0.0	9.8	-13.2	66	5	32
LFG-2	06/18/19	0.0	16.4	-12.3	64	7	24
LFG-2	07/23/19	0.0	15.5	-11.9	76	8	147
LFG-2	08/29/19	0.0	13.0	-12.0	70	15	2,738
LFG-2	09/12/19	0.0	13.4	-12.2	62	12	3,137
LFG-2	10/31/19	0.0	16.9	-15.4	50	8	161
LFG-2	11/25/19	0.3	18.7	-6.4	56	- ⁹	-
LFG-2	02/18/20	0.0	18.2	-15.4	45	10	647
LFG-2	06/23/20	0.0	10.3	-13.9	66	7	87
LFG-2	08/17/20	0.0	14.9	-13.7	72	3	198
LFG-2	11/05/20	0.1	13.6	-12.4	65	7	NA ³
LFG-2	01/20/21	0.1	5.8	-10.3	40	8	NA ³
LFG-2	02/19/21	0.0	20.7	-3.4	31	0 ⁸	507
LFG-2	03/25/21	0.0	10.5	-13.6	44	4	NA ⁹
LFG-2	04/22/21	0.0	18.8	-6.1	61	NA ⁹	16

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration by FID (ppm)
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			
LFG-2	05/21/21	0.0	18.2	-12.4	64	0	0
LFG-2	06/17/21	0.0	17.8	-4.1	72	14	357
LFG-2	07/15/21	0.0	16.9	-8.1	62	14	NA ⁹
LFG-2	08/12/21	0.4	6.6	-4.9	60	43	NA ³
LFG-2	09/23/21	1.2	3.6	-7.0	74	6	NA ³
LFG-2	10/21/21	0.0	18.7	-4.6	61	10	1,353
LFG-2	11/30/21	0.5	5.2	-10.5	52	9	NA ³
LFG-2	12/21/21	0.1	5.3	-3.6	36	11	NA ³
LFG-2	01/31/22	0.0	12.8	-3.6	31	0	155
LFG-2	02/28/22	0.1	17.6	-3.2	48	5	2,615
LFG-2	03/28/22	0.0	11.1	-3.0	44	10	2,920
LFG-2	04/28/22	0.0	17.4	-4.1	46	0	2,367
LFG-2	05/26/22	0.0	12.0	-11.6	53	5	35
LFG-2	06/23/22	0.0	18.2	-5.0	70	0	44
LFG-2	07/26/22	0.0	17.6	-11.3	72	5	919
LFG-2	08/23/22	0.0	16.1	-4.0	80	13	1,718
LFG-2	09/29/22	0.0	17.2	-10.0	70	11	1,902
LFG-2	10/27/22	0.0	17.8	-2.8	59	7	1,679
LFG-2	12/06/22	0.2	5.8	-3.0	42	6	NA ¹
LFG-3	08/27/08 ¹	52.0	0.0	0.0	70	-	-
LFG-3	09/23/08	33.7	4.3	-14.3	64	10	-
LFG-3	09/25/08	5.2	7.9	-14.0	56	16	-
LFG-3	09/25/08	5.2	7.9	-12.2	56	10	-
LFG-3	10/01/08	0.8	9.8	-9.5	60	10	-
LFG-3	10/07/08	0.7	11.9	-9.4	60	11	-
LFG-3	10/15/08	0.5	13.0	-11.9	59	10	-
LFG-3	10/30/08	0.1	16.2	-9.2	60	10	-
LFG-3	11/13/08	0.0	18.0	-6.8	50	10	-
LFG-3	11/26/08	0.0	19.3	-3.7	40	10	-
LFG-3	01/22/09 ²	1.2	13.5	-12.1	42	10	50,000
LFG-3	02/05/09	0.0	16.0	-8.6	40	10	3,640
LFG-3	02/16/09	0.4	11.5	-17.7	36	10	38,100
LFG-3	03/16/09	0.1	14.7	-15.8	44	10	8,520
LFG-3	04/24/09	0.0	17.4	-13.6	52	10	2,040
LFG-3	05/20/09	0.0	16.6	-13.8	60	10	624
LFG-3	06/23/09	0.0	16.7	-8.5	70	10	513
LFG-3	07/23/09	0.0	18.3	-3.2	70	10	550
LFG-3	08/20/09	0.0	13.9	-16.6	70	10	8,230

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-3	09/23/09	0.0	16.3	-9.1	73	10	2,600
LFG-3	10/20/09	0.0	18.1	-6.3	56	10	1,880
LFG-3	11/24/09	0.0	18.7	-5.0	52	10	202
LFG-3	12/29/09 ⁴	-	-	-	-	-	-
LFG-3	01/29/10 ⁴	-	-	-	-	-	-
LFG-3	02/22/10	0.0	18.0	-12.1	42	10	2,520
LFG-3	03/26/10	0.0	16.6	-12.1	46	10	924
LFG-3	04/22/10	0.0	17.4	-9.8	52	10	407
LFG-3	05/18/10	0.0	18.3	-3.9	64	10	1,140
LFG-3	06/29/10	0.0	15.4	-12.3	64	10	-
LFG-3	07/23/10	0.0	17.5	-4.8	68	10	750
LFG-3	08/27/10	10.7	7.8	-17.6	74	10	NA ³
LFG-3	10/01/10	1.8	14.8	-9.0	60	10	NA ³
LFG-3	10/22/10	0.2	18.6	-2.4	60	10	21,700
LFG-3	11/29/10	0.0	21.3	-2.3	54	10	12,100
LFG-3	12/22/10 ⁴	-	-	-	-	-	-
LFG-3	01/24/11 ⁴	-	-	-	-	-	-
LFG-3	02/28/11	0.0	18.9	-0.1	52	0 ⁵	67
LFG-3	04/13/11	0.0	19.1	-7.1	40	10	1,100
LFG-3	04/29/11	0.1	18.7	-11.7	42	10	14,048
LFG-3	05/27/11	0.1	18.9	-2.7	52	10	9,230
LFG-3	06/24/11	0.5	16.1	-11.0	73	10	17,650
LFG-3	07/22/11	0.3	14.0	-15.0	66	10	3,849
LFG-3	08/25/11	5.0	11.7	-15.6	77	10	NA ³
LFG-3	09/30/11	0.1	20.1	-1.1	59	10	4,210
LFG-3	10/26/11	0.0	18.9	-0.6	55	10	740
LFG-3	11/22/11	0.0	19.8	-0.6	48	10	130
LFG-3	12/29/11	0.0	19.6	-0.8	50	10	344
LFG-3	01/26/12	0.0	19.2	-0.9	65	10	503
LFG-3	02/21/12	0.0	19.8	-1.0	40	10	70
LFG-3	03/30/12	0.0	19.6	-2.5	40	10	261
LFG-3	04/27/12	0.0	18.9	-2.9	50	10	100
LFG-3	05/25/12	0.1	14.6	-24.0	64	10	2,030
LFG-3	06/26/12	0.8	9.9	-22.2	66	10	NA ³
LFG-3	07/25/12	1.4	11.3	-33.7	82	10	5,290
LFG-3	08/22/12	0.5	14.5	-16.9	70	10	20,840
LFG-3	09/25/12	1.0	15.8	-8.3	60	10	18,710
LFG-3	10/30/12	0.0	19.1	-1.4	45	10	46 ⁶
LFG-3	11/21/12	0.0	19.9	-1.1	46	10	120

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-3	12/21/12 ⁷	1.0	18.3	-1.2	50	10	12,370
LFG-3	01/03/13 ⁷	0.0	19.5	0.0	65	5 ⁵	302
LFG-3	01/28/13	0.0	21.3	-0.1	42	13	689
LFG-3	02/27/13	0.0	15.2	-1.9	51	10	1,210
LFG-3	03/25/13	0.0	20.0	-2.6	44	10	510
LFG-3	04/26/13	0.3	17.3	-31.7	60	10	7,500
LFG-3	05/30/13	0.0	18.1	-47.0	60	10	430
LFG-3	06/27/13	0.1	15.6	-28.6	72	0 ⁸	3,430
LFG-3	07/25/13	0.0	16.8	-9.3	76	10	5,650
LFG-3	08/30/13	0.1	19.2	-1.0	77	0 ⁸	1,560
LFG-3	09/25/13	0.1	19.8	-0.6	70	10	900
LFG-3	10/23/13	0.0	19.3	-1.0	50	10	248
LFG-3	11/20/13	0.0	20.0	-1.1	47	10	79
LFG-3	12/18/13	0.0	20.0	-0.3	55	10	NA ⁹
LFG-3	05/13/14 ¹⁰	19.0	11.1	-47.3	52	6 ⁵	NA ³
LFG-3	05/28/14 ¹⁰	0.7	13.2	-46.6	68	6 ⁵	31,100
LFG-3	06/26/14	0.0	16.6	-45.8	68	10	1,050 ⁶
LFG-3	07/31/14	11.2	16.5	-22.1	72	10	11,070
LFG-3	08/28/14	20.4	10.1	-22.0	70	9	NA ³
LFG-3	09/26/14	0.0	15.8	-14.2	72	10	630
LFG-3	10/24/14	0.0	17.3	-14.7	63	10	NA ³
LFG-3	11/19/14	0.3	14.2	-22.5	59	9	4,070
LFG-3	12/17/14	0.0	20.0	-5.9	41	10	81
LFG-3	01/21/15	0.0	19.4	-7.9	44	10	130
LFG-3	02/26/15	0.0	19.9	0.0	47	0 ⁴	1,080
LFG-3	03/17/15	0.0	17.5	-5.6	48	10	330
LFG-3	04/17/15	0.0	16.0	-6.2	61	10	110
LFG-3	05/12/15	0.0	19.1	-15.6	54	11	88
LFG-3	06/25/15	0.0	16.7	-8.6	69	10	45
LFG-3	07/31/15	0.0	16.4	-26.4	75	10	424
LFG-3	08/19/15	0.0	17.1	0.0	76	10	1,533
LFG-3	09/24/15	0.4	15.8	-20.0	73	9	1,411
LFG-3	10/22/15	0.2	18.1	-14.6	67	10	4,144
LFG-3	11/12/15	0.0	20.4	-0.1	66	0 ¹¹	798
LFG-3	12/17/15	59.8	1.4	0.0	51	0 ¹¹	NA ³
LFG-3	01/21/16	1.0	8.6	-17.7	56	8	NA ³
LFG-3	02/24/16	2.8	9.3	-16.7	51	6	NA ³
LFG-3	03/22/16	0.8	11.5	-13.2	50	10	NA ³
LFG-3	04/22/16	0.5	15.9	-12.4	57	0 ⁸	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-3	05/19/16	0.0	16.3	-10.2	61	14	6,150
LFG-3	06/14/16	0.2	15.3	-10.3	72	8	NA ³
LFG-3	07/27/16	0.9	12.9	-10.0	72	0 ⁸	NA ³
LFG-3	08/10/16	0.7	13.9	-3.0	78	10	NA ³
LFG-3	09/15/16	1.8	11.7	-10.6	77	10	NA ³
LFG-3	10/26/16	6.3	9.5	-11.3	53	10	NA ³
LFG-3	11/23/16	4.0	6.6	-11.3	51	10	NA ³
LFG-3	12/13/16	0.5	15.1	-1.5	37	8	NA ³
LFG-3	01/10/17	3.0	9.5	-11.7	40	6	NA ³
LFG-3	02/14/17	0.7	12.4	-14.8	49	8	NA ³
LFG-3	03/07/17	2.9	10.1	-14.8	45	6	NA ³
LFG-3	04/05/17	3.4	10.3	-13.9	53	9	NA ³
LFG-3	05/25/17	1.2	7.0	-16.8	66	0 ⁸	NA ³
LFG-3	06/28/17	0.7	15.0	-13.6	65	0 ⁸	NA ³
LFG-3	07/24/17	0.9	15.0	-13.4	70	0 ⁸	NA ³
LFG-3	08/14/17	1.1	15.0	-13.0	70	0 ⁸	NA ³
LFG-3	09/13/17	1.0	14.7	-7.8	78	8	NA ³
LFG-3	10/30/17	1.9	12.1	-7.3	42	0 ⁸	NA ³
LFG-3	11/17/17	0.4	16.7	-7.8	40	0 ⁸	1,177
LFG-3	12/07/17	0.3	16.9	-7.8	39	8	1,081
LFG-3	01/24/18	7.9	11.9	-12.0	60	0 ⁸	NA ³
LFG-3	02/13/18	0.8	17.1	-16.6	59	5	1,480
LFG-3	03/05/18	0.1	19.2	-16.1	50	0 ⁸	1,277
LFG-3	04/04/18	0.5	18.7	-12.0	47	0 ⁸	1,413
LFG-3	05/17/18	0.6	11.8	-9.2	56	0 ⁸	-
LFG-3	07/03/18	0.0	14.5	-8.2	60	0 ⁸	-
LFG-3	07/31/18	0.0	13.8	-10.3	66	0 ⁸	-
LFG-3	08/30/18	2.4	5.5	-9.7	62	0 ⁸	-
LFG-3	09/28/18	1.2	12.1	-12.6	54	0 ⁸	> 4,293
LFG-3	11/16/18	3.3	15.0	-12.6	50	0 ⁸	NA ³
LFG-3	12/13/18	3.1	11.6	-12.6	46	5	NA ³
LFG-3	01/23/19	2.9	5.9	-11.9	42	6	NA ³
LFG-3	02/22/19	1.6	8.3	-12.0	38	5	NA ³
LFG-3	04/02/19	1.6	10.7	-11.8	45	5	NA ³
LFG-3	04/26/19	0.1	14.6	-13.0	52	1	5,961
LFG-3	05/29/19	0.0	12.3	-13.3	68	5	3,291
LFG-3	06/18/19	0.0	15.3	-12.2	66	2	1,668
LFG-3	07/23/19	0.4	14.3	-11.9	76	1	6,814
LFG-3	08/29/19	0.8	13.2	-12.6	72	0 ⁸	21,918

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-3	09/12/19	2.0	9.5	-12.0	61	8	3,113
LFG-3	10/31/19	0.9	16.2	-14.7	50	4	13,438
LFG-3	11/25/19	1.5	19.0	-13.9	51	- ⁹	-
LFG-3	02/18/20	0.8	17.3	-15.3	40	5	12,026
LFG-3	06/23/20	0.2	16.1	-13.7	67	3	3,433
LFG-3	08/17/20	0.8	14.2	-13.7	76	0 ⁸	12,948
LFG-3	11/05/20	1.0	13.8	-12.8	62	7	15,478
LFG-3	01/20/21	0.5	14.5	-10.4	38	4	NA ⁹
LFG-3	02/19/21	0.0	20.8	-11.2	32	0	NA ⁹
LFG-3	03/25/21	0.6	11.8	-15.1	52	18	NA ⁹
LFG-3	04/22/21	0.0	18.6	-12.6	56	NA ⁹	47
LFG-3	05/21/21	0.0	16.6	-12.4	61	33	1,860
LFG-3	06/17/21	0.0	16.8	-12.0	78	40	1,977
LFG-3	07/15/21	0.0	15.8	-9.6	70	0 ⁸	NA ⁹
LFG-3	08/12/21	0.9	9.8	-9.5	63	0 ⁸	3,006
LFG-3	09/23/21	1.6	9.8	-10.0	74	0 ⁸	13,000
LFG-3	10/21/21	0.8	17.4	-11.7	61	26	15,234
LFG-3	11/30/21	2.3	11.1	-10.4	53	12	NA ³
LFG-3	12/21/21	1.3	4.0	-10.5	35	0 ⁸	NA ³
LFG-3	01/31/22	0.9	10.7	-6.3	35	3	2,009
LFG-3	02/28/22	0.2	18.2	-10.1	43	18	2,970
LFG-3	03/28/22	0.5	11.9	-11.2	44	5	NA ¹
LFG-3	04/28/22	0.0	17.2	-12.7	46	5	1,820
LFG-3	05/26/22	0.0	15.1	-11.8	52	24	86
LFG-3	06/23/22	0.0	17.7	-10.1	73	2	352
LFG-3	07/26/22	0.1	17.2	-11.2	73	0	3,782
LFG-3	08/23/22	0.0	16.7	-10.4	78	6	4,693
LFG-3	09/29/22	0.2	18.1	-9.9	64	2	950
LFG-3	10/27/22	0.0	18.0	-8.8	58	2	3,608
LFG-3	12/06/22	0.9	11.9	-9.6	45	24	NA ¹
LFG-4	08/27/08 ¹	52.1	0.0	0.1	70	-	-
LFG-4	09/23/08	51.4	0.0	-12.0	58	10	-
LFG-4	09/25/08	7.2	0.7	-11.2	56	9	-
LFG-4	10/01/08	1.2	3.9	-10.8	60	11	-
LFG-4	10/01/08	1.2	3.9	-10.7	60	10	-
LFG-4	10/07/08	1.0	6.4	-11.3	60	10	-
LFG-4	10/15/08	1.1	6.0	-13.7	59	10	-
LFG-4	10/30/08	0.7	9.8	-13.6	64	10	-

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-4	11/13/08	1.1	6.7	-16.2	58	10	-
LFG-4	11/26/08	0.6	9.1	-14.9	57	10	-
LFG-4	01/22/09 ²	1.2	9.4	-16.8	50	10	NA ³
LFG-4	02/05/09	0.0	12.9	-15.7	46	10	12,400
LFG-4	02/16/09	0.0	12.2	-16.4	44	10	11,200
LFG-4	03/16/09	0.0	13.5	-18.2	50	10	11,600
LFG-4	04/24/09	0.0	14.6	-18.1	60	10	3,000
LFG-4	05/20/09	0.0	14.0	-18.6	60	10	1,550
LFG-4	06/23/09	0.0	12.1	-17.9	70	10	2,610
LFG-4	07/23/09	0.0	11.2	-16.0	78	10	6,300
LFG-4	08/20/09	0.0	11.1	-13.6	80	10	9,310
LFG-4	09/23/09	0.0	11.9	-11.7	86	10	11,500
LFG-4	10/20/09	0.0	12.2	-14.1	80	10	22,300
LFG-4	11/24/09	0.0	13.6	-16.0	74	10	3,620
LFG-4	12/29/09	0.0	13.7	-14.3	62	10	7,490
LFG-4	01/29/10	0.1	17.7	-14.3	51	10	14
LFG-4	02/22/10	0.7	12.5	-14.3	52	10	27,300
LFG-4	03/26/10	0.0	15.1	-18.5	54	10	11,200
LFG-4	04/22/10	0.0	16.2	-13.9	62	10	3,370
LFG-4	05/18/10	0.0	15.2	-10.7	64	10	15,200
LFG-4	06/29/10	0.0	12.6	-11.8	74	10	-
LFG-4	07/23/10	0.0	13.0	-10.8	80	10	14,400
LFG-4	08/27/10	21.6	1.7	-12.7	82	10	NA ³
LFG-4	10/01/10	14.3	2.4	-16.8	72	10	NA ³
LFG-4	10/22/10	7.9	6.3	-11.0	76	10	NA ³
LFG-4	11/29/10	0.6	11.1	-11.1	61	10	NA ³
LFG-4	12/22/10	2.6	9.5	-10.0	65	10	NA ³
LFG-4	01/24/11	0.6	16.2	-10.0	52	10	13,820
LFG-4	02/28/11	0.5	16.7	-13.2	52	10	12,340
LFG-4	04/13/11	0.3	17.2	-15.5	51	10	10,370
LFG-4	04/29/11	0.5	16.4	-15.9	58	10	42,973
LFG-4	05/27/11	0.2	16.9	-12.0	52	10	24,450
LFG-4	06/24/11	0.2	15.3	-8.5	73	10	15,430
LFG-4	07/22/11	0.1	12.9	-7.1	66	10	270
LFG-4	08/25/11	9.6	3.9	-10.5	85	10	NA ³
LFG-4	09/30/11	0.3	16.3	-7.8	85	10	6,780
LFG-4	10/26/11	0.2	15.0	-6.7	83	10	16,450
LFG-4	11/22/11	0.2	15.8	-6.8	79	15	10,490
LFG-4	12/29/11	0.1	16.0	-7.5	70	15	9,820

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-4	01/26/12	1.7	9.4	-6.7	70	15	NA ³
LFG-4	02/21/12	0.1	17.2	-5.6	64	15	6,340
LFG-4	03/30/12	0.0	16.0	-10.2	62	15	4,373
LFG-4	04/27/12	0.0	16.8	-11.8	72	15	5,560
LFG-4	05/25/12	0.2	14.5	-13.6	73	15	6,250
LFG-4	06/26/12	1.2	6.8	-14.8	75	15	NA ³
LFG-4	07/25/12	0.8	11.6	-16.1	88	15	7,780
LFG-4	08/22/12	0.2	14.7	-10.8	80	15	19,970
LFG-4	09/25/12	0.4	15.9	-7.8	75	15	7,860
LFG-4	10/30/12	0.2	16.0	-7.4	62	15	NA ⁶
LFG-4	11/21/12	0.0	16.7	-7.0	60	15	2,560
LFG-4	12/21/12 ⁷	17.3	6.9	-8.5	53	15	NA ³
LFG-4	01/03/13 ⁷	0.2	18.0	-6.4	65	15	8,350
LFG-4	01/28/13	0.1	18.4	-5.9	60	16	4,430
LFG-4	02/27/13	0.0	17.9	-1.2	61	16	10,540
LFG-4	03/25/13	0.3	17.5	-2.8	58	15	21,610
LFG-4	04/26/13	0.7	16.1	-19.8	60	15	12,330
LFG-4	05/30/13	0.0	18.6	-46.8	64	15	940
LFG-4	06/27/13	0.0	19.9	-22.8	74	15	5,030
LFG-4	07/25/13	0.0	16.4	-9.3	80	15	4,070
LFG-4	08/30/13	0.2	16.0	-7.4	83	15	1,020
LFG-4	09/25/13	0.4	16.5	-3.6	82	15	6,860
LFG-4	10/23/13	0.0	17.6	-6.8	75	15	4,750
LFG-4	11/20/13	0.2	17.4	-5.0	71	15	3,580
LFG-4	12/18/13	0.0	18.3	-2.0	55	15	NA ⁹
LFG-4	05/13/14 ¹⁰	14.5	8.6	-18.1	55	15	NA ³
LFG-4	05/28/14 ¹⁰	0.0	14.8	-12.6	62	15	NA ³
LFG-4	06/26/14	0.0	17.0	-13.4	72	15	2,690 ⁶
LFG-4	07/31/14	16.5	6.5	-9.9	72	15	NA ³
LFG-4	08/28/14	25.2	4.9	-10.1	75	14	NA ³
LFG-4	09/26/14	0.0	16.4	-6.3	76	15	1,750
LFG-4	10/24/14	0.0	17.6	-6.1	70	15	2,770
LFG-4	11/19/14	0.3	12.4	-8.0	63	15	10,750
LFG-4	12/17/14	0.0	19.8	-5.1	53	15	380
LFG-4	01/21/15	0.0	18.5	-7.8	52	15	350
LFG-4	02/26/15	0.0	13.4	-5.5	48	15	470
LFG-4	03/17/15	0.0	15.4	-8.2	52	15	NA ³
LFG-4	04/17/15	0.0	13.0	-6.2	61	15	NA ³
LFG-4	05/12/15	0.0	18.2	-13.0	65	15	180

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-4	06/25/15	0.0	16.7	-3.0	67	14	280
LFG-4	07/31/15	0.0	16.2	-10.4	75	15	510
LFG-4	08/19/15	0.0	17.8	-10.8	75	17	1,350
LFG-4	09/24/15	0.2	17.7	-7.4	75	16	1,390
LFG-4	10/22/15	0.1	19.0	-5.7	71	15	1,600
LFG-4	11/12/15	0.0	6.6	-12.3	69	12	1,240
LFG-4	12/17/15	24.0	9.6	-22.0	51	20	NA ³
LFG-4	01/21/16	2.8	11.8	-17.4	56	20	NA ³
LFG-4	02/24/16	3.4	6.3	-16.5	59	16	NA ³
LFG-4	03/22/16	2.2	6.8	-12.5	55	20	NA ³
LFG-4	04/22/16	0.2	17.3	-11.7	70	20	500
LFG-4	05/19/16	0.0	16.6	-9.3	66	15	20,220
LFG-4	06/14/16	0.0	15.9	-9.8	70	0 ^{5,8}	3,710
LFG-4	07/27/16	0.2	14.0	-9.3	72	0 ⁸	NA ³
LFG-4	08/10/16	0.1	15.4	-7.9	78	20	6,890
LFG-4	09/15/16	0.4	12.7	-8.7	68	15	NA ³
LFG-4	10/26/16	6.9	5.5	-9.5	45	15	NA ³
LFG-4	11/23/16	6.5	3.8	-10.7	56	10	NA ³
LFG-4	12/13/16	0.2	16.1	-11.8	34	23	3,400
LFG-4	01/10/17	9.0	4.7	-12.1	34	11	NA ³
LFG-4	02/14/17	0.1	12.0	-14.5	44	20	NA ³
LFG-4	03/07/17	6.6	5.4	-13.5	52	15	NA ³
LFG-4	04/05/17	6.0	5.4	-13.9	54	20	NA ³
LFG-4	05/25/17	4.3	3.8	-16.6	68	0 ⁸	NA ³
LFG-4	06/28/17	0.1	15.9	-13.3	66	0 ⁸	NA ³
LFG-4	07/24/17	0.2	16.1	-13.0	72	0 ⁸	NA ³
LFG-4	08/14/17	0.2	14.4	-12.9	49	0 ⁸	NA ³
LFG-4	09/13/17	0.1	15.9	-12.9	73	17	NA ³
LFG-4	10/30/17	1.4	8.5	-6.4	47	13	NA ³
LFG-4	11/17/17	0.0	16.7	-12.9	42	0 ⁸	989
LFG-4	12/07/17	0.0	17.2	-12.9	37	14	907
LFG-4	01/24/18	11.2	12.0	-12.0	56	0 ⁸	NA ³
LFG-4	02/13/18	5.1	13.3	-16.5	60	0 ⁸	NA ³
LFG-4	03/05/18	2.1	14.8	-16.1	52	0 ⁸	NA ³
LFG-4	04/04/18	2.4	15.3	-11.9	41	0 ⁸	NA ³
LFG-4	05/17/18	0.7	9.3	-9.4	56	0 ⁸	-
LFG-4	07/03/18	0.0	16.6	-7.8	58	10	-
LFG-4	07/31/18	0.0	15.9	-10.1	62	0 ⁸	-
LFG-4	08/30/18	3.6	1.7	-9.3	60	0 ⁸	-

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-4	09/28/18	0.4	10.3	-12.1	58	0 ⁸	> 4,293
LFG-4	11/16/18	0.3	16.7	-12.6	56	14	3,838
LFG-4	12/13/18	8.8	8.1	-12.8	52	18	NA ³
LFG-4	01/23/19	1.8	5.4	-12.0	46	19	NA ³
LFG-4	02/22/19	1.2	4.7	-12.2	40	18	NA ³
LFG-4	04/02/19	1.0	8.5	-11.8	48	12	NA ³
LFG-4	04/26/19	0.1	14.7	-12.8	53	15	6,793
LFG-4	05/29/19	0.0	11.0	-13.3	66	9	4,436
LFG-4	06/18/19	0.0	16.9	-12.2	67	13	2,019
LFG-4	07/23/19	0.0	16.4	-11.9	74	19	1,486
LFG-4	08/29/19	0.1	15.2	-11.9	74	29	3,509
LFG-4	09/12/19	0.0	16.2	-11.0	61	20	5,336
LFG-4	10/31/19	0.0	18.7	-15.0	54	15	1,690
LFG-4	11/25/19	0.5	20.0	-13.2	53	- ⁹	-
LFG-4	02/18/20	0.0	18.6	-15.3	45	20	1,886
LFG-4	06/23/20	0.0	17.3	-12.9	66	14	1,085
LFG-4	08/17/20	0.0	16.4	-12.9	76	16	2,023
LFG-4	11/05/20	0.1	15.6	-12.1	62	21	2,564
LFG-4	01/20/21	0.0	13.5	-9.8	44	24	6,369
LFG-4	02/19/21	0.0	20.8	-10.9	40	0 ⁸	6,434
LFG-4	03/25/21	1.0	11.6	-13.3	44	13	NA ⁹
LFG-4	04/22/21	0.0	19.4	-12.7	59	NA ⁹	304
LFG-4	05/21/21	0.0	18.5	-11.6	64	48	8
LFG-4	06/17/21	0.0	18.4	-8.8	70	17	832
LFG-4	07/15/21	0.0	17.5	-8.4	70	39	NA ⁹
LFG-4	08/12/21	0.7	10.0	-9.5	60	0 ⁸	6,520
LFG-4	09/23/21	4.9	6.6	-10.2	72	30	12,400
LFG-4	10/21/21	0.0	19.4	-11.4	62	22	1,762
LFG-4	11/30/21	2.8	9.5	-10.2	55	32	NA ³
LFG-4	12/21/21	0.5	10.0	-9.1	42	32	NA ³
LFG-4	01/31/22	0.5	9.9	-10.8	42	39	4,508
LFG-4	02/28/22	0.0	19.2	-8.4	45	27	1,494
LFG-4	03/28/22	0.2	11.2	-10.1	44	16	NA ¹
LFG-4	04/28/22	0.0	18.6	-7.8	45	20	2,840
LFG-4	05/26/22	0.0	14.4	-11.4	52	19	98
LFG-4	06/23/22	0.0	18.7	-5.4	70	18	132
LFG-4	07/26/22	0.0	18.5	-11.2	72	18	1,490
LFG-4	08/23/22	0.0	17.5	-4.8	79	15	1,597
LFG-4	09/29/22	0.0	18.7	-4.9	69	18	334

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-4	10/27/22	0.0	19.0	-3.7	60	19	1,464
LFG-4	12/06/22	0.6	9.9	-3.8	51	18	NA ¹
LFG-5	08/27/08 ¹	53.1	0.0	0.3	70	-	-
LFG-5	09/23/08	40.0	0.7	-9.4	64	10	-
LFG-5	09/25/08	7.1	4.5	-9.1	56	7	-
LFG-5	10/01/08	1.2	6.9	-8.6	59	10	-
LFG-5	10/07/08	1.0	9.0	-8.5	58	9	-
LFG-5	10/15/08	0.9	9.5	-8.7	60	10	-
LFG-5	10/30/08	0.5	10.7	-8.0	64	10	-
LFG-5	11/13/08	1.1	9.2	-9.5	60	10	-
LFG-5	11/26/08	0.7	10.1	-9.1	60	10	-
LFG-5	01/22/09 ²	1.8	6.7	-8.8	52	10	NA ³
LFG-5	02/05/09	0.0	11.0	-6.9	54	10	19,300
LFG-5	02/16/09	0.0	7.9	-10.9	54	10	NA ³
LFG-5	03/16/09	0.1	9.9	-8.5	60	10	NA ³
LFG-5	04/24/09	0.0	11.7	-7.9	68	10	6,730
LFG-5	05/20/09	0.0	11.0	-8.1	70	10	NA ³
LFG-5	06/23/09	0.0	9.1	-7.6	80	10	NA ³
LFG-5	07/23/09	0.1	8.5	-7.4	80	10	NA ³
LFG-5	08/20/09	0.3	8.9	-11.5	80	20	NA ³
LFG-5	09/23/09	0.6	9.8	-11.1	86	20	47,500
LFG-5	10/20/09	0.9	9.8	-14.1	80	20	NA ³
LFG-5	11/24/09	0.0	16.0	-23.2	70	20	17,300
LFG-5	12/29/09	0.2	14.0	-21.2	60	20	10,200
LFG-5	01/29/10	0.7	13.3	-21.2	51	20	14,430
LFG-5	02/22/10	2.7	10.1	-21.2	52	20	NA ³
LFG-5	03/26/10	0.5	12.7	-18.4	54	20	38,200
LFG-5	04/22/10	0.1	14.4	-16.4	62	20	14,700
LFG-5	05/18/10	0.2	14.2	-15.2	64	20	891
LFG-5	06/29/10	0.3	13.0	-19.4	70	20	-
LFG-5	07/23/10	0.0	15.2	-19.6	73	20	12,100
LFG-5	08/27/10	20.0	4.6	-19.1	78	20	NA ³
LFG-5	10/01/10	7.4	8.1	-31.7	70	20	NA ³
LFG-5	10/22/10	2.4	12.4	-27.6	73	20	NA ³
LFG-5	11/29/10	5.2	5.1	-11.9	61	20	NA ³
LFG-5	12/22/10	3.1	12.7	-20.8	56	20	NA ³
LFG-5	01/24/11	0.6	17.4	-28.2	54	20	17,860
LFG-5	02/28/11	0.5	17.3	-33.3	40	20	12,720

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-5	04/13/11	0.5	18.2	-45.6	45	18	12,640
LFG-5	04/29/11	0.9	16.9	-47.6	56	10 ⁵	>50,000
LFG-5	05/27/11	0.2	18.7	-43.1	52	20	20,100
LFG-5	06/24/11	0.4	17.5	-44.5	66	20	15,360
LFG-5	07/22/11	0.0	16.4	-35.6	66	21	1,480
LFG-5	08/25/11	3.3	11.8	-37.4	80	20	NA ³
LFG-5	09/30/11	0.2	17.9	-26.1	75	29	2,310
LFG-5	10/26/11	0.0	16.7	-23.6	73	20	7,740
LFG-5	11/22/11	0.3	15.9	-18.2	70	20	10,570
LFG-5	12/29/11	0.9	15.7	-18.1	68	20	39,010
LFG-5	01/26/12	7.8	6.8	-17.8	72	20	NA ³
LFG-5	02/21/12	0.7	12.0	-5.8	76	20	NA ³
LFG-5	03/30/12	1.1	7.7	-8.6	78	20	NA ³
LFG-5	04/27/12	0.0	17.7	-24.6	69	20	80
LFG-5	05/25/12	0.7	13.2	-37.8	70	20	41,170
LFG-5	06/26/12	0.8	12.8	-36.8	68	20	>50,000
LFG-5	07/25/12	0.9	12.0	-40.3	84	20	>50,000
LFG-5	08/22/12	0.1	16.9	-30.5	74	20	12,910
LFG-5	09/25/12	0.4	16.5	-24.4	67	20	6,810
LFG-5	10/30/12	0.5	15.1	-15.0	64	20	NA ⁶
LFG-5	11/21/12	0.5	13.5	-10.3	60	20	11,380
LFG-5	12/21/12 ⁷	30.1	3.2	-8.5	57	20	NA ³
LFG-5	01/03/13 ⁷	0.8	11.7	-6.9	74	20	36,220
LFG-5	01/28/13	0.4	11.7	-6.4	74	20	12,310
LFG-5	02/27/13	0.3	10.2	-4.5	63	20	28,360
LFG-5	03/25/13	0.1	14.1	-7.9	66	20	17,500
LFG-5	04/26/13	3.0	15.8	-48.1	66	20	>50,000
LFG-5	05/30/13	0.2	18.8	-45.5	65	20	5,930
LFG-5	06/27/13	0.2	17.5	-43.6	75	18	5,020
LFG-5	07/25/13	0.0	17.6	-26.8	80	20	1,860
LFG-5	08/30/13	0.0	17.8	-14.3	81	20	2,130
LFG-5	09/25/13	0.1	18.7	-0.4	74	20	1,490
LFG-5	10/23/13	0.2	18.0	-5.3	65	20	10,500
LFG-5	11/20/13	0.7	16.9	-4.7	62	20	11,970
LFG-5	12/18/13	0.2	17.8	-4.3	52	20	NA ⁹
LFG-5	05/13/14 ¹⁰	15.5	8.4	-47.4	54	19	NA ³
LFG-5	05/28/14 ¹⁰	0.4	13.8	-46.8	62	20	>50,000
LFG-5	06/26/14	0.0	17.4	-46.4	67	20	8,530 ⁶
LFG-5	07/31/14	4.9	11.9	-31.5	73	20	4,960

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-5	08/28/14	13.8	6.5	-21.0	75	20	NA ³
LFG-5	09/26/14	0.0	16.9	-18.0	76	20	1,680
LFG-5	10/24/14	0.0	18.2	-18.6	69	20	2,490
LFG-5	11/19/14	0.0	15.0	-8.3	58	20	9,100
LFG-5	12/17/14	0.0	17.4	-7.4	54	20	1,240
LFG-5	01/21/15	0.0	15.2	-12.0	58	20	880
LFG-5	02/26/15	3.6	9.8	-9.6	55	20	NA ³
LFG-5	03/17/15	2.4	10.4	-9.0	59	20	NA ³
LFG-5	04/17/15	2.8	6.8	-9.7	67	20	NA ³
LFG-5	05/12/15	0.0	15.2	-9.6	66	20	NA ³
LFG-5	06/25/15	0.0	16.5	-16.2	73	20	300
LFG-5	07/31/15	0.0	17.9	-22.6	78	20	540
LFG-5	08/19/15	0.0	18.2	-19.5	77	20	830
LFG-5	09/24/15	0.1	17.3	-16.8	77	20	800
LFG-5	10/22/15	0.0	19.2	-9.7	73	20	830
LFG-5	11/12/15	2.0	15.4	-16.2	69	10	1,090
LFG-5	12/17/15	3.6	18.2	-15.8	50	6	4,840
LFG-5	01/21/16	0.5	5.4	-3.5	26	0 ^{4,8}	NA ³
LFG-5	02/24/16	0.7	9.2	-12.2	34	11	NA ³
LFG-5	03/22/16	0.9	6.3	-8.1	52	0 ⁸	NA ³
LFG-5	04/22/16	0.1	17.9	-8.0	58	8	310
LFG-5	05/19/16	0.0	17.6	-7.1	64	9	3,600
LFG-5	06/14/16	0.0	16.7	-8.5	68	8	1,940
LFG-5	07/27/16	0.1	14.9	-7.4	74	0 ⁸	2,640
LFG-5	08/10/16	0.0	16.4	-6.0	80	10	2,590
LFG-5	09/15/16	0.1	13.5	-8.3	73	5	NA ³
LFG-5	10/26/16	1.5	5.1	-9.1	47	12	NA ³
LFG-5	11/23/16	2.5	2.4	-9.1	50	7	NA ³
LFG-5	12/13/16	0.0	17.6	-9.0	36	7	1,720
LFG-5	01/10/17	0.2	15.5	0.0	39	6	NA ³
LFG-5	02/14/17	0.0	14.2	-10.8	45	7	NA ³
LFG-5	03/07/17	1.2	5.3	-11.8	49	5	NA ³
LFG-5	04/05/17	1.0	5.1	-14.0	51	8	NA ³
LFG-5	05/25/17	0.5	5.3	-15.9	60	0 ⁸	NA ³
LFG-5	06/28/17	0.0	17.5	-11.8	66	0 ⁸	NA ³
LFG-5	07/24/17	0.0	17.5	-10.9	72	0 ⁸	NA ³
LFG-5	08/14/17	0.0	17.9	-14.2	70	0 ⁸	2,004
LFG-5	09/13/17	0.0	18.0	-7.8	76	5	2,111
LFG-5	10/30/17	0.7	8.9	-2.9	44	9	NA ³

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-5	11/17/17	0.0	17.7	-7.8	40	8	2,004
LFG-5	12/07/17	0.0	18.2	-7.8	33	9	1,633
LFG-5	01/24/18	10.3	15.6	-11.9	60	0 ⁸	NA ³
LFG-5	02/13/18	3.0	15.6	-16.4	62	0 ⁸	NA ³
LFG-5	03/05/18	0.8	18.4	-16.1	52	0 ⁸	1,340
LFG-5	04/04/18	0.7	17.7	-11.9	43	0 ⁸	986
LFG-5	05/17/18	3.3	4.7	-9.1	56	0 ⁸	-
LFG-5	07/03/18	0.5	12.3	-8.2	56	0 ⁸	-
LFG-5	07/31/18	0.6	11.0	-10.1	66	0 ⁸	-
LFG-5	08/30/18	11.1	1.0	-9.5	64	0 ⁸	-
LFG-5	09/28/18	2.1	6.2	-12.6	58	0 ⁸	1,123
LFG-5	11/16/18	0.0	17.3	-12.6	52	6	1,609
LFG-5	12/13/18	2.5	4.1	-12.6	48	8	NA ³
LFG-5	01/23/19	0.3	6.7	-11.9	42	7	6,010
LFG-5	02/22/19	1.6	15.2	-11.4	40	6	19,026
LFG-5	04/02/19	3.4	11.0	-11.8	42	9	NA ³
LFG-5	04/26/19	0.0	16.4	-12.0	51	6	3,755
LFG-5	05/29/19	0.0	12.8	-13.0	64	3	1,697
LFG-5	06/18/19	0.0	17.6	-12.0	64	8	4,574
LFG-5	07/23/19	0.0	17.2	-11.7	72	7	888
LFG-5	08/29/19	0.1	15.7	-12.0	72	6	3,127
LFG-5	09/12/19	0.1	15.4	0.0	62	0 ¹¹	4,706
LFG-5	10/31/19	0.0	19.3	-14.8	54	6	1,811
LFG-5	11/25/19	0.4	21.2	-12.7	53	- ⁹	-
LFG-5	02/18/20	0.0	19.4	-15.0	38	10	1,464
LFG-5	06/23/20	0.0	17.9	-12.1	64	6	330
LFG-5	08/17/20	0.0	17.0	-13.6	74	7	677
LFG-5	11/05/20	0.2	15.6	-12.8	64	12	3,126
LFG-5	01/20/21	0.8	12.7	-10.2	43	9	24,448
LFG-5	02/19/21	0.0	20.6	-10.9	34	0	NA ⁹
LFG-5	03/25/21	3.2	11.4	-12.9	50	11	NA ⁹
LFG-5	04/22/21	0.0	19.8	-11.6	56	NA ⁹	469
LFG-5	05/21/21	0.0	18.7	-11.6	65	0	167
LFG-5	06/17/21	0.0	18.5	-8.8	72	20	309
LFG-5	07/15/21	0.0	17.5	-8.8	60	14	NA ⁹
LFG-5	08/12/21	0.2	10.0	-10.3	62	0 ⁸	4,355
LFG-5	09/23/21	1.7	9.7	-8.9	75	42	15,000
LFG-5	10/21/21	0.0	19.3	-10.9	62	24	1,968
LFG-5	11/30/21	1.2	9.2	-9.8	50	22	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-5	12/21/21	0.4	9.8	-9.6	40	19	NA ³
LFG-5	01/31/22	0.3	6.0	-0.3	52	0	175
LFG-5	02/28/22	0.3	18.0	-8.9	47	10	4,203
LFG-5	03/28/22	1.1	12.2	-10.1	44	8	NA ¹
LFG-5	04/28/22	0.0	19.2	-12.5	42	6	2,262
LFG-5	05/26/22	0.0	14.5	-11.1	52	0	185
LFG-5	06/23/22	0.0	19.1	-10.4	70	6	57
LFG-5	07/26/22	0.0	18.9	-11.1	71	9	689
LFG-5	08/23/22	0.0	13.1	-9.7	74	6	1,382
LFG-5	09/29/22	0.0	19.5	-9.0	70	8	347
LFG-5	10/27/22	0.0	19.0	-8.4	60	7	2,080
LFG-5	12/06/22	0.7	8.8	-8.7	48	10	NA ¹
LFG-6	08/27/08 ¹	47.7	0.0	0.2	70	-	-
LFG-6	09/23/08	42.0	1.9	-6.3	60	10	-
LFG-6	09/25/08	10.2	3.2	-6.7	56	18	-
LFG-6	09/25/08	10.2	3.2	-6.2	56	10	-
LFG-6	10/01/08	1.0	6.6	-6.4	58	10	-
LFG-6	10/07/08	0.9	9.0	-6.7	60	10	-
LFG-6	10/15/08	0.7	9.9	-7.4	60	10	-
LFG-6	10/30/08	0.6	10.0	-7.8	64	10	-
LFG-6	11/13/08	0.6	9.4	-9.0	60	10	-
LFG-6	11/26/08	0.6	9.2	-8.8	57	10	-
LFG-6	01/22/09 ²	1.0	7.8	-9.2	48	10	NA ³
LFG-6	02/05/09	0.0	8.0	-7.3	54	11	16,700
LFG-6	02/16/09	0.0	9.1	-9.6	48	10	NA ³
LFG-6	03/16/09	0.2	9.1	-10.2	55	10	NA ³
LFG-6	04/24/09	0.0	10.5	-9.5	60	10	NA ³
LFG-6	05/20/09	0.0	10.3	-10.1	64	10	NA ³
LFG-6	06/23/09	0.0	9.8	-8.3	78	10	NA ³
LFG-6	07/23/09	0.3	9.4	-8.3	80	10	NA ³
LFG-6	08/20/09	0.3	9.6	-8.6	80	10	NA ³
LFG-6	09/23/09	0.5	10.4	-8.1	84	10	40,400
LFG-6	10/20/09	0.5	9.8	-9.6	80	10	NA ³
LFG-6	11/24/09	0.4	11.0	-9.3	75	10	26,800
LFG-6	12/29/09	0.3	10.5	-9.5	66	10	14,600
LFG-6	01/29/10	0.6	12.3	-9.5	54	10	1,565
LFG-6	02/22/10	1.4	10.9	-9.5	64	10	NA ³
LFG-6	03/26/10	0.3	11.2	-12.9	58	10	18,000

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-6	04/22/10	0.1	13.2	-10.1	72	10	15,600
LFG-6	05/18/10	0.3	12.6	-8.8	77	10	>50,000
LFG-6	06/29/10	0.4	11.3	-9.7	80	10	-
LFG-6	07/23/10	0.3	12.1	-8.3	80	10	38,950
LFG-6	08/27/10	17.2	6.2	-7.8	87	10	NA ³
LFG-6	10/01/10	12.4	5.8	-11.4	79	10	NA ³
LFG-6	10/22/10	9.2	8.9	-9.3	81	10	NA ³
LFG-6	11/29/10	1.2	8.3	-10.8	69	10	NA ³
LFG-6	12/22/10	5.9	6.1	-11.8	76	10	NA ³
LFG-6	01/24/11	1.1	13.7	-14.1	67	10	19,590
LFG-6	02/28/11	0.9	13.8	-21.4	60	10	NA ³
LFG-6	04/13/11	0.8	14.1	-22.4	60	11	NA ³
LFG-6	04/29/11	1.7	11.6	-27.7	62	10	NA ³
LFG-6	05/27/11	0.8	15.3	-16.4	52	10	>50,000
LFG-6	06/24/11	1.1	12.6	-16.1	66	10	38,540
LFG-6	07/22/11	1.0	12.4	-12.7	66	10	28,550
LFG-6	08/25/11	15.3	6.2	-12.6	96	10	NA ³
LFG-6	09/30/11	1.1	15.1	-9.2	91	10	>50,000
LFG-6	10/26/11	0.8	14.0	-8.2	87	10	>50,000
LFG-6	11/22/11	0.6	15.5	-9.7	83	20	8,080
LFG-6	12/29/11	0.7	15.4	-8.6	77	20	16,100
LFG-6	01/26/12	3.7	12.6	-8.2	84	20	NA ³
LFG-6	02/21/12	0.4	16.0	-7.3	72	20	16,730
LFG-6	03/30/12	0.4	14.0	-10.7	70	20	213
LFG-6	04/27/12	0.1	15.6	-13.3	83	20	10,840
LFG-6	05/25/12	1.2	10.5	-27.8	70	20	2,790
LFG-6	06/26/12	4.0	9.9	-24.6	81	20	NA ³
LFG-6	07/25/12	2.8	11.1	-30.1	96	20	>50,000
LFG-6	08/22/12	0.6	14.9	-20.7	80	20	3,850
LFG-6	09/25/12	0.7	16.1	-12.0	76	20	10,610
LFG-6	10/30/12	0.4	16.7	-9.7	62	20	NA ⁶
LFG-6	11/21/12	0.1	17.3	-9.2	60	20	7,120
LFG-6	12/21/12 ⁷	17.3	9.5	-11.0	55	20	NA ³
LFG-6	01/03/13 ⁷	0.3	16.6	-11.2	70	20	13,640
LFG-6	01/28/13	0.3	16.8	-11.1	70	20	5,360
LFG-6	02/27/13	0.0	13.7	-3.5	70	20	11,170
LFG-6	03/25/13	0.3	15.1	-5.4	69	20	8,460
LFG-6	04/26/13	2.6	11.0	-26.8	73	20	38,550
LFG-6	05/30/13	0.4	17.4	-43.4	73	20	13,200

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-6	06/27/13	1.1	15.3	-39.2	75	18	30,300
LFG-6	07/25/13	0.2	16.7	-14.3	84	20	9,180
LFG-6	08/30/13	0.6	17.2	-8.8	85	20	6,460
LFG-6	09/25/13	0.6	17.7	-3.7	81	20	11,530
LFG-6	10/23/13	0.2	17.6	-8.4	75	20	8,670
LFG-6	11/20/13	0.7	17.0	-7.9	71	20	5,040
LFG-6	12/18/13	0.4	17.7	-5.7	60	20	NA ⁹
LFG-6	05/13/14 ¹⁰	20.5	10.0	-44.6	56	20	NA ³
LFG-6	05/28/14 ¹⁰	0.6	12.2	-32.2	66	18	NA ³
LFG-6	06/26/14	0.4	16.5	-29.0	70	21	12,670 ⁶
LFG-6	07/31/14	11.4	14.1	-14.9	76	20	10,980
LFG-6	08/28/14	17.5	11.3	-14.0	75	20	NA ³
LFG-6	09/26/14	0.1	16.3	-13.2	76	20	NM ⁹
LFG-6	10/24/14	0.2	17.4	-10.4	68	20	11,530
LFG-6	11/19/14	1.2	15.8	-7.1	58	20	28,540
LFG-6	12/17/14	0.0	18.3	-2.1	56	21	2,890
LFG-6	01/21/15	0.0	17.4	-11.6	58	20	2,190
LFG-6	02/26/15	0.9	14.2	-8.8	63	20	8,310
LFG-6	03/17/15	0.9	13.1	-13.2	65	21	NA ³
LFG-6	04/17/15	0.6	11.1	-12.5	70	20	NA ³
LFG-6	05/12/15	0.0	17.2	-12.3	65	20	69
LFG-6	06/25/15	0.0	15.4	-11.0	77	20	1,350
LFG-6	07/31/15	0.0	16.9	-13.8	81	20	21,670
LFG-6	08/19/15	0.2	17.2	-28.7	76	20	3,170
LFG-6	09/24/15	0.7	16.3	-8.2	78	19	3,340
LFG-6	10/22/15	0.2	19.0	-6.1	75	20	2,900
LFG-6	11/12/15	0.7	5.6	-26.3	72	19	2,310
LFG-6	12/17/15	14.6	9.3	-20.9	53	14	NA ³
LFG-6	01/21/16	2.5	11.4	-16.5	65	20	NA ³
LFG-6	02/24/16	5.2	4.9	-16.3	34	19	NA ³
LFG-6	03/22/16	3.2	6.5	-12.2	52	0 ⁸	NA ³
LFG-6	04/22/16	0.5	16.8	-12.0	58	19	1,140
LFG-6	05/19/16	0.1	16.3	-9.8	64	18	8,190
LFG-6	06/14/16	0.1	16.1	-9.6	68	5 ⁵	6,860
LFG-6	07/27/16	0.5	14.6	-8.8	70	0 ⁸	NA ³
LFG-6	08/10/16	0.3	15.7	-4.2	75	18	7,010
LFG-6	09/15/16	1.3	11.3	-6.9	68	15	NA ³
LFG-6	10/26/16	5.5	9.3	-9.0	51	15	NA ³
LFG-6	11/23/16	4.3	6.8	-9.2	49	18	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-6	12/13/16	0.6	16.1	-10.8	33	16	5,910
LFG-6	01/10/17	4.7	9.7	-9.4	38	15	NA ³
LFG-6	02/14/17	0.4	12.2	-12.7	48	19	NA ³
LFG-6	03/07/17	3.3	8.8	-12.7	52	19	NA ³
LFG-6	04/05/17	3.2	8.0	-14.0	55	15	NA ³
LFG-6	05/25/17	2.8	9.9	-15.9	67	0 ⁸	NA ³
LFG-6	06/28/17	0.1	17.1	-12.2	66	0 ⁸	NA ³
LFG-6	07/24/17	0.3	17.0	-11.9	72	0 ⁸	4,991
LFG-6	08/14/17	0.2	16.8	-11.4	70	0 ⁸	5,714
LFG-6	09/13/17	0.3	17.0	-9.5	72	15	4,923
LFG-6	10/30/17	1.5	9.9	-3.4	44	19	NA ³
LFG-6	11/17/17	0.4	15.6	-9.5	44	17	NA ³
LFG-6	12/07/17	0.3	15.1	-9.5	34	0 ⁸	NA ³
LFG-6	01/24/18	18.9	6.8	-11.9	67	0 ⁸	NA ³
LFG-6	02/13/18	3.1	15.2	-16.4	64	17	NA ³
LFG-6	03/05/18	1.2	15.0	-16.0	55	15	NA ³
LFG-6	04/04/18	1.0	14.6	-11.9	46	0 ⁸	NA ³
LFG-6	05/17/18	0.7	9.9	-11.7	56	14	-
LFG-6	07/03/18	0.1	16.4	-8.6	60	0 ⁸	-
LFG-6	07/31/18	0.0	15.9	-9.8	64	0 ⁸	-
LFG-6	08/30/18	4.2	5.5	-9.0	62	0 ⁸	-
LFG-6	09/28/18	1.0	9.7	-12.4	60	0 ⁸	NA ³
LFG-6	11/16/18	0.6	14.6	-11.7	58	14	> 4,193
LFG-6	12/13/18	2.1	8.5	-11.8	56	19	NA ³
LFG-6	01/23/19	1.5	6.0	-11.8	48	15	NA ³
LFG-6	02/22/19	1.6	2.2	-11.8	48	15	NA ³
LFG-6	04/02/19	0.0	15.2	-10.9	50	16	1,814
LFG-6	04/26/19	0.1	14.3	-11.9	52	15	5,238
LFG-6	05/29/19	0.1	13.8	-13.6	64	15	7,127
LFG-6	06/18/19	0.0	17.5	-10.7	66	16	3,823
LFG-6	07/23/19	0.1	16.3	-11.0	74	18	2,579
LFG-6	08/29/19	0.3	14.8	-11.6	76	19	6,086
LFG-6	09/12/19	0.4	14.2	-8.4	61	18	8,070
LFG-6	10/31/19	0.0	18.1	-14.0	60	19	2,927
LFG-6	11/25/19	0.6	19.6	-8.6	58	16	-
LFG-6	02/18/20	0.0	18.1	-7.6	48	20	2,171
LFG-6	06/23/20	0.0	17.9	-12.8	64	17	1,150
LFG-6	08/17/20	0.1	15.6	-13.3	74	18	2,863
LFG-6	11/05/20	0.3	13.8	-11.6	69	21	5,557

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-6	01/20/21	0.2	11.6	-9.6	48	19	12,108
LFG-6	02/19/21	0.0	20.9	-4.7	32	0	NA ⁹
LFG-6	03/25/21	0.3	9.8	-14.6	50	19	NA ⁹
LFG-6	04/22/21	0.0	18.9	-8.2	58	NA ⁹	871
LFG-6	05/21/21	0.0	18.0	-6.4	61	12	0
LFG-6	06/17/21	0.0	17.5	-4.5	40	5	813
LFG-6	07/15/21	0.0	17.0	-4.2	55	18	NA ⁹
LFG-6	08/12/21	0.2	6.7	-10.3	64	0 ⁸	7,982
LFG-6	09/23/21	0.7	6.6	-4.4	72	0 ⁸	10,900
LFG-6	10/21/21	0.0	18.3	-5.2	68	27	2,990
LFG-6	11/30/21	0.8	8.4	-10.5	58	18	NA ³
LFG-6	12/21/21	0.5	9.1	-4.7	46	20	NA ³
LFG-6	01/31/22	0.3	8.6	-11.1	50	20	1,811
LFG-6	02/28/22	0.0	18.2	-3.9	52	15	1,903
LFG-6	03/28/22	0.0	10.0	-5.8	50	19	NA ¹
LFG-6	04/28/22	0.0	17.8	-6.8	48	20	3,699
LFG-6	05/26/22	0.0	15.2	-6.1	53	15	1,082
LFG-6	06/23/22	0.0	18.4	-5.2	68	18	110
LFG-6	07/26/22	0.0	18.0	-9.1	70	33	1,066
LFG-6	08/23/22	0.0	15.8	-1.3	82	19	2,172
LFG-6	09/29/22	0.0	17.5	-3.8	70	21	516
LFG-6	10/27/22	0.0	18.0	-8.5	64	18	2,203
LFG-6	12/06/22	0.3	9.5	-3.5	57	20	NA ¹
LFG-7	08/27/08 ¹	54.4	0.0	0.1	70	-	-
LFG-7	09/23/08	39.7	0.4	-4.9	60	9	-
LFG-7	09/25/08	10.6	2.9	-5.4	56	9	-
LFG-7	10/01/08	1.3	5.7	-5.8	64	10	-
LFG-7	10/07/08	1.0	8.6	-6.4	60	9	-
LFG-7	10/15/08	0.7	10.2	-6.7	64	11	-
LFG-7	10/30/08	0.5	10.9	-6.0	64	10	-
LFG-7	11/13/08	0.2	12.5	-6.2	60	9	-
LFG-7	11/26/08	0.0	12.5	-5.8	56	10	-
LFG-7	01/22/09 ²	0.1	13.8	-6.6	48	10	13,200
LFG-7	02/05/09	0.0	14.8	-5.4	48	10	1,280
LFG-7	02/16/09	0.0	16.0	-6.3	44	10	1,080
LFG-7	03/16/09	0.0	15.8	-6.3	50	10	1,410
LFG-7	04/24/09	0.0	15.2	-6.4	54	10	2,430
LFG-7	05/20/09	0.0	14.7	-5.7	60	10	1,220

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-7	06/23/09	0.0	13.2	-5.3	68	10	1,820
LFG-7	07/23/09	0.0	11.3	-5.2	72	10	9,940
LFG-7	08/20/09	0.0	10.2	-5.4	72	10	12,900
LFG-7	09/23/09	0.0	11.4	-4.8	77	10	9,780
LFG-7	10/20/09	0.3	9.4	-6.6	70	10	NA ³
LFG-7	11/24/09	0.0	11.4	-7.4	64	10	25,400
LFG-7	12/29/09	0.1	11.5	-8.8	56	10	11,300
LFG-7	01/29/10	0.0	21.0	-8.8	48	10	21
LFG-7	02/22/10	0.5	9.6	-8.8	46	10	NA ³
LFG-7	03/26/10	0.0	13.5	-10.7	50	10	NA ³
LFG-7	04/22/10	0.0	14.3	-9.7	57	10	3,260
LFG-7	05/18/10	0.0	13.5	-7.6	70	10	19,700
LFG-7	06/29/10	0.1	9.7	-9.6	67	10	-
LFG-7	07/23/10	0.0	10.6	-9.7	70	10	NA ³
LFG-7	08/27/10	15.3	2.5	-9.2	77	10	NA ³
LFG-7	10/01/10	9.7	1.5	-10.0	72	10	NA ³
LFG-7	10/22/10	7.4	3.6	-8.9	75	10	NA ³
LFG-7	11/29/10	0.4	7.8	-10.0	64	10	NA ³
LFG-7	12/22/10	2.0	4.0	-11.9	52	10	NA ³
LFG-7	01/24/11	0.5	13.1	-12.1	50	10	13,730
LFG-7	02/28/11	0.1	14.9	-17.4	40	10	3,178
LFG-7	04/13/11	0.0	15.2	-21.7	48	10	2,860
LFG-7	04/29/11	0.2	12.3	-22.4	51	10	33,140
LFG-7	05/27/11	0.0	15.7	-22.8	52	10	4,270
LFG-7	06/24/11	0.3	15.0	-16.3	73	10	18,020
LFG-7	07/22/11	0.0	11.7	-12.3	66	9	1,620
LFG-7	08/25/11	4.5	3.4	-17.6	80	10	NA ³
LFG-7	09/30/11	0.1	14.1	-9.4	86	10	4,600
LFG-7	10/26/11	0.0	13.0	-11.5	72	10	7,250
LFG-7	11/22/11	0.1	16.4	-12.1	70	10	980
LFG-7	12/29/11	0.0	15.1	-10.8	64	10	1,720
LFG-7	01/26/12	1.1	9.9	-9.1	68	10	NA ³
LFG-7	02/21/12	0.3	16.1	-3.4	62	10	7,900
LFG-7	03/30/12	0.2	14.7	-9.2	60	10	216
LFG-7	04/27/12	0.0	15.9	-15.2	68	10	3,040
LFG-7	05/25/12	0.3	12.2	-25.7	70	10	NA ³
LFG-7	06/26/12	0.7	5.9	-20.4	71	10	NA ³
LFG-7	07/25/12	1.4	9.6	-28.1	84	10	NA ³
LFG-7	08/22/12	0.0	13.2	-19.0	74	10	930

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-7	09/25/12	0.1	14.4	-16.7	75	10	1,860
LFG-7	10/30/12	0.0	15.3	-10.4	60	11	492 ⁶
LFG-7	11/21/12	0.0	15.2	-10.3	60	10	3,170
LFG-7	12/21/12 ⁷	13.8	6.4	-12.9	53	10	NA ³
LFG-7	01/03/13 ⁷	0.3	16.2	-10.0	62	10	9,130
LFG-7	01/28/13	0.2	17.4	-14.3	60	10	5,110
LFG-7	02/27/13	0.0	14.4	-5.6	63	11	4,000
LFG-7	03/25/13	0.2	17.8	-7.2	56	10	7,940
LFG-7	04/26/13	2.8	8.5	-50.1	60	0 ⁸	7,440
LFG-7	05/30/13	0.0	16.9	-45.1	64	9	280
LFG-7	06/27/13	0.6	12.3	-43.9	75	10	NA ³
LFG-7	07/25/13	0.0	16.6	-22.8	76	10	100
LFG-7	08/30/13	0.0	16.4	-25.0	78	0 ⁸	210
LFG-7	09/25/13	0.1	17.3	-14.2	74	10	1,050
LFG-7	10/23/13	0.0	17.0	-15.7	68	10	381
LFG-7	11/20/13	0.1	16.4	-12.1	64	10	1,800
LFG-7	12/18/13	0.0	17.2	-12.6	58	10	NM ⁹
LFG-7	05/13/14 ¹⁰	19.9	8.4	-43.4	54	0 ⁸	NA ³
LFG-7	05/28/14 ¹⁰	0.0	12.5	-47.6	68	0 ⁸	NA ³
LFG-7	06/26/14	0.0	12.1	-46.6	70	0 ⁸	3,210 ⁶
LFG-7	07/31/14	4.6	18.4	-44.3	70	10	2,090
LFG-7	08/28/14	13.5	8.8	-46.3	71	17	NA ³
LFG-7	09/26/14	0.0	11.9	-6.5	75	12	2,430
LFG-7	10/24/14	0.0	14.2	-20.4	66	10	390
LFG-7	11/19/14	0.2	12.3	-14.8	60	10	4,990
LFG-7	12/17/14	0.0	16.9	-17.8	51	10	200
LFG-7	01/21/15	0.0	16.7	-6.9	53	11	290
LFG-7	02/26/15	0.0	20.3	-0.3	44	0 ⁴	1,970
LFG-7	03/17/15	0.2	12.2	-17.2	55	10	NA ³
LFG-7	04/17/15	0.2	10.7	-22.6	60	10	NA ³
LFG-7	05/12/15	0.0	17.7	-21.9	56	10	260
LFG-7	06/25/15	0.0	14.7	-23.4	68	10	630
LFG-7	07/31/15	0.0	15.1	-33.9	72	10	47
LFG-7	08/19/15	0.0	14.2	-30.4	70	10	1,160
LFG-7	09/24/15	0.1	11.8	-17.9	72	10	1,020
LFG-7	10/22/15	0.0	15.3	-10.9	70	10	740
LFG-7	11/12/15	1.9	2.7	-28.6	70	12	880
LFG-7	12/17/15	0.9	11.2	-23.4	50	0 ¹¹	NA ³
LFG-7	01/21/16	0.3	11.7	-18.6	21	0 ^{4,8}	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-7	02/24/16	2.5	4.8	-17.4	34	6	NA ³
LFG-7	03/22/16	2.3	5.2	-12.9	54	5	NA ³
LFG-7	04/22/16	0.1	13.7	-12.0	58	8	NA ³
LFG-7	05/19/16	0.0	13.5	-10.0	55	5	NA ³
LFG-7	06/14/16	0.0	14.0	-10.6	59	8	NA ³
LFG-7	07/27/16	0.0	12.4	-9.7	69	0 ⁸	NA ³
LFG-7	08/10/16	0.0	13.4	-8.7	73	7	NA ³
LFG-7	09/15/16	0.7	9.1	-11.9	70	6	NA ³
LFG-7	10/26/16	2.5	5.3	-12.1	43	10	NA ³
LFG-7	11/23/16	1.6	4.9	-11.9	50	0 ⁸	NA ³
LFG-7	12/13/16	0.0	14.0	-6.5	30	0 ⁸	NA ³
LFG-7	01/10/17	1.4	3.1	-12.9	31	0 ⁸	NA ³
LFG-7	02/14/17	0.1	5.9	-15.3	46	5	NA ³
LFG-7	03/07/17	1.5	9.0	-14.8	45	7	NA ³
LFG-7	04/05/17	2.1	8.7	-14.0	51	6	NA ³
LFG-7	05/25/17	0.5	1.4	-17.0	65	0 ⁸	NA ³
LFG-7	06/28/17	0.0	13.6	-14.2	66	0 ⁸	NA ³
LFG-7	07/24/17	0.0	13.7	-14.2	69	0 ⁸	NA ³
LFG-7	08/14/17	0.0	13.6	-14.2	68	0 ⁸	NA ³
LFG-7	09/13/17	0.0	14.1	-11.6	71	5	NA ³
LFG-7	10/30/17	1.0	10.1	-15.3	49	9	NA ³
LFG-7	11/17/17	0.3	12.8	-11.6	41	5	NA ³
LFG-7	12/07/17	0.6	13.3	-11.6	36	8	NA ³
LFG-7	01/24/18	12.9	8.0	-1.4	42	0 ⁸	NA ³
LFG-7	02/13/18	4.9	14.7	-16.5	48	0 ⁸	NA ³
LFG-7	03/05/18	3.2	15.7	-16.1	47	0 ⁸	NA ³
LFG-7	04/04/18	3.6	15.1	-2.3	42	0 ⁸	NA ³
LFG-7	05/17/18	0.3	10.7	-8.9	56	0 ⁸	-
LFG-7	07/03/18	0.0	15.2	-8.0	58	0 ⁸	-
LFG-7	07/31/18	0.0	13.8	-10.0	66	0 ⁸	-
LFG-7	08/30/18	1.6	6.1	-9.6	60	0 ⁸	-
LFG-7	09/28/18	1.5	11.0	-12.6	54	0 ⁸	NA ³
LFG-7	11/16/18	0.6	14.5	-12.7	44	0 ⁸	> 4,193
LFG-7	12/13/18	0.9	9.8	-12.4	44	5	3,178
LFG-7	01/23/19	1.2	3.4	-12.0	42	3	NA ³
LFG-7	02/22/19	1.0	3.0	-12.5	40	3	NA ³
LFG-7	04/02/19	0.8	9.9	-11.7	44	5	NA ³
LFG-7	04/26/19	0.0	12.3	-12.0	54	1	NA ³
LFG-7	05/29/19	0.0	5.0	-14.0	84	0 ⁸	NA ³

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-7	06/18/19	0.0	14.0	-12.1	68	0 ⁸	NA ³
LFG-7	07/23/19	0.0	13.1	-11.8	78	0 ⁸	NA ³
LFG-7	08/29/19	0.0	10.9	-12.2	72	0 ⁸	86
LFG-7	09/12/19	0.0	6.0	-11.8	62	0 ⁸	248
LFG-7	10/31/19	0.1	14.9	-15.3	42	2	578
LFG-7	11/25/19	0.3	16.5	-13.9	50	- ⁹	-
LFG-7	02/18/20	0.0	15.6	-15.5	38	4	NA ³
LFG-7	06/23/20	0.0	14.7	-13.7	63	0 ⁸	NA ³
LFG-7	08/17/20	0.0	12.3	-13.6	74	0 ⁸	NA ³
LFG-7	11/05/20	0.2	12.0	-12.8	63	0 ⁸	NA ³
LFG-7	01/20/21	0.9	11.4	-10.1	34	4	NA ³
LFG-7	02/19/21	0.0	12.8	-0.1	38	5	NA ⁹
LFG-7	03/25/21	1.1	11.9	-13.7	54	4	NA ⁹
LFG-7	04/22/21	0.0	15.3	-14.6	56	NA ⁹	13
LFG-7	05/21/21	0.0	18.7	-12.3	65	35	1
LFG-7	06/17/21	0.0	14.6	-10.1	86	36	72
LFG-7	07/15/21	0.0	15.3	-9.5	62	0 ⁸	NA ⁹
LFG-7	08/12/21	0.3	8.1	-11.7	61	0 ⁸	NA ³
LFG-7	09/23/21	0.2	8.7	-11.2	75	0 ⁸	7,985
LFG-7	10/21/21	0.0	15.3	-10.8	60	16	849
LFG-7	11/30/21	0.9	9.9	-10.7	50	12	NA ³
LFG-7	12/21/21	0.8	7.0	-10.6	34	0 ⁸	NA ³
LFG-7	01/31/22	1.1	8.4	-5.4	37	24	272
LFG-7	02/28/22	0.4	15.5	-4.2	48	20	4,630
LFG-7	03/28/22	1.1	11.9	-10.8	44	37	NA ¹
LFG-7	04/28/22	0.0	15.0	-12.8	42	0	2,163
LFG-7	05/26/22	0.0	11.8	-11.7	53	0	NA ¹
LFG-7	06/23/22	0.0	16.3	-11.3	75	0	12
LFG-7	07/26/22	0.0	16.0	-10.6	69	0	1,192
LFG-7	08/23/22	0.0	15.1	-10.6	72	0	2,162
LFG-7	09/29/22	0.0	15.2	-10.0	64	0	171
LFG-7	10/27/22	0.0	16.5	-8.8	58	10	350
LFG-7	12/06/22	0.9	10.2	-9.7	42	2	NA ¹
LFG-8	08/27/08 ¹	50.7	0.0	0.0	70	-	-
LFG-8	09/23/08	46.3	0.1	-8.5	56	10	-
LFG-8	09/25/08	19.1	2.5	-9.5	56	9	-
LFG-8	10/01/08	3.2	3.6	-10.5	58	10	-
LFG-8	10/07/08	2.0	6.6	-10.6	60	9	-

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-8	10/15/08	1.4	8.4	-9.5	60	12	-
LFG-8	10/15/08	1.4	8.4	-9.4	60	10	-
LFG-8	10/30/08	1.7	9.1	-10.7	64	10	-
LFG-8	11/13/08	1.4	9.1	-12.3	54	10	-
LFG-8	11/26/08	1.5	9.7	-9.7	54	10	-
LFG-8	01/22/09 ²	2.4	9.8	-9.0	53	10	NA ³
LFG-8	02/05/09	1.9	10.4	-12.6	53	10	41,000
LFG-8	02/16/09	0.7	12.9	-8.9	48	10	50,000
LFG-8	03/16/09	0.7	12.9	-11.0	54	10	50,000
LFG-8	04/24/09	0.9	11.0	-10.4	60	10	NA ³
LFG-8	05/20/09	0.9	10.6	-10.3	60	10	NA ³
LFG-8	06/23/09	1.3	9.5	-10.9	70	10	NA ³
LFG-8	07/23/09	2.1	8.7	-12.3	70	10	NA ³
LFG-8	08/20/09	1.6	8.2	-20.9	70	20	NA ³
LFG-8	09/23/09	1.9	9.2	-20.5	78	20	NA ³
LFG-8	10/20/09	2.1	8.3	-26.3	70	20	NA ³
LFG-8	11/24/09	2.5	9.9	-32.2	62	20	NA ³
LFG-8	12/29/09	1.3	9.9	-31.1	56	20	>50,000
LFG-8	01/29/10	2.0	13.0	-31.1	49	20	>50,000
LFG-8	02/22/10	5.1	8.8	-31.1	50	20	NA ³
LFG-8	03/26/10	1.2	10.2	-33.1	52	20	NA ³
LFG-8	04/22/10	1.0	11.7	-34.6	62	20	NA ³
LFG-8	05/18/10	1.0	12.0	-37.6	64	20	>50,000
LFG-8	06/29/10	1.6	9.2	-41.6	74	20	-
LFG-8	07/23/10	1.9	10.1	-42.0	78	20	NA ³
LFG-8	08/27/10	26.3	1.4	-39.0	82	20	NA ³
LFG-8	10/01/10	22.4	0.7	-39.0	70	20	NA ³
LFG-8	10/22/10	16.3	4.3	-39.5	77	20	NA ³
LFG-8	11/29/10	2.6	11.2	-44.6	62	20	NA ³
LFG-8	12/22/10	10.0	4.6	-47.4	66	20	NA ³
LFG-8	01/24/11	2.5	12.9	-48.5	63	20	NA ³
LFG-8	02/28/11	1.6	13.1	-49.6	52	20	NA ³
LFG-8	04/13/11	1.1	13.0	-48.8	52	10 ⁵	NA ³
LFG-8	04/29/11	2.0	11.1	-48.0	56	7 ⁵	NA ³
LFG-8	05/27/11	1.0	13.7	-47.4	52	10 ⁵	>50,000
LFG-8	06/24/11	1.2	12.2	-45.8	73	10 ⁵	NA ³
LFG-8	07/22/11	1.0	11.0	-43.6	66	13 ⁵	NA ³
LFG-8	08/25/11	15.0	7.6	-45.0	86	14 ⁵	NA ³
LFG-8	09/30/11	1.4	14.2	-43.4	86	10 ⁵	>50,000

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-8	10/26/11	1.1	13.2	-44.9	80	20	>50,000
LFG-8	11/22/11	1.1	14.2	-44.9	80	23	>50,000
LFG-8	12/29/11	1.0	14.4	-44.6	70	22	49,900
LFG-8	01/26/12	4.7	9.8	-46.8	80	25	NA ³
LFG-8	02/21/12	1.0	15.5	-35.7	70	25	>50,000
LFG-8	03/30/12	0.6	14.2	-28.6	62	25	27,840
LFG-8	04/27/12	0.0	19.3	-44.4	72	18 ⁵	80
LFG-8	05/25/12	1.7	10.9	-44.3	81	0 ⁵	NA ³
LFG-8	06/26/12	5.6	3.4	-44.7	83	12 ⁵	NA ³
LFG-8	07/25/12	3.5	6.6	-46.1	90	19 ⁵	NA ³
LFG-8	08/22/12	1.2	12.4	-39.0	80	7 ⁵	NA ³
LFG-8	09/25/12	2.0	12.1	-40.0	78	18 ⁵	NA ³
LFG-8	10/30/12	1.1	14.3	-41.6	70	21 ⁵	NA ⁶
LFG-8	11/21/12	0.8	14.9	-42.6	64	25	33,810
LFG-8	12/21/12 ⁷	22.2	3.2	-44.5	57	25	NA ³
LFG-8	01/03/13 ⁷	1.2	15.1	-47.6	64	25	41,890
LFG-8	01/28/13	0.7	15.9	-48.2	70	26	45,520
LFG-8	02/27/13	0.5	16.2	-35.0	70	25	41,430
LFG-8	03/25/13	0.9	15.5	-44.0	68	24	>50,000
LFG-8	04/26/13	7.0	6.1	-49.2	70	0 ⁸	NA ³
LFG-8	05/30/13	0.6	14.0	-44.8	70	0 ⁸	NA ³
LFG-8	06/27/13	2.6	10.0	-44.4	80	24	NA ³
LFG-8	07/25/13	0.4	14.1	-43.7	85	9	27,340
LFG-8	08/30/13	0.7	14.7	-40.3	83	16	21,770
LFG-8	09/25/13	0.8	15.4	-34.1	84	17	24,470
LFG-8	10/23/13	0.4	16.1	-45.5	78	20	21,580
LFG-8	11/20/13	0.8	15.7	-46.7	65	25	16,890
LFG-8	12/18/13	0.5	16.2	-46.7	68	25	4,290
LFG-8	05/13/14 ¹⁰	37.6	1.3	-43.2	54	4 ⁵	NA ³
LFG-8	05/28/14 ¹⁰	1.3	9.1	-46.1	70	0 ⁸	NA ³
LFG-8	06/26/14	1.0	10.2	-46.4	72	2 ⁵	NA ⁶
LFG-8	07/31/14	13.9	3.7	-44.6	75	1 ⁵	NA ³
LFG-8	08/28/14	25.5	2.9	-46.7	72	0 ⁸	NA ³
LFG-8	09/26/14	0.3	13.5	-46.6	76	24	380
LFG-8	10/24/14	0.4	15.3	-47.6	66	20	170
LFG-8	11/19/14	1.5	10.7	-42.3	70	25	NA ³
LFG-8	12/17/14	0.4	17.0	-41.7	60	25	6,190
LFG-8	01/21/15	1.7	13.1	-37.0	63	25	6,010
LFG-8	02/26/15	1.6	10.9	-39.2	62	25	NA ³

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-8	03/17/15	1.6	11.4	-43.0	65	20	NA ³
LFG-8	04/17/15	1.2	8.5	-39.9	69	21	NA ³
LFG-8	05/12/15	0.3	16.1	-42.5	53	25	NA ³
LFG-8	06/25/15	0.1	13.9	-37.9	72	20	7,440
LFG-8	07/31/15	0.3	14.3	-37.7	76	16	10,130
LFG-8	08/19/15	0.6	14.3	-41.8	76	22	10,230
LFG-8	09/24/15	0.8	12.3	-42.2	78	22	12,310
LFG-8	10/22/15	0.6	16.3	-42.9	75	25	8,930
LFG-8	11/12/15	3.7	4.0	-29.6	71	19	8,790
LFG-8	12/17/15	0.0	4.4	-23.6	60	0 ¹¹	NA ³
LFG-8	01/21/16	0.0	20.6	-18.6	25	0 ⁸	290
LFG-8	02/24/16	8.7	5.9	-17.3	33	0 ^{5,8}	NA ³
LFG-8	03/22/16	11.0	1.4	-12.9	54	0 ^{5,8}	NA ³
LFG-8	04/22/16	3.1	10.7	-12.7	58	13	NA ³
LFG-8	05/19/16	1.7	11.4	-10.5	55	20	NA ³
LFG-8	06/14/16	1.9	11.1	-10.6	62	0 ^{5,8}	NA ³
LFG-8	07/27/16	3.1	8.8	-9.8	71	0 ⁸	NA ³
LFG-8	08/10/16	2.3	9.7	-9.2	77	19	NA ³
LFG-8	09/15/16	5.6	5.1	-11.6	74	15	NA ³
LFG-8	10/26/16	12.4	1.4	-12.5	45	12	NA ³
LFG-8	11/23/16	14.0	0.8	-12.6	51	0 ⁸	NA ³
LFG-8	12/13/16	0.0	11.9	-15.8	34	0 ⁸	NA ³
LFG-8	01/10/17	27.3	0.3	-12.8	38	20	NA ³
LFG-8	02/14/17	5.5	5.3	-15.4	44	20	NA ³
LFG-8	03/07/17	19.0	1.1	-14.7	47	15	NA ³
LFG-8	04/05/17	19.6	2.0	-14.1	53	15	NA ³
LFG-8	05/25/17	13.2	0.0	-17.1	65	0 ⁸	NA ³
LFG-8	06/28/17	2.9	6.7	-14.3	67	0 ⁸	NA ³
LFG-8	07/24/17	3.6	6.9	-14.3	68	0 ⁸	NA ³
LFG-8	08/14/17	3.9	6.9	-14.1	66	0 ⁸	NA ³
LFG-8	09/13/17	3.1	9.8	-13.0	74	16	NA ³
LFG-8	10/30/17	7.9	3.6	-16.0	49	0 ⁸	NA ³
LFG-8	11/17/17	3.6	8.8	-13.0	41	19	NA ³
LFG-8	12/07/17	4.4	9.0	-13.0	37	0 ⁸	NA ³
LFG-8	01/24/18	36.0	1.4	-12.0	52	0 ⁸	NA ³
LFG-8	02/13/18	12.3	11.0	-16.5	52	0 ⁸	NA ³
LFG-8	03/05/18	10.3	14.1	-16.0	48	14	NA ³
LFG-8	04/04/18	11.8	13.5	-12.0	39	16	NA ³
LFG-8	05/17/18	9.2	1.8	-11.7	56	0 ⁸	-

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible				Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)	Temperature (°F)		by FID (ppm)
LFG-8	07/03/18	2.4	9.4	-8.5	63	0 ⁸	-
LFG-8	07/31/18	2.4	8.5	-10.0	68	0 ⁸	-
LFG-8	08/30/18	11.0	0.1	-9.2	60	0 ⁸	-
LFG-8	09/28/18	8.6	0.8	-12.6	50	0 ⁸	726
LFG-8	11/16/18	7.7	2.5	-12.2	38	0 ⁸	NA ³
LFG-8	12/13/18	26.5	0.0	-12.3	44	11	NA ³
LFG-8	01/23/19	10.7	1.9	-12.0	39	3	NA ³
LFG-8	02/22/19	12.8	1.8	-12.5	40	0 ⁸	NA ³
LFG-8	04/02/19	5.4	3.7	-11.0	46	2	NA ³
LFG-8	04/26/19	13.1	1.4	-12.0	54	0 ⁸	NA ³
LFG-8	05/29/19	9.6	0.0	-13.9	81	0 ⁸	NA ³
LFG-8	06/18/19	0.9	6.6	-11.9	76	0 ⁸	NA ³
LFG-8	07/23/19	2.0	5.8	-11.8	80	0 ⁸	NA ³
LFG-8	08/29/19	3.9	3.6	-13.0	74	5	NA ³
LFG-8	09/12/19	5.3	4.9	-12.2	62	7	2,051
LFG-8	10/31/19	2.2	6.3	-14.3	30	0 ⁸	11,247
LFG-8	11/25/19	4.4	10.8	-13.7	44	- ⁹	-
LFG-8	02/18/20	4.4	10.6	-15.6	40	4	NA ³
LFG-8	06/23/20	1.0	6.9	-13.3	68	0 ⁸	NA ³
LFG-8	08/17/20	4.5	2.5	-13.7	78	0 ⁸	NA ³
LFG-8	11/05/20	7.7	2.9	-12.2	66	0 ⁸	NA ³
LFG-8	01/20/21	8.6	2.1	-7.7	34	2	NA ³
LFG-8	02/19/21	5.0	9.1	0.0	32	10	NA ³
LFG-8	03/25/21	12.5	0.2	-13.5	52	1	NA ⁹
LFG-8	04/22/21	3.6	10.1	-13.6	55	NA ⁹	NA ³
LFG-8	05/21/21	0.6	11.2	-11.3	60	0	NA ³
LFG-8	06/17/21	0.7	9.5	-10.0	100	55	NA ³
LFG-8	07/15/21	1.1	9.6	-9.3	64	32	NA ³
LFG-8	08/12/21	8.8	0.4	-11.7	62	0 ⁸	NA ³
LFG-8	09/23/21	24.0	0.0	-10.6	80	0 ⁸	NA ³
LFG-8	10/21/21	4.8	9.7	-11.0	55	7	NA ³
LFG-8	11/30/21	12.9	0.8	-10.8	50	4	NA ³
LFG-8	12/21/21	10.3	1.4	-10.7	30	0 ⁸	NA ³
LFG-8	01/31/22	9.0	2.0	-11.7	38	19	882
LFG-8	02/28/22	3.3	9.4	-10.3	50	0	1,250
LFG-8	03/28/22	5.3	2.7	-10.6	46	5	NA ¹
LFG-8	04/28/22	7.8	2.4	-11.4	44	26	NA ¹
LFG-8	05/26/22	10.2	0.7	-10.2	55	16	NA ¹
LFG-8	06/23/22	0.5	12.4	-11.4	82	7	NA ¹

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-8	07/26/22	1.2	11.6	-10.9	70	0	NA ¹
LFG-8	08/23/22	1.5	11.1	-10.9	80	0	NA ¹
LFG-8	09/29/22	3.8	10.1	-10.2	64	0	5
LFG-8	10/27/22	3.1	11.7	-8.7	58	13	NA ¹
LFG-8	12/06/22	11.3	1.4	-10.1	42	34	NA ¹
LFG-9	08/27/08 ¹	20.9	0.0	0.0	70	-	-
LFG-9	09/23/08	28.1	0.0	-1.0	62	10	-
LFG-9	09/25/08	4.0	3.0	-1.2	56	11	-
LFG-9	10/01/08	0.0	9.5	-1.4	60	10	-
LFG-9	10/07/08	0.0	11.8	-1.2	60	10	-
LFG-9	10/15/08	0.0	12.8	-1.4	60	10	-
LFG-9	10/30/08	0.0	13.5	-1.0	64	10	-
LFG-9	11/13/08	0.0	13.6	-1.5	58	11	-
LFG-9	11/26/08	0.0	13.5	-1.3	58	11	-
LFG-9	01/22/09 ²	0.0	13.3	-1.6	50	10	1,160
LFG-9	02/05/09	0.0	11.5	-1.6	48	10	345
LFG-9	02/16/09	0.0	16.3	-1.8	46	10	247
LFG-9	03/16/09	0.0	15.7	-2.0	52	10	269
LFG-9	04/24/09	0.0	16.3	-1.4	60	10	520
LFG-9	05/20/09	0.0	16.0	-1.2	60	10	219
LFG-9	06/23/09	0.0	14.2	-0.9	70	10	243
LFG-9	07/23/09	0.0	13.3	-0.8	72	10	500
LFG-9	08/20/09	0.0	13.6	-0.9	74	10	563
LFG-9	09/23/09	0.0	13.8	-0.5	80	10	537
LFG-9	10/20/09	0.0	14.6	-1.0	74	10	681
LFG-9	11/24/09	0.0	15.6	-0.6	70	10	801
LFG-9	12/29/09	0.0	15.4	-0.8	60	10	434
LFG-9	01/29/10	0.0	18.5	-0.8	50	10	383
LFG-9	02/22/10	0.0	13.8	-0.8	45	10	1,870
LFG-9	03/26/10	0.0	16.3	-0.6	48	10	955
LFG-9	04/22/10	0.0	17.0	-0.7	60	10	305
LFG-9	05/18/10	0.0	16.4	-0.6	60	10	1,990
LFG-9	06/29/10	0.0	15.4	-1.0	64	10	-
LFG-9	07/23/10	0.0	14.8	-0.7	70	10	730
LFG-9	08/27/10	1.2	0.0	-0.6	76	10	NA ³
LFG-9	10/01/10	0.0	2.5	-0.8	70	10	NA ³
LFG-9	10/22/10	0.0	4.3	-0.4	72	10	NA ³
LFG-9	11/29/10	0.0	15.6	-0.6	60	10	1,490

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**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-9	12/22/10	0.1	11.9	-0.8	58	10	1,265
LFG-9	01/24/11	0.1	16.2	-0.6	56	10	1,040
LFG-9	02/28/11	0.1	16.6	-0.8	50	10	707
LFG-9	04/13/11	0.0	17.2	-0.8	50	10	860
LFG-9	04/29/11	0.0	16.3	-0.9	52	10	2,810
LFG-9	05/27/11	0.0	17.6	-0.6	52	10	1,880
LFG-9	06/24/11	0.0	17.3	-1.1	68	10	1,560
LFG-9	07/22/11	0.0	14.5	-0.7	66	10	237
LFG-9	08/25/11	0.0	10.6	-0.7	77	10	NA ³
LFG-9	09/30/11	0.0	16.8	-0.4	76	10	320
LFG-9	10/26/11	0.0	15.7	-0.4	73	10	530
LFG-9	11/22/11	0.0	16.7	-0.3	71	10	660
LFG-9	12/29/11	1.0	14.4	-0.5	70	10	49,900
LFG-9	01/26/12	0.0	13.3	-0.4	62	10	4,650
LFG-9	02/21/12	0.0	16.5	-0.3	46	10	1,010
LFG-9	03/30/12	0.0	17.6	-0.4	62	10	335
LFG-9	04/27/12	0.0	16.6	-0.6	60	10	500
LFG-9	05/25/12	0.0	16.1	-1.2	58	10	400
LFG-9	06/26/12	0.0	10.2	-0.6	69	10	NA ³
LFG-9	07/25/12	0.0	11.8	-0.5	78	10	3,810
LFG-9	08/22/12	0.0	15.9	-0.4	70	10	560
LFG-9	09/25/12	0.0	15.4	-0.4	68	10	170
LFG-9	10/30/12	0.0	16.9	-0.3	60	10	88 ⁶
LFG-9	11/21/12	0.0	17.3	-0.3	60	10	210
LFG-9	12/21/12 ⁷	0.0	4.4	-0.3	50	10	NA ³
LFG-9	01/03/13 ⁷	0.0	17.8	-0.2	63	10	701
LFG-9	01/28/13	0.0	17.7	-0.2	55	10	746
LFG-9	02/27/13	0.0	18.7	-0.3	57	10	598
LFG-9	03/25/13	0.0	18.2	-0.4	58	10	1,470
LFG-9	04/26/13	0.1	10.9	-0.6	63	10	2,130
LFG-9	05/30/13	0.0	17.7	-44.3	62	10	180
LFG-9	06/27/13	0.0	15.6	-1.0	69	10	260
LFG-9	07/25/13	0.0	17.4	-0.4	74	10	240
LFG-9	08/30/13	0.0	17.0	-0.2	75	10	180
LFG-9	09/25/13	0.0	17.1	-0.3	78	10	130
LFG-9	10/23/13	0.0	17.8	-0.3	71	10	70
LFG-9	11/29/13	0.0	17.3	-0.3	77	10	190
LFG-9	12/18/13	0.0	18.6	-0.3	60	10	102
LFG-9	05/13/14 ¹⁰	0.4	9.8	-2.2	50	10	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-9	05/28/14 ¹⁰	0.0	15.6	-0.6	60	10	3,580
LFG-9	06/26/14	0.0	15.2	-0.5	60	10	380 ⁶
LFG-9	07/31/14	0.0	3.5	-0.3	64	10	NA ³
LFG-9	08/28/14	0.2	3.1	-0.4	71	11	NA ³
LFG-9	09/26/14	0.0	14.9	-0.3	72	10	39
LFG-9	10/24/14	0.0	17.1	-0.3	68	10	170
LFG-9	11/19/14	0.0	14.1	-0.3	61	10	100
LFG-9	12/17/14	0.0	18.4	-0.6	55	10	41
LFG-9	01/21/15	0.0	18.8	-0.4	54	10	88
LFG-9	02/26/15	0.0	19.6	-0.1	37	0 ⁴	810
LFG-9	03/17/15	0.0	16.7	-0.6	50	10	300
LFG-9	04/17/15	0.0	16.0	-1.8	56	10	49
LFG-9	05/12/15	0.0	19.4	-1.0	53	10	220
LFG-9	06/25/15	0.0	17.8	-0.9	63	10	18
LFG-9	07/31/15	0.0	18.4	-0.7	70	10	50
LFG-9	08/19/15	0.0	18.5	-0.8	68	10	380
LFG-9	09/24/15	0.0	16.4	-0.8	70	10	430
LFG-9	10/22/15	0.0	17.8	-0.4	67	9	360
LFG-9	11/12/15	0.0	12.3	-0.5	65	15	200
LFG-9	12/17/15	0.0	12.4	-0.4	58	5	NA ³
LFG-9	01/21/16	0.0	11.3	-3.5	30	0 ^{4,8}	NA ³
LFG-9	02/24/16	0.0	14.0	-0.8	36	7	NA ³
LFG-9	03/22/16	0.0	13.7	-0.3	50	9	NA ³
LFG-9	04/22/16	0.0	16.2	-0.6	63	10	NA ³
LFG-9	05/19/16	0.0	16.9	-0.7	58	10	810
LFG-9	06/14/16	0.0	16.9	-0.7	60	10	590
LFG-9	07/27/16	0.0	16.1	1.0	70	0 ⁸	930
LFG-9	08/10/16	0.0	14.9	-0.8	74	0 ⁸	NA ³
LFG-9	09/15/16	0.0	16.7	-0.7	72	10	1,200
LFG-9	10/26/16	0.0	11.2	-0.2	47	5	NA ³
LFG-9	11/23/16	0.0	10.5	-0.2	48	10	NA ³
LFG-9	12/13/16	0.0	11.9	0.2	31	0 ⁸	NA ³
LFG-9	01/10/17	0.0	13.5	0.2	34	7	NA ³
LFG-9	02/14/17	0.0	15.5	-0.1	50	11	NA ³
LFG-9	03/07/17	0.0	10.3	-0.2	44	10	NA ³
LFG-9	04/05/17	0.0	11.1	-13.5	51	10	NA ³
LFG-9	05/25/17	0.0	13.4	-0.1	65	5	NA ³
LFG-9	06/28/17	0.0	14.3	0.0	66	0 ⁸	NA ³
LFG-9	07/24/17	0.0	13.6	-14.0	70	0 ⁸	NA ³

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible			Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)	Pressure (in H ₂ O)			by FID (ppm)
LFG-9	08/14/17	0.0	13.4	-14.2	68	7	NA ³
LFG-9	09/13/17	0.0	12.4	-0.2	72	10	NA ³
LFG-9	10/30/17	0.0	11.4	0.0	46	0 ⁸	NA ³
LFG-9	11/17/17	0.0	13.5	-0.2	45	8	NA ³
LFG-9	12/07/17	0.0	14.2	-0.2	38	0 ⁸	NA ³
LFG-9	01/24/18	6.4	13.7	-12.0	50	0 ⁸	NA ³
LFG-9	02/13/18	1.8	17.4	-16.3	48	6	6,201
LFG-9	03/05/18	2.1	17.2	-16.0	44	7	2,056
LFG-9	04/04/18	2.2	16.7	-11.9	38	5	1,883
LFG-9	05/17/18	0.0	10.2	-11.8	56	0 ⁸	-
LFG-9	07/03/18	0.0	16.2	-8.1	60	0 ⁸	-
LFG-9	07/31/18	0.0	15.2	-0.1	62	0 ⁸	-
LFG-9	08/30/18	0.0	7.9	-9.2	59	0 ⁸	-
LFG-9	09/28/18	0.0	9.8	-12.5	52	0 ⁸	NA ³
LFG-9	11/16/18	0.0	10.6	-12.8	52	0 ⁸	0
LFG-9	12/13/18	0.0	14.7	-12.3	48	6	> 5,745
LFG-9	01/23/19	0.0	11.9	-11.9	44	6	3,199
LFG-9	02/22/19	0.0	20.9	0.0	38	0 ¹¹	2,229
LFG-9	04/02/19	0.0	16.2	-11.0	42	8	1,901
LFG-9	04/26/19	0.0	13.3	-12.1	49	7	3,298
LFG-9	05/29/19	0.0	15.1	-13.6	62	6	139
LFG-9	06/18/19	0.0	14.9	-12.0	62	8	791
LFG-9	07/23/19	0.0	14.6	-11.8	70	9	458
LFG-9	08/29/19	0.0	12.1	-13.0	68	14	1,099
LFG-9	09/12/19	0.0	14.3	-12.5	61	8	9
LFG-9	10/31/19	0.0	15.8	-14.0	55	10	15
LFG-9	11/25/19	0.2	16.4	-0.3	57	- ⁹	-
LFG-9	02/18/20	0.0	16.0	-15.4	42	10	908
LFG-9	06/23/20	0.0	15.5	-13.1	60	10	3
LFG-9	08/17/20	0.0	13.4	-13.6	72	7	52
LFG-9	11/05/20	0.0	12.1	-12.1	64	9	14
LFG-9	01/20/21	0.0	15.3	-9.8	40	9	368
LFG-9	02/19/21	0.0	14.8	0.0	31	0	2,832
LFG-9	03/25/21	0.0	13.7	-	58	7	NA ⁹
LFG-9	04/22/21	0.0	16.9	-0.4	56	NA ⁹	101
LFG-9	05/21/21	0.0	16.6	-12.5	62	0	18
LFG-9	06/17/21	0.0	16.0	-0.2	68	0 ⁸	446
LFG-9	07/15/21	0.0	15.5	-0.2	70	0 ⁸	NA ⁹
LFG-9	08/12/21	0.0	10.9	-0.1	60	0 ⁸	8,920

Appendix E.3

**Historical LFG Well Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)	Temperature (°F)	Flow Rate (CFM)	VOC Concentration
		Gas (%)	Oxygen (%)				by FID (ppm)
LFG-9	09/23/21	0.0	6.7	-0.2	68	8	4,950
LFG-9	10/21/21	0.0	15.4	-10.8	62	19	28
LFG-9	11/30/21	0.0	12.3	-10.4	54	7	11
LFG-9	12/21/21	0.0	15.1	-0.3	38	0 ⁸	8
LFG-9	01/31/22	0.0	11.9	0.0	40	0	0
LFG-9	02/28/22	0.0	16.1	-9.7	48	0	48
LFG-9	03/28/22	0.0	13.3	-0.2	43	11	11
LFG-9	04/28/22	0.0	14.6	-0.2	44	13	37
LFG-9	05/26/22	0.0	16.4	-11.7	50	5	6
LFG-9	06/23/22	0.0	17.0	-0.2	64	10	7
LFG-9	07/26/22	0.0	16.0	-0.2	68	3	0
LFG-9	08/23/22	0.0	15.1	-0.2	70	7	3
LFG-9	09/29/22	0.0	15.6	-0.4	62	6	7
LFG-9	10/27/22	0.0	16.7	-8.8	57	6	7
LFG-9	12/06/22	0.0	17.3	-0.4	45	13	0

Notes:

¹ Pre-startup readings

² System was restarted on 1-19-2009 after being down for a month for SVE well cleaning and condensate collection system installation.

³ No reading could be obtained; FID flamed out because of low oxygen level.

⁴ Values could not be determined because well was frozen.

⁵ Valve is fully open

⁶ FID taken with Thermo Scientific TVA 1000 Vapor Analyzer.

⁷ System was shutdown on 11/21/12 following monthly monitoring for 1 month shutdown period.

Post 1 month shutdown monitoring was conducted at startup (12/21/12) and two weeks after startup (1/3/13).

⁸ Air flow is heard through the pipe, but no flow measurement could be determined.

⁹ Value could not be determined because of an equipment malfunction.

¹⁰ System was shutdown on 1/10/14 for a 4 month shutdown period.

Post 4 month shutdown monitoring was conducted at startup (5/13/14) and two weeks after startup (5/28/14).

¹¹ Well is not under vacuum; unable to obtain flow reading.

With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day) and adjusting the LFG wells to focus extraction in the vicinity of the GP-2 nest.

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-01	08/27/08 ¹	34.0	0.0	0.0
GP-01	09/23/08	30.9	0.0	0.0
GP-01	09/25/08	1.5	11.1	-0.4
GP-01	10/02/08	0.0	17.8	-0.6
GP-01	10/07/08	0.0	18.3	-0.6
GP-01	10/15/08	0.0	19.0	-0.6
GP-01	10/30/08	0.0	19.4	-0.5
GP-01	11/13/08	0.0	20.0	-0.7
GP-01	11/26/08	0.0	20.5	-0.6
GP-01	01/22/09 ²	0.0	19.6	-0.9
GP-01	02/05/09	0.0	20.2	-0.8
GP-01	02/17/09	0.0	20.6	-1.2
GP-01	03/16/09	0.0	19.7	-1.2
GP-01	04/24/09	0.0	19.9	-1.3
GP-01	05/20/09	0.0	20.4	-1.2
GP-01	06/23/09	0.0	18.8	-1.2
GP-01	07/23/09	0.0	19.5	-1.0
GP-01	10/20/09	0.0	20.5	-1.6
GP-01	02/01/10	0.0	19.4	-1.2
GP-01	04/22/10	0.0	20.1	-1.4
GP-01	07/23/10	0.0	19.8	-1.2
GP-01	10/22/10	0.0	20.8	-0.9
GP-01	01/24/11	0.1	19.1	-1.4
GP-01	04/29/11	0.0	20.5	-2.3
GP-01	07/22/11	0.0	18.0	-1.1
GP-01	10/26/11	0.0	19.7	-1.0
GP-01	01/26/12	0.0	20.9	-1.2
GP-01	04/27/12	0.0	19.5	-1.3
GP-01	07/25/12	0.0	19.7	-1.3
GP-01	11/21/12	0.0	20.6	-0.8
GP-01	12/21/12 ³	0.0	20.5	-1.0
GP-01	01/03/13 ³	0.0	20.5	0.0
GP-01	04/26/13	0.0	20.1	-2.3
GP-01	07/25/13	0.0	19.7	-0.8
GP-01	10/23/13	0.0	20.9	-0.8
GP-01	01/10/14	0.0	21.0	-0.3
GP-01	02/07/14	0.0	20.2	0.0
GP-01	03/12/14	0.0	19.5	0.0
GP-01	04/14/14	0.0	19.4	0.0

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-01	05/13/14 ⁴	0.0	20.6	-0.9
GP-01	08/28/14	0.1	15.0	-0.9
GP-01	10/24/14	0.0	20.4	-0.8
GP-01	01/21/15	0.0	20.7	-0.8
GP-01	04/17/15	0.0	20.2	-0.7
GP-01	07/31/15	0.0	19.5	-0.9
GP-01	10/22/15	0.0	20.9	-0.8
GP-01	11/12/15	0.0	20.0	-0.1
GP-01	12/17/15	0.0	20.3	-0.6
GP-01	01/21/16	0.0	20.3	-0.3
GP-01	04/22/16	0.0	19.7	-0.1
GP-01	07/27/16	0.0	17.2	0.0
GP-01	10/26/16	0.0	19.9	-0.1
GP-01	01/10/17	0.0	20.1	0.0
GP-01	04/05/17	0.0	20.0	0.0
GP-01	07/24/17	0.0	20.1	0.0
GP-01	10/30/17	0.0	19.8	0.9
GP-01	01/24/18	0.0	20.1	0.0
GP-01	05/17/18	0.0	18.5	-0.1
GP-01	07/31/18	0.0	17.5	0.0
GP-01	11/16/18	0.0	20.8	0.0
GP-01	01/23/19	0.0	21.1	0.0
GP-01	04/26/19	0.0	19.4	-0.1
GP-01	07/23/19	0.0	18.4	0.0
GP-01	10/31/19	0.0	20.5	0.0
GP-01	02/18/20	0.0	20.3	-0.1
GP-01	06/23/20	0.0	15.6	0.0
GP-01	08/17/20	0.0	17.6	0.0
GP-01	11/05/20	0.0	20.9	0.0
GP-01	01/20/21	0.0	20.5	0.0
GP-01	04/22/21	0.0	20.2	0.0
GP-01	10/21/21	0.0	21.0	0.1
GP-01	03/28/22	0.0	20.1	-0.1
GP-01	05/26/22	0.0	19.6	0.0
GP-01	08/23/22	0.0	19.2	0.0
GP-01	12/06/22	0.0	19.5	-0.2
GP-1A	08/27/08 ¹	23.8	3.2	0.0
GP-1A	09/23/08	18.2	4.9	0.0

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-1A	09/25/08	0.0	19.5	-0.4
GP-1A	10/02/08	0.0	21.0	-0.6
GP-1A	10/07/08	0.0	20.1	-0.6
GP-1A	10/15/08	0.0	20.5	-0.6
GP-1A	10/30/08	0.0	20.4	-0.6
GP-1A	11/13/08	0.0	20.6	-0.6
GP-1A	11/26/08	0.0	21.2	-0.7
GP-1A	01/22/09 ²	0.0	21.1	-0.9
GP-1A	02/05/09	0.0	20.5	-0.8
GP-1A	02/17/09	0.0	21.0	-1.2
GP-1A	03/16/09	0.0	20.0	-1.1
GP-1A	04/24/09	0.0	20.4	-1.4
GP-1A	05/20/09	0.0	20.5	-1.4
GP-1A	06/23/09	0.0	19.9	-1.2
GP-1A	07/23/09	0.0	19.8	-1.2
GP-1A	10/20/09	0.0	20.6	-1.8
GP-1A	02/01/10	0.0	19.3	-1.4
GP-1A	04/22/10	0.0	20.2	-1.5
GP-1A	07/23/10	0.0	19.9	-1.4
GP-1A	10/22/10	0.0	20.8	-1.1
GP-1A	01/24/11	0.1	19.3	-1.6
GP-1A	04/29/11	0.0	20.5	-2.4
GP-1A	07/22/11	0.0	18.8	-1.3
GP-1A	10/26/11	0.0	19.7	-1.3
GP-1A	01/26/12	0.0	20.8	-1.4
GP-1A	04/27/12	0.0	19.6	-1.4
GP-1A	07/25/12	0.0	20.5	-1.8
GP-1A	11/21/12	0.0	20.7	-1.0
GP-1A	12/21/12 ³	0.0	20.6	-1.2
GP-1A	01/03/13 ³	0.0	20.6	0.0
GP-1A	04/26/13	0.0	20.5	-2.2
GP-1A	07/25/13	0.0	19.7	-1.2
GP-1A	10/23/13	0.0	20.8	0.0
GP-1A	01/10/14	0.0	21.2	-0.5
GP-1A	02/07/14	0.0	21.0	-0.1
GP-1A	03/12/14	0.0	20.3	0.0
GP-1A	04/14/14	0.0	19.8	0.0
GP-1A	05/13/14 ⁴	0.0	19.7	-1.2
GP-1A	08/28/14	0.0	20.8	-1.0

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-1A	10/24/14	0.0	20.4	-0.9
GP-1A	01/21/15	0.0	20.7	-1.0
GP-1A	04/17/15	0.0	20.2	-0.9
GP-1A	07/31/15	0.0	20.7	-1.0
GP-1A	10/22/15	0.0	21.2	-1.1
GP-1A	11/12/15	0.0	21.0	-0.2
GP-1A	12/17/15	0.0	12.8	-0.6
GP-1A	01/21/16	0.0	20.6	-0.4
GP-1A	04/22/16	0.0	20.5	-0.3
GP-1A	07/27/16	0.0	19.2	0.0
GP-1A	10/26/16	0.0	19.2	-0.2
GP-1A	01/10/17	0.0	20.3	0.0
GP-1A	04/05/17	0.0	20.3	0.0
GP-1A	07/24/17	0.0	20.7	0.0
GP-1A	10/30/17	0.0	20.0	0.9
GP-1A	01/24/18	0.0	20.6	0.0
GP-1A	05/17/18	0.0	19.1	-0.3
GP-1A	07/31/18	0.0	18.4	0.0
GP-1A	11/16/18	0.0	20.8	-0.1
GP-1A	01/23/19	0.0	21.2	0.0
GP-1A	04/26/19	0.0	19.7	-0.2
GP-1A	07/23/19	0.0	19.6	0.0
GP-1A	10/31/19	0.0	20.8	0.0
GP-1A	02/18/20	0.0	18.9	-2.0
GP-1A	06/23/20	0.0	19.3	0.1
GP-1A	08/17/20	0.0	18.6	0.0
GP-1A	11/05/20	0.0	20.8	0.0
GP-1A	01/20/21	0.0	20.8	0.0
GP-1A	04/22/21	0.0	20.5	0.0
GP-1A	10/21/21	0.0	20.9	0.2
GP-1A	03/28/22	0.0	20.5	-0.1
GP-1A	05/26/22	0.0	20.3	0.0
GP-1A	08/23/22	0.0	20.2	0.0
GP-1A	12/06/22	0.0	19.9	-0.2
GP-02	08/27/08 ¹	41.4	0.0	-0.2
GP-02	09/23/08	41.8	0.0	-1.2
GP-02	09/25/08	13.3	5.2	-1.5
GP-02	10/02/08	0.1	2.8	-1.5

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-02	10/07/08	0.0	9.2	-0.6
GP-02	10/15/08	0.0	13.1	-1.6
GP-02	10/30/08	0.0	20.4	-1.8
GP-02	11/13/08	0.0	20.6	-2.0
GP-02	11/26/08	0.0	20.6	-2.0
GP-02	01/22/09 ²	0.0	15.8	-1.9
GP-02	02/05/09	0.0	15.8	-1.9
GP-02	02/17/09	0.0	21.0	-2.2
GP-02	03/16/09	0.0	20.7	-2.5
GP-02	04/24/09	0.0	18.8	-2.0
GP-02	05/20/09	0.0	18.3	-1.8
GP-02	06/23/09	0.0	19.8	-4.1
GP-02	07/23/09	0.0	19.4	-1.0
GP-02	10/20/09	0.0	20.1	-1.6
GP-02	02/01/10	0.0	19.2	-1.3
GP-02	04/22/10	0.0	18.4	-1.2
GP-02	07/23/10	0.0	20.1	-1.4
GP-02	10/22/10	0.0	20.9	-0.9
GP-02	01/24/11	0.0	18.9	-1.0
GP-02	04/29/11	0.0	21.0	-1.4
GP-02	07/22/11	0.0	14.4	0.0
GP-02	10/26/11	0.0	18.4	-0.6
GP-02	01/26/12	0.0	20.4	-1.0
GP-02	04/27/12	0.0	19.7	-0.8
GP-02	07/25/12	0.0	15.7	-0.8
GP-02	11/21/12 ³	0.0	20.5	-0.4
GP-02	12/21/12 ³	0.0	20.4	-0.3
GP-02	01/03/13 ³	0.0	20.6	-1.6
GP-02	04/26/13	0.0	17.8	-1.0
GP-02	07/25/13	0.0	20.4	-0.6
GP-02	10/23/13	0.0	20.2	-0.4
GP-02	01/10/14	0.0	19.5	-0.3
GP-02	02/07/14	0.0	9.3	0.0
GP-02	03/12/14	12.2	0.6	0.0
GP-02	04/14/14	13.6	0.0	0.0
GP-02	05/13/14 ⁴	6.2	17.2	-1.6
GP-02	05/28/14 ⁴	0.0	14.7	-0.3
GP-02	08/28/14	11.1	3.7	-0.5
GP-02	10/24/14	0.0	19.2	-0.1

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-02	01/21/15	0.0	20.1	-0.4
GP-02	04/17/15	0.0	19.3	-0.4
GP-02	07/31/15	0.0	20.8	-0.6
GP-02	10/22/15	0.0	18.6	-0.6
GP-02	11/12/15	0.0	18.0	-0.5
GP-02	12/17/15	0.0	17.5	-0.5
GP-02	01/21/16	0.0	19.4	-0.8
GP-02	04/22/16	0.0	19.1	-0.4
GP-02	07/27/16	0.0	16.2	0.0
GP-02	10/26/16	0.0	14.2	-0.2
GP-02	01/10/17	0.0	16.4	0.2
GP-02	04/05/17	0.0	17.1	-0.1
GP-02	07/24/17	0.0	16.9	-0.2
GP-02	10/30/17	0.0	16.9	1.0
GP-02	01/24/18	0.0	20.4	-0.2
GP-02	05/17/18	0.0	18.3	-0.3
GP-02	07/31/18	0.0	15.4	0.0
GP-02	11/16/18	12.3	0.0	-0.1
GP-02	01/23/19	0.0	18.0	0.0
GP-02	04/26/19	0.0	17.4	0.0
GP-02	07/23/19	0.0	16.3	0.0
GP-02	10/31/19	0.0	16.3	0.0
GP-02	02/18/20	0.0	20.5	-0.2
GP-02	06/23/20	0.0	15.9	0.1
GP-02	08/17/20	0.0	15.0	0.0
GP-02	11/05/20	0.0	18.4	0.3
GP-02	01/20/21	0.0	19.3	0.3
GP-02	04/22/21	0.0	18.5	0.3
GP-02	10/21/21	0.0	18.6	0.1
GP-02	03/28/22	0.0	18.8	0.0
GP-02	05/26/22	0.0	18.6	-0.2
GP-02	08/23/22	0.0	19.0	0.0
GP-02	12/06/22	0.0	18.5	-0.2
GP-2A	08/27/08 ¹	37.4	0.0	-0.4
GP-2A	09/23/08	14.0	12.9	-2.7
GP-2A	09/25/08	16.6	9.6	-2.7
GP-2A	10/02/08	0.0	20.9	-3.5
GP-2A	10/07/08	0.0	16.0	-0.7

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-2A	10/15/08	0.0	15.9	-3.7
GP-2A	10/30/08	0.0	20.4	-3.7
GP-2A	11/13/08	0.0	20.5	-3.7
GP-2A	11/26/08	0.0	20.5	-3.7
GP-2A	01/22/09 ²	0.0	17.7	-3.7
GP-2A	02/05/09	0.0	17.7	-3.7
GP-2A	02/17/09	0.0	20.9	-2.9
GP-2A	03/16/09	0.0	20.7	-4.3
GP-2A	04/24/09	0.0	19.9	-4.2
GP-2A	05/20/09	0.0	20.5	-3.3
GP-2A	06/23/09	0.0	20.0	-1.6
GP-2A	07/23/09	0.0	19.9	-3.4
GP-2A	10/20/09	0.0	20.7	-3.7
GP-2A	02/01/10	0.0	19.4	-3.0
GP-2A	04/22/10	0.0	20.2	-3.2
GP-2A	07/23/10	0.0	20.1	-3.6
GP-2A	10/22/10	0.0	20.8	-2.1
GP-2A	01/24/11	0.0	19.6	-2.5
GP-2A	04/29/11	0.0	20.9	-10.5
GP-2A	07/22/11	0.0	17.1	-1.5
GP-2A	10/26/11	0.0	19.6	-1.8
GP-2A	01/26/12	0.0	20.1	-1.7
GP-2A	04/27/12	0.0	19.7	-2.2
GP-2A	07/25/12	0.0	17.4	-0.5
GP-2A	11/21/12 ³	0.0	19.8	-0.7
GP-2A	12/21/12 ³	0.0	20.5	-0.6
GP-2A	01/03/13 ³	0.0	19.9	-0.5
GP-2A	04/26/13	0.0	19.8	-1.0
GP-2A	07/25/13	0.0	19.3	-1.4
GP-2A	10/23/13	0.0	20.3	-1.0
GP-2A	01/10/14	0.0	19.0	-0.6
GP-2A	02/07/14	0.0	11.7	0.2
GP-2A	03/12/14	5.9	5.6	0.0
GP-2A	04/14/14	10.3	2.7	0.0
GP-2A	05/13/14 ⁴	10.5	8.0	-3.6
GP-2A	05/28/14 ⁴	3.3	12.6	-0.2
GP-2A	08/28/14	6.8	3.8	-0.7
GP-2A	10/24/14	0.0	19.6	-0.2
GP-2A	01/21/15	0.0	20.3	-2.1

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-2A	04/17/15	0.0	19.7	-1.5
GP-2A	07/31/15	0.0	20.5	-2.0
GP-2A	10/22/15	0.0	19.6	-2.2
GP-2A	11/12/15	0.0	20.3	-1.8
GP-2A	12/17/15	0.0	19.8	-1.6
GP-2A	01/21/16	0.0	19.8	-0.8
GP-2A	04/22/16	0.0	18.9	-1.8
GP-2A	07/27/16	0.0	17.0	0.0
GP-2A	10/26/16	0.0	17.5	-0.3
GP-2A	01/10/17	0.0	17.9	-0.3
GP-2A	04/05/17	0.0	18.5	-0.1
GP-2A	07/24/17	0.0	18.8	-0.1
GP-2A	10/30/17	0.0	18.7	1.0
GP-2A	01/24/18	0.0	20.0	-0.1
GP-2A	05/17/18	0.0	18.7	0.0
GP-2A	07/31/18	0.0	16.3	0.1
GP-2A	11/16/18	1.8	10.9	-0.9
GP-2A	01/23/19	0.0	17.5	0.6
GP-2A	04/26/19	0.0	17.8	-0.2
GP-2A	07/23/19	0.0	17.6	-0.2
GP-2A	10/31/19	0.0	15.8	0.1
GP-2A	02/18/20	0.0	19.4	-0.4
GP-2A	06/23/20	0.0	17.4	0.0
GP-2A	08/17/20	0.0	13.2	-0.3
GP-2A	11/05/20	0.0	18.2	-0.1
GP-2A	01/20/21	0.0	19.4	1.8
GP-2A	04/22/21	0.0	18.6	0.4
GP-2A	10/21/21	0.0	19.1	0.7
GP-2A	03/28/22	0.0	19.0	0.0
GP-2A	05/26/22	0.0	18.9	0.0
GP-2A	08/23/22	0.0	19.2	0.0
GP-2A	12/06/22	0.0	18.4	-0.2
GP-2B	08/27/08 ¹	17.8	10.4	0.0
GP-2B	09/23/08	13.2	13.2	-1.2
GP-2B	09/25/08	0.0	19.5	-1.5
GP-2B	10/02/08	0.0	21.0	-1.5
GP-2B	10/07/08	0.0	20.6	-1.1
GP-2B	10/15/08	0.0	20.7	-2.6

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-2B	10/30/08	0.0	20.4	-2.2
GP-2B	11/13/08	0.0	20.6	-1.4
GP-2B	11/26/08	0.0	20.6	-1.4
GP-2B	01/22/09 ²	0.0	21.2	-1.8
GP-2B	02/05/09	0.0	21.2	-1.8
GP-2B	02/17/09	0.0	21.0	-0.2
GP-2B	03/16/09	0.0	20.7	-2.2
GP-2B	04/24/09	0.0	20.3	-2.4
GP-2B	05/20/09	0.0	20.7	-1.2
GP-2B	06/23/09	0.0	20.1	-2.8
GP-2B	07/23/09	0.0	20.0	-1.9
GP-2B	10/20/09	0.0	20.6	-2.4
GP-2B	02/01/10	0.0	19.4	-1.4
GP-2B	04/22/10	0.0	20.2	-1.7
GP-2B	07/23/10	0.0	19.9	-2.7
GP-2B	10/22/10	0.0	20.8	-1.0
GP-2B	01/24/11	0.0	19.7	-1.9
GP-2B	04/29/11	0.0	21.0	-1.5
GP-2B	07/22/11	0.0	19.0	-0.8
GP-2B	10/26/11	0.0	19.7	-2.0
GP-2B	01/26/12	0.0	21.0	-1.1
GP-2B	04/27/12	0.0	19.7	-2.2
GP-2B	07/25/12	0.0	20.4	-0.2
GP-2B	11/21/12 ³	0.0	20.7	-0.4
GP-2B	12/21/12 ³	0.0	20.5	-0.7
GP-2B	01/03/13 ³	0.0	20.5	-1.8
GP-2B	04/26/13	0.0	20.3	-0.8
GP-2B	07/25/13	0.0	20.3	-1.2
GP-2B	10/23/13	0.0	20.9	-1.2
GP-2B	01/10/14	0.0	19.8	-1.6
GP-2B	02/07/14	0.0	18.5	0.4
GP-2B	03/12/14	1.0	16.1	-0.6
GP-2B	04/14/14	3.1	12.1	-0.6
GP-2B	05/13/14 ⁴	0.0	20.5	-2.8
GP-2B	05/28/14 ⁴	0.0	20.1	-0.9
GP-2B	08/28/14	0.2	15.3	-0.2
GP-2B	10/24/14	0.0	20.6	0.2
GP-2B	01/21/15	0.0	20.8	-2.0
GP-2B	04/17/15	0.0	20.2	-0.6

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-2B	07/31/15	0.0	20.8	-1.3
GP-2B	10/22/15	0.0	20.6	-1.7
GP-2B	11/12/15	0.0	20.8	-2.7
GP-2B	12/17/15	0.0	19.4	-1.8
GP-2B	01/21/16	0.0	20.8	-0.7
GP-2B	04/22/16	0.0	20.6	-1.8
GP-2B	07/27/16	0.0	18.9	0.2
GP-2B	10/26/16	0.0	19.0	-0.1
GP-2B	01/10/17	0.0	19.4	-0.2
GP-2B	04/05/17	0.0	17.3	-0.2
GP-2B	07/24/17	0.0	17.9	-0.1
GP-2B	10/30/17	0.0	17.5	1.0
GP-2B	01/24/18	0.0	18.8	-0.1
GP-2B	05/17/18	0.0	18.6	0.0
GP-2B	07/31/18	0.0	17.4	0.4
GP-2B	11/16/18	1.2	16.0	-1.2
GP-2B	01/23/19	0.0	17.2	1.2
GP-2B	04/26/19	0.0	19.1	0.0
GP-2B	07/23/19	0.0	19.2	-0.1
GP-2B	10/31/19	0.0	20.1	0.6
GP-2B	02/18/20	0.0	18.8	-0.1
GP-2B	06/23/20	0.0	18.9	0.0
GP-2B	08/17/20	0.0	17.1	-0.4
GP-2B	11/05/20	0.0	19.6	-0.6
GP-2B	01/20/21	0.0	20.0	4.0
GP-2B	04/22/21	0.0	19.6	0.7
GP-2B	10/21/21	0.0	21.2	1.3
GP-2B	03/28/22	0.0	18.8	-0.6
GP-2B	05/26/22	0.0	20.1	-0.2
GP-2B	08/23/22	0.0	19.8	-0.2
GP-2B	12/06/22	0.0	19.3	-0.4
GP-03	08/27/08 ¹	0.0	12.5	0.0
GP-03	09/23/08	0.0	13.4	-0.3
GP-03	09/25/08	0.0	18.1	-0.2
GP-03	10/02/08	0.0	21.1	-0.3
GP-03	10/07/08	0.0	20.5	0.0
GP-03	10/15/08	0.0	20.5	-0.3
GP-03	10/30/08	0.0	20.2	-0.2

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-03	11/13/08	0.0	20.5	-0.6
GP-03	11/26/08	0.0	20.5	-0.6
GP-03	01/22/09 ²	0.0	21.0	-0.6
GP-03	02/05/09	0.0	20.4	-0.5
GP-03	02/17/09	0.0	21.1	-0.7
GP-03	03/16/09	0.0	19.9	-0.8
GP-03	04/24/09	0.0	20.2	-0.5
GP-03	05/20/09	0.0	20.1	-0.3
GP-03	06/23/09	0.0	19.8	-0.4
GP-03	07/23/09	0.0	19.7	-0.2
GP-03	10/20/09	0.0	20.7	-0.3
GP-03	02/01/10	0.0	19.5	-0.2
GP-03	04/22/10	0.0	20.2	-0.2
GP-03	07/23/10	0.0	20.0	-0.3
GP-03	10/22/10	0.0	21.0	-0.1
GP-03	01/24/11	0.0	19.6	-0.2
GP-03	04/29/11	0.0	20.7	-0.2
GP-03	07/22/11	0.0	18.4	-0.1
GP-03	10/26/11	0.0	19.4	0.0
GP-03	01/26/12	0.0	20.5	0.0
GP-03	04/27/12	0.0	19.4	-0.2
GP-03	07/25/12	0.0	20.0	0.0
GP-03	11/21/12 ³	0.0	20.5	0.0
GP-03	12/21/12 ³	0.0	20.7	-0.2
GP-03	01/03/13 ³	0.0	20.6	-0.1
GP-03	04/26/13	0.0	20.4	-0.1
GP-03	07/25/13	0.0	20.0	-0.1
GP-03	10/23/13	0.0	20.7	0.0
GP-03	01/10/14	0.0	20.2	-0.2
GP-03	02/07/14	0.0	20.8	0.4
GP-03	03/12/14	0.0	20.6	0.0
GP-03	04/14/14	0.0	19.9	-0.1
GP-03	05/13/14 ⁴	0.0	19.9	-1.0
GP-03	08/28/14	0.0	18.6	-0.1
GP-03	10/24/14	0.0	20.3	0.0
GP-03	01/21/15	0.0	20.9	-0.1
GP-03	04/17/15	0.0	19.9	-0.3
GP-03	07/31/15	0.0	20.7	0.0
GP-03	10/22/15	0.0	20.1	-0.1

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-03	11/12/15	0.0	20.7	-0.2
GP-03	12/17/15	0.0	20.8	-0.4
GP-03	01/21/16	0.0	20.4	-0.4
GP-03	04/22/16	0.0	20.3	-0.3
GP-03	07/27/16	0.0	18.0	0.1
GP-03	10/26/16	0.0	19.1	-0.2
GP-03	01/10/17	0.0	20.5	-0.1
GP-03	04/05/17	0.0	20.2	-0.1
GP-03	07/24/17	0.0	20.0	-0.1
GP-03	10/30/17	0.0	20.2	0.9
GP-03	01/24/18	0.0	20.5	0.0
GP-03	05/17/18	0.0	16.3	-0.3
GP-03	07/31/18	0.0	17.9	0.0
GP-03	11/16/18	0.0	20.4	0.0
GP-03	01/23/19	0.0	20.7	0.0
GP-03	04/26/19	0.0	19.5	0.0
GP-03	07/23/19	0.0	17.3	0.0
GP-03	10/31/19	0.0	20.1	0.0
GP-03	02/18/20	0.0	17.6	-0.3
GP-03	06/23/20	0.0	18.0	0.1
GP-03	08/17/20	0.0	16.2	0.0
GP-03	11/05/20	0.0	19.2	0.9
GP-03	01/20/21	0.0	20.5	0.2
GP-03	04/22/21	0.0	20.1	0.3
GP-03	10/21/21	0.0	19.7	0.2
GP-03	03/28/22	0.0	20.1	0.0
GP-03	05/26/22	0.0	20.2	-0.7
GP-03	08/23/22	0.0	17.3	0.0
GP-03	12/06/22	0.0	19.7	-0.2
GP-3A	08/27/08 ¹	0.0	12.2	0.0
GP-3A	09/23/08	0.1	12.2	-0.2
GP-3A	09/25/08	0.0	11.7	-0.2
GP-3A	10/02/08	0.0	14.8	-0.3
GP-3A	10/07/08	0.0	18.2	-0.2
GP-3A	10/15/08	0.0	18.0	-0.6
GP-3A	10/30/08	0.0	20.3	-0.4
GP-3A	11/13/08	0.0	20.5	-0.8
GP-3A	11/26/08	0.0	20.5	-0.8

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-3A	01/22/09 ²	0.0	18.7	-0.8
GP-3A	02/05/09	0.0	19.1	-0.6
GP-3A	02/17/09	0.0	20.0	-0.6
GP-3A	03/16/09	0.0	19.4	-0.9
GP-3A	04/24/09	0.0	19.9	-0.8
GP-3A	05/20/09	0.0	19.7	-0.4
GP-3A	06/23/09	0.0	19.2	-0.7
GP-3A	07/23/09	0.0	19.7	-0.4
GP-3A	10/20/09	0.0	20.7	-0.4
GP-3A	02/01/10	0.0	19.6	-0.1
GP-3A	04/22/10	0.0	20.0	-0.3
GP-3A	07/23/10	0.0	19.4	-0.5
GP-3A	10/22/10	0.0	20.9	-0.1
GP-3A	01/24/11	0.0	19.7	-0.4
GP-3A	04/29/11	0.0	20.8	-0.2
GP-3A	07/22/11	0.0	17.5	0.0
GP-3A	10/26/11	0.0	18.9	-0.2
GP-3A	01/26/12	0.0	19.7	-0.2
GP-3A	04/27/12	0.0	19.6	-0.4
GP-3A	07/25/12	0.0	19.4	0.0
GP-3A	11/21/12 ³	0.0	19.2	-0.1
GP-3A	12/21/12 ³	0.0	20.7	-0.3
GP-3A	01/03/13 ³	0.0	20.2	-0.2
GP-3A	04/26/13	0.0	19.5	-0.1
GP-3A	07/25/13	0.0	20.0	-0.4
GP-3A	10/23/13	0.0	19.4	-0.2
GP-3A	01/10/14	0.0	18.8	0.0
GP-3A	02/07/14	0.0	19.5	0.3
GP-3A	03/12/14	0.0	19.5	0.0
GP-3A	04/14/14	0.0	16.3	0.0
GP-3A	05/13/14 ⁴	0.0	20.0	-1.2
GP-3A	08/28/14	0.0	19.0	0.0
GP-3A	10/24/14	0.0	18.4	0.0
GP-3A	01/21/15	0.0	19.3	-0.1
GP-3A	04/17/15	0.0	19.2	-0.4
GP-3A	07/31/15	0.0	19.6	-0.1
GP-3A	10/22/15	0.0	18.4	-0.2
GP-3A	11/12/15	0.0	18.7	-0.6
GP-3A	12/17/15	0.0	17.6	-0.6

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-3A	01/21/16	0.0	18.5	-0.2
GP-3A	04/22/16	0.0	18.1	-0.6
GP-3A	07/27/16	0.0	17.3	0.2
GP-3A	10/26/16	0.0	17.9	-0.2
GP-3A	01/10/17	0.0	20.7	-0.4
GP-3A	04/05/17	0.0	20.2	0.0
GP-3A	07/24/17	0.0	20.4	0.0
GP-3A	10/30/17	0.0	19.9	0.9
GP-3A	01/24/18	0.0	20.1	-0.1
GP-3A	05/17/18	0.0	17.6	-0.4
GP-3A	07/31/18	0.0	19.3	0.2
GP-3A	11/16/18	0.0	20.4	0.0
GP-3A	01/23/19	0.0	19.6	0.2
GP-3A	04/26/19	0.0	17.8	0.0
GP-3A	07/23/19	0.0	16.7	0.0
GP-3A	10/31/19	0.0	17.9	0.2
GP-3A	02/18/20	0.0	20.3	0.0
GP-3A	06/23/20	0.0	14.9	0.1
GP-3A	08/17/20	0.0	15.6	0.0
GP-3A	11/05/20	0.0	16.9	0.8
GP-3A	01/20/21	0.0	18.0	0.7
GP-3A	04/22/21	0.0	17.5	0.4
GP-3A	10/21/21	0.0	21.3	0.0
GP-3A	03/28/22	0.0	17.3	0.0
GP-3A	05/26/22	0.0	17.3	-0.6
GP-3A	08/23/22	0.0	18.9	0.0
GP-3A	12/06/22	0.0	16.9	-0.2
GP-4A	08/27/08 ¹	46.6	0.0	0.0
GP-4A	09/23/08	46.2	0.0	-0.2
GP-4A	09/25/08	1.1	16.8	-2.7
GP-4A	10/02/08	0.0	20.5	-2.5
GP-4A	10/07/08	0.0	19.9	-2.6
GP-4A	10/15/08	-	-	-
GP-4A	10/30/08	0.0	20.3	-2.7
GP-4A	11/13/08	0.0	20.6	-4.6
GP-4A	11/26/08	0.0	21.2	-3.3
GP-4A	01/22/09 ²	0.0	20.4	-4.2
GP-4A	02/05/09	0.0	20.3	-3.1

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-4A	02/17/09	0.0	21.1	-4.7
GP-4A	03/16/09	0.0	19.9	-4.1
GP-4A	04/24/09	0.0	20.3	-2.4
GP-4A	05/20/09	0.0	20.1	-1.9
GP-4A	06/23/09	0.0	19.9	-1.8
GP-4A	07/23/09	0.0	20.0	-1.4
GP-4A	10/20/09	0.0	20.7	-3.4
GP-4A	02/01/10	0.0	19.6	-3.2
GP-4A	04/22/10	0.0	20.1	-2.5
GP-4A	07/23/10	0.0	20.0	-2.1
GP-4A	10/22/10	0.0	20.9	-1.0
GP-4A	01/24/11	0.1	19.4	-2.8
GP-4A	04/29/11	0.0	20.6	-5.1
GP-4A	07/22/11	0.0	18.6	-1.5
GP-4A	10/26/11	0.0	19.8	-1.1
GP-4A	01/26/12	0.0	20.4	-2.4
GP-4A	04/27/12	0.0	19.6	-1.7
GP-4A	07/25/12	0.0	20.6	-2.2
GP-4A	11/21/12 ³	0.0	20.6	-0.6
GP-4A	12/21/12 ³	0.0	20.4	-2.0
GP-4A	01/03/13 ³	0.0	20.5	0.0
GP-4A	04/26/13	0.0	20.5	-2.8
GP-4A	07/25/13	0.0	20.0	-1.1
GP-4A	10/23/13	0.0	20.8	-1.2
GP-4A	01/10/14	0.0	20.5	-0.6
GP-4A	02/07/14	0.0	20.7	0.0
GP-4A	03/12/14	0.0	20.6	0.0
GP-4A	04/14/14	0.0	20.9	0.0
GP-4A	05/13/14 ⁴	0.0	20.6	-2.5
GP-4A	08/28/14	0.0	20.8	-1.3
GP-4A	10/24/14	0.0	20.4	-1.0
GP-4A	01/21/15	0.0	20.8	-1.2
GP-4A	04/17/15	0.0	20.1	-1.6
GP-4A	07/31/15	0.0	20.6	-1.6
GP-4A	10/22/15	0.0	20.7	-1.4
GP-4A	11/12/15	0.0	20.7	-2.1
GP-4A	12/17/15	0.0	19.0	-0.3
GP-4A	01/21/16	0.0	20.8	-0.9
GP-4A	04/22/16	0.0	20.4	-0.4

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-4A	07/27/16	0.0	18.9	0.0
GP-4A	10/26/16	0.0	19.9	-0.8
GP-4A	01/10/17	0.0	20.5	-0.4
GP-4A	04/05/17	0.0	20.5	-0.4
GP-4A	07/24/17	0.0	20.6	-0.3
GP-4A	10/30/17	0.0	20.4	0.8
GP-4A	01/24/18	0.0	20.7	-0.4
GP-4A	05/17/18	0.0	15.9	0.0
GP-4A	07/31/18	0.0	18.3	0.0
GP-4A	11/16/18	0.0	21.1	-0.2
GP-4A	01/23/19	0.0	21.1	-0.3
GP-4A	04/26/19	0.0	19.8	-0.2
GP-4A	07/23/19	0.0	18.9	-0.1
GP-4A	10/31/19	0.0	20.8	0.0
GP-4A	02/18/20	0.0	20.3	-0.2
GP-4A	06/23/20	0.0	18.9	0.0
GP-4A	08/17/20	0.0	18.3	0.0
GP-4A	11/05/20	0.0	20.8	0.0
GP-4A	01/20/21	0.0	20.1	0.1
GP-4A	04/22/21	0.0	20.4	0.1
GP-4A	10/21/21	0.0	21.0	0.1
GP-4A	03/28/22	0.0	20.4	-0.2
GP-4A	05/26/22	0.0	20.4	0.0
GP-4A	08/23/22	0.0	20.7	-0.4
GP-4A	12/06/22	0.0	19.8	-0.1
GP-8A	08/27/08 ¹	0.9	1.4	0.2
GP-8A	09/23/08	1.0	1.3	0.0
GP-8A	09/25/08	0.9	0.5	-0.1
GP-8A	10/02/08	0.6	8.9	-0.1
GP-8A	10/07/08	0.4	11.6	-0.2
GP-8A	10/15/08	0.0	18.4	-1.5
GP-8A	10/30/08	0.0	20.5	-0.4
GP-8A	11/13/08	0.0	20.5	-0.1
GP-8A	11/26/08	0.0	20.5	-0.1
GP-8A	01/22/09 ²	0.0	20.4	-0.8
GP-8A	02/05/09	0.0	20.4	0.3
GP-8A	02/17/09	0.0	20.2	1.0
GP-8A	03/16/09	0.0	18.0	-0.5

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-8A	04/24/09	0.0	19.7	-1.2
GP-8A	05/20/09	0.0	20.4	0.0
GP-8A	06/23/09	0.0	20.1	-1.5
GP-8A	07/23/09	0.0	20.0	-0.6
GP-8A	10/20/09	0.0	20.8	0.0
GP-8A	02/01/10	0.0	19.5	0.0
GP-8A	04/22/10	0.0	20.3	-0.4
GP-8A	07/23/10	0.0	19.2	-1.5
GP-8A	10/22/10	0.0	20.0	-0.3
GP-8A	01/24/11	0.0	18.6	-0.8
GP-8A	04/29/11	0.0	20.6	-8.5
GP-8A	07/22/11	0.0	18.8	-0.9
GP-8A	10/26/11	0.0	19.5	-1.5
GP-8A	01/26/12	0.0	20.8	-0.5
GP-8A	04/27/12	0.0	19.7	-1.5
GP-8A	07/25/12	0.0	19.6	0.0
GP-8A	11/21/12 ³	0.0	19.6	0.0
GP-8A	12/21/12 ³	0.0	20.5	-2.2
GP-8A	01/03/13 ³	0.0	20.6	-1.4
GP-8A	04/26/13	0.0	20.0	0.0
GP-8A	07/25/13	0.0	20.2	-0.8
GP-8A	10/23/13	0.0	20.8	-0.6
GP-8A	01/10/14	0.0	19.2	-0.5
GP-8A	02/07/14	0.0	19.5	0.4
GP-8A	03/12/14	0.0	20.6	-3.2
GP-8A	04/14/14	0.0	19.6	-0.4
GP-8A	05/13/14 ⁴	0.0	20.5	-2.2
GP-8A	08/28/14	0.0	20.3	0.2
GP-8A	10/24/14	0.0	19.8	0.5
GP-8A	01/21/15	0.0	20.2	-2.1
GP-8A	04/17/15	0.0	19.9	-0.1
GP-8A	07/31/15	0.0	20.3	-0.9
GP-8A	10/22/15	0.0	19.8	-1.1
GP-8A	11/12/15	0.0	20.8	-2.8
GP-8A	12/17/15	0.0	20.7	-1.5
GP-8A	01/21/16	0.0	20.8	-0.9
GP-8A	04/22/16	0.0	20.6	-2.3
GP-8A	07/27/16	0.0	19.2	0.6
GP-8A	10/26/16	0.0	19.5	0.3

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-8A	01/10/17	0.0	19.7	-0.1
GP-8A	04/05/17	0.0	19.9	0.0
GP-8A	07/24/17	0.0	19.8	-0.1
GP-8A	10/30/17	0.0	19.7	1.0
GP-8A	01/24/18	0.0	20.9	-0.2
GP-8A	05/17/18	0.0	19.0	-0.1
GP-8A	07/31/18	0.0	19.3	0.0
GP-8A	11/16/18	0.0	20.1	-1.2
GP-8A	01/23/19	0.0	20.3	1.4
GP-8A	04/26/19	0.0	18.8	-0.4
GP-8A	07/23/19	0.0	18.9	0.0
GP-8A	10/31/19	0.0	19.7	1.0
GP-8A	02/18/20	0.0	18.5	-0.2
GP-8A	06/23/20	0.0	18.2	0.0
GP-8A	08/17/20	0.0	17.6	-0.3
GP-8A	11/05/20	0.0	19.4	-0.3
GP-8A	01/20/21	0.0	20.2	4.6
GP-8A	04/22/21	0.0	19.9	0.8
GP-8A	10/21/21	0.0	21.1	1.3
GP-8A	03/28/22	0.0	19.8	-0.6
GP-8A	05/26/22	0.0	20.1	-0.4
GP-8A	08/23/22	0.0	19.7	-0.6
GP-8A	12/06/22	0.0	19.5	-0.6
GP-8B	08/27/08 ¹	0.2	3.8	0.3
GP-8B	09/23/08	0.2	3.8	0.5
GP-8B	09/25/08	0.0	2.8	0.3
GP-8B	10/02/08	0.0	2.3	0.3
GP-8B	10/07/08	0.0	3.0	-0.1
GP-8B	10/15/08	0.0	8.4	-1.2
GP-8B	10/30/08	0.0	18.7	0.0
GP-8B	11/13/08	0.0	16.1	0.3
GP-8B	11/26/08	0.0	16.1	0.3
GP-8B	01/22/09 ²	0.0	15.9	-0.4
GP-8B	02/05/09	0.0	18.9	0.5
GP-8B	02/17/09	0.0	16.8	1.5
GP-8B	03/16/09	0.0	17.0	-0.2
GP-8B	04/24/09	0.0	18.4	-0.9
GP-8B	05/20/09	0.0	19.3	0.2

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-8B	06/23/09	0.0	20.1	-1.2
GP-8B	07/23/09	0.0	20.0	-0.3
GP-8B	10/20/09	0.0	20.2	-0.8
GP-8B	02/01/10	0.0	19.1	-0.6
GP-8B	04/22/10	0.0	19.5	-0.3
GP-8B	07/23/10	0.0	19.6	-1.2
GP-8B	10/22/10	0.0	20.3	0.0
GP-8B	01/24/11	0.0	18.8	-0.6
GP-8B	04/29/11	0.0	20.6	-3.8
GP-8B	07/22/11	0.0	18.2	-0.6
GP-8B	10/26/11	0.0	19.1	-1.4
GP-8B	01/26/12	0.0	20.4	-0.6
GP-8B	04/27/12	0.0	19.7	-1.3
GP-8B	07/25/12	0.0	19.8	0.0
GP-8B	11/21/12 ³	0.0	19.8	0.0
GP-8B	12/21/12 ³	0.0	20.5	-2.2
GP-8B	01/03/13 ³	0.0	20.7	-1.2
GP-8B	04/26/13	0.0	19.9	0.0
GP-8B	07/25/13	0.0	19.5	-0.4
GP-8B	10/23/13	0.0	20.7	-0.8
GP-8B	01/10/14	0.0	19.7	-2.2
GP-8B	02/07/14	0.0	20.1	0.5
GP-8B	03/12/14	0.0	20.6	0.0
GP-8B	04/14/14	0.0	19.5	0.0
GP-8B	05/13/14 ⁴	0.0	19.3	-2.1
GP-8B	08/28/14	0.0	19.8	0.4
GP-8B	10/24/14	0.0	19.6	0.6
GP-8B	01/21/15	0.0	21.1	-2.2
GP-8B	04/17/15	0.0	19.7	0.0
GP-8B	07/31/15	0.0	19.9	-0.6
GP-8B	10/22/15	0.0	19.8	-1.3
GP-8B	11/12/15	0.0	20.1	-2.9
GP-8B	12/17/15	0.0	18.5	-1.4
GP-8B	01/21/16	0.0	20.2	-0.9
GP-8B	04/22/16	0.0	19.9	-2.2
GP-8B	07/27/16	0.0	18.9	0.6
GP-8B	10/26/16	0.0	19.5	0.1
GP-8B	01/10/17	0.0	20.1	0.0
GP-8B	04/05/17	0.0	20.4	0.0

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-8B	07/24/17	0.0	20.6	-0.1
GP-8B	10/30/17	0.0	20.2	0.9
GP-8B	01/24/18	0.0	20.8	-0.3
GP-8B	05/17/18	0.0	18.3	-0.4
GP-8B	07/31/18	0.0	19.2	0.0
GP-8B	11/16/18	0.0	20.3	-1.1
GP-8B	01/23/19	0.0	20.7	1.4
GP-8B	04/26/19	0.0	18.8	-0.4
GP-8B	07/23/19	0.0	19.2	0.0
GP-8B	10/31/19	0.0	19.8	1.0
GP-8B	02/18/20	0.0	18.7	-0.5
GP-8B	06/23/20	0.0	18.7	0.0
GP-8B	08/17/20	0.0	18.0	-0.3
GP-8B	11/05/20	0.0	19.4	-0.3
GP-8B	01/20/21	0.0	20.5	4.5
GP-8B	04/22/21	0.0	19.7	0.9
GP-8B	10/21/21	0.0	21.2	1.2
GP-8B	03/28/22	0.0	19.2	-0.7
GP-8B	05/26/22	0.0	19.5	-0.6
GP-8B	08/23/22	0.0	19.4	-0.7
GP-8B	12/06/22	0.0	18.9	-0.7
GP-09	08/27/08 ¹	0.0	13.9	0.0
GP-09	09/23/08	0.0	19.9	0.0
GP-09	09/25/08	0.0	19.3	0.0
GP-09	10/02/08	0.0	21.1	0.0
GP-09	10/07/08	0.0	20.4	0.0
GP-09	10/15/08	0.0	20.5	0.0
GP-09	10/30/08	0.0	20.3	-0.1
GP-09	11/13/08	0.0	20.5	-0.2
GP-09	11/26/08	0.0	20.5	-0.2
GP-09	01/22/09 ²	0.0	21.0	0.0
GP-09	02/05/09	0.0	20.4	0.0
GP-09	02/17/09	0.0	21.0	-0.1
GP-09	03/16/09	0.0	19.9	-0.3
GP-09	04/24/09	0.0	20.2	-0.2
GP-09	05/20/09	0.0	19.9	0.0
GP-09	06/23/09	0.0	19.6	-0.2
GP-09	07/23/09	0.0	19.9	0.0

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-09	10/20/09	0.0	20.8	0.0
GP-09	02/01/10	0.0	19.5	0.0
GP-09	04/22/10	0.0	19.7	0.0
GP-09	07/23/10	0.0	19.2	-0.1
GP-09	10/22/10	0.0	20.4	0.0
GP-09	01/24/11	0.0	19.4	0.0
GP-09	04/29/11	0.0	20.2	0.0
GP-09	07/22/11	0.0	17.9	0.0
GP-09	10/26/11	0.0	19.5	0.0
GP-09	01/26/12	0.0	20.8	0.0
GP-09	04/27/12	0.0	19.2	-0.1
GP-09	07/25/12	0.0	16.9	0.0
GP-09	11/21/12 ³	0.0	20.5	0.0
GP-09	12/21/12 ³	0.0	20.4	0.0
GP-09	01/03/13 ³	0.0	20.5	0.0
GP-09	04/26/13	0.0	20.2	0.0
GP-09	07/25/13	0.0	19.6	0.0
GP-09	10/23/13	0.0	20.7	-0.1
GP-09	01/10/14 ⁵	-	-	-
GP-09	02/07/14	0.0	20.3	0.0
GP-09	03/12/14	0.0	20.5	0.0
GP-09	04/14/14	0.0	17.2	0.0
GP-09	05/13/14 ⁴	0.0	19.9	-0.4
GP-09	08/28/14	0.0	19.4	0.0
GP-09	10/24/14	0.0	20.0	0.2
GP-09	01/21/15	0.0	20.9	-0.5
GP-09	04/17/15	0.0	19.7	0.0
GP-09	07/31/15	0.0	20.2	0.0
GP-09	10/22/15	0.0	19.8	-0.1
GP-09	11/12/15	0.0	19.8	-0.2
GP-09	12/17/15	0.0	20.6	-0.8
GP-09	01/21/16	0.0	20.4	-0.1
GP-09	04/22/16	0.0	20.3	-0.6
GP-09	07/27/16	0.0	19.0	0.0
GP-09	10/26/16	0.0	19.2	0.0
GP-09	01/10/17	0.0	20.7	0.0
GP-09	04/05/17	0.0	20.0	0.0
GP-09	07/24/17	0.0	19.8	-0.1
GP-09	10/30/17	0.0	20.4	1.0

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-09	01/24/18	0.0	20.4	0.0
GP-09	05/17/18	0.0	18.7	0.0
GP-09	07/31/18	0.0	18.0	0.0
GP-09	11/16/18	0.0	20.1	0.0
GP-09	01/23/19	0.0	19.8	0.0
GP-09	04/26/19	0.0	19.5	0.0
GP-09	07/23/19	0.0	19.1	0.0
GP-09	10/31/19	0.0	19.8	0.0
GP-09	02/18/20	0.0	16.5	-1.4
GP-09	06/23/20	0.0	18.2	0.2
GP-09	08/17/20	0.0	17.7	0.0
GP-09	11/05/20	0.0	19.6	0.8
GP-09	01/20/21	0.0	19.9	0.3
GP-09	04/22/21	0.0	20.0	0.3
GP-09	10/21/21	0.0	20.9	0.2
GP-09	03/28/22	0.0	19.8	-2.7
GP-09	05/26/22	0.0	19.8	-0.6
GP-09	08/23/22	0.0	19.6	-0.6
GP-09	12/06/22	0.0	0.5	-19.8
GP-9A	08/27/08 ¹	0.0	11.4	0.0
GP-9A	09/23/08	0.0	19.2	-0.2
GP-9A	09/25/08	0.0	19.4	-0.1
GP-9A	10/02/08	0.0	21.1	-0.1
GP-9A	10/07/08	0.0	20.4	0.0
GP-9A	10/15/08	0.0	20.6	-0.2
GP-9A	10/30/08	0.0	20.5	-0.2
GP-9A	11/13/08	0.0	20.6	-0.4
GP-9A	11/26/08	0.0	20.6	-0.4
GP-9A	01/22/09 ²	0.0	21.1	-0.2
GP-9A	02/05/09	0.0	20.5	-0.3
GP-9A	02/17/09	0.0	20.9	-0.3
GP-9A	03/16/09	0.0	20.1	-0.4
GP-9A	04/24/09	0.0	20.2	-0.4
GP-9A	05/20/09	0.0	20.0	-0.2
GP-9A	06/23/09	0.0	19.5	-0.2
GP-9A	07/23/09	0.0	20.0	-0.1
GP-9A	10/20/09	0.0	20.8	-0.2
GP-9A	02/01/10	0.0	19.4	0.0

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-9A	04/22/10	0.0	20.0	0.0
GP-9A	07/23/10	0.0	19.8	-0.2
GP-9A	10/22/10	0.0	20.3	0.0
GP-9A	01/24/11	0.0	19.5	0.0
GP-9A	04/29/11	0.0	20.7	-4.2
GP-9A	07/22/11	0.0	18.3	0.0
GP-9A	10/26/11	0.0	19.5	-0.1
GP-9A	01/26/12	0.0	20.9	0.0
GP-9A	04/27/12	0.0	19.6	-0.1
GP-9A	07/25/12	0.0	18.5	0.0
GP-9A	11/21/12 ³	0.0	20.4	0.0
GP-9A	12/21/12 ³	0.0	20.4	-0.1
GP-9A	01/03/13 ³	0.0	20.6	0.0
GP-9A	04/26/13	0.0	20.3	0.0
GP-9A	07/25/13	0.0	20.0	0.0
GP-9A	10/23/13	0.0	20.7	-0.1
GP-9A	1/10/14 ⁵	-	-	-
GP-9A	02/07/14	0.0	20.4	0.0
GP-9A	03/12/14	0.0	20.6	0.0
GP-9A	04/14/14	0.0	20.9	0.0
GP-9A	05/13/14 ⁴	0.0	19.9	-0.6
GP-9A	08/28/14	0.0	19.2	0.0
GP-9A	10/24/14	0.0	20.1	0.1
GP-9A	01/21/15	0.0	20.9	-0.1
GP-9A	04/17/15	0.0	20.1	0.0
GP-9A	07/31/15	0.0	20.5	0.0
GP-9A	10/22/15	0.0	20.0	-0.1
GP-9A	11/12/15	0.0	20.5	-0.4
GP-9A	12/17/15	0.0	20.7	0.0
GP-9A	01/21/16	0.0	20.4	-0.2
GP-9A	04/22/16	0.0	20.2	-0.6
GP-9A	07/27/16	0.0	18.7	0.1
GP-9A	10/26/16	0.0	19.1	0.0
GP-9A	01/10/17	0.0	19.6	0.0
GP-9A	04/05/17	0.0	18.8	-0.2
GP-9A	07/24/17	0.0	18.6	-0.2
GP-9A	10/30/17	0.0	18.3	1.0
GP-9A	01/24/18	0.0	19.8	-0.1
GP-9A	05/17/18	0.0	16.6	-0.1

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-9A	07/31/18	0.0	17.9	0.0
GP-9A	11/16/18	0.0	19.5	0.0
GP-9A	01/23/19	0.0	19.9	0.0
GP-9A	04/26/19	0.0	19.0	0.0
GP-9A	07/23/19	0.0	18.8	0.0
GP-9A	10/31/19	0.0	19.4	0.1
GP-9A	02/18/20	0.0	18.9	-0.1
GP-9A	06/23/20	0.0	18.6	0.1
GP-9A	08/17/20	0.0	17.5	0.0
GP-9A	11/05/20	0.0	19.2	0.8
GP-9A	01/20/21	0.0	20.5	0.4
GP-9A	04/22/21	0.0	19.6	0.3
GP-9A	10/21/21	0.0	20.1	0.2
GP-9A	03/28/22	0.0	19.4	0.0
GP-9A	05/26/22	0.0	19.8	-0.6
GP-9A	08/23/22	0.0	19.4	-0.4
GP-9A	12/06/22	0.0	19.4	-0.2
GP-10	08/27/08 ¹	1.2	5.3	0.0
GP-10	09/23/08	0.0	19.8	0.0
GP-10	09/25/08	0.0	19.2	-0.1
GP-10	10/02/08	0.0	20.8	-0.1
GP-10	10/07/08	0.0	20.6	0.0
GP-10	10/15/08	0.0	20.7	-0.1
GP-10	10/30/08	0.0	20.5	-0.1
GP-10	11/13/08	0.0	20.6	-0.2
GP-10	11/26/08	0.0	20.6	-0.2
GP-10	01/22/09 ²	0.0	21.3	-0.2
GP-10	02/05/09	0.0	21.3	-0.2
GP-10	02/17/09	0.0	20.9	-0.4
GP-10	03/16/09	0.0	20.6	-0.4
GP-10	04/24/09	0.0	20.4	-0.3
GP-10	05/20/09	0.0	20.3	-0.2
GP-10	06/23/09	0.0	20.0	-0.2
GP-10	07/23/09	0.0	19.9	0.0
GP-10	10/20/09	0.0	20.8	-0.1
GP-10	02/01/10	0.0	19.5	-0.1
GP-10	04/22/10	0.0	20.3	-0.1
GP-10	07/23/10	0.0	19.9	-0.1

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-10	10/22/10	0.0	20.7	0.0
GP-10	01/24/11	0.0	19.5	-0.1
GP-10	04/29/11	0.0	20.9	-8.4
GP-10	07/22/11	0.0	19.0	0.0
GP-10	10/26/11	0.0	19.7	0.0
GP-10	01/26/12	0.0	21.0	-0.1
GP-10	04/27/12	0.0	19.7	0.0
GP-10	07/25/12	0.0	19.6	0.0
GP-10	11/21/12	0.0	20.6	0.0
GP-10	12/21/12 ³	0.0	20.6	0.0
GP-10	01/03/13 ³	0.0	20.5	-0.1
GP-10	04/26/13	0.0	20.3	0.0
GP-10	07/25/13	0.0	20.0	0.0
GP-10	10/23/13	0.0	20.7	0.0
GP-10	01/10/14	0.0	19.8	-0.2
GP-10	02/07/14	0.0	20.2	0.0
GP-10	03/12/14	0.0	20.3	0.0
GP-10	04/14/14	0.0	20.2	0.0
GP-10	05/13/14 ⁴	0.0	20.3	-0.3
GP-10	08/28/14	0.0	19.8	-0.1
GP-10	10/24/14	0.0	20.4	0.0
GP-10	01/21/15	0.0	20.9	0.0
GP-10	04/17/15	0.0	20.4	0.0
GP-10	07/31/15	0.0	20.4	0.2
GP-10	10/22/15	0.0	20.4	-0.1
GP-10	11/12/15	0.0	20.7	-0.5
GP-10	12/17/15	0.0	19.9	-0.6
GP-10	01/21/16	0.0	20.7	-0.4
GP-10	04/22/16	0.0	20.5	-0.4
GP-10	07/27/16	0.0	18.7	0.0
GP-10	10/26/16	0.0	19.4	-0.3
GP-10	01/10/17	0.0	19.1	0.1
GP-10	04/05/17	0.0	19.0	0.2
GP-10	07/24/17	0.0	20.0	-0.2
GP-10	10/30/17	0.0	18.8	0.9
GP-10	01/24/18	0.0	20.7	0.0
GP-10	05/17/18	0.0	18.8	0.0
GP-10	07/31/18	0.0	18.3	0.0
GP-10	11/16/18	0.0	20.8	0.0

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-10	01/23/19	0.0	20.7	0.0
GP-10	04/26/19	0.0	19.8	-0.1
GP-10	07/23/19	0.0	19.0	0.0
GP-10	10/31/19	0.0	20.5	0.0
GP-10	02/18/20	0.0	18.7	-2.2
GP-10	06/23/20	0.0	18.7	0.2
GP-10	08/17/20	0.0	18.3	0.1
GP-10	11/05/20	0.0	20.4	0.6
GP-10	01/20/21	0.0	20.6	0.0
GP-10	04/22/21	0.0	20.4	0.2
GP-10	10/21/21	0.0	20.0	0.0
GP-10	03/28/22	0.0	18.9	0.0
GP-10	05/26/22	0.0	20.2	-0.2
GP-10	08/23/22	0.0	19.7	-0.1
GP-10	12/06/22	0.0	19.5	-0.2
GP-10A	08/27/08 ¹	18.3	0.0	0.0
GP-10A	09/23/08	0.6	10.2	-0.3
GP-10A	09/25/08	0.0	18.8	-0.4
GP-10A	10/02/08	0.0	20.8	-0.4
GP-10A	10/07/08	0.0	20.3	0.0
GP-10A	10/15/08	0.0	20.6	-0.5
GP-10A	10/30/08	0.0	20.4	-0.6
GP-10A	11/13/08	0.0	20.6	-0.6
GP-10A	11/26/08	0.0	20.6	-0.6
GP-10A	01/22/09 ²	0.0	21.3	-0.6
GP-10A	02/05/09	0.0	21.3	-0.6
GP-10A	02/17/09	0.0	20.9	-0.7
GP-10A	03/16/09	0.0	20.8	-0.9
GP-10A	04/24/09	0.0	20.3	-0.6
GP-10A	05/20/09	0.0	20.3	-0.4
GP-10A	06/23/09	0.0	20.2	-0.4
GP-10A	07/23/09	0.0	20.0	-0.2
GP-10A	10/20/09	0.0	20.9	-0.4
GP-10A	02/01/10	0.0	19.4	-0.3
GP-10A	04/22/10	0.0	20.4	-0.3
GP-10A	07/23/10	0.0	20.0	-0.3
GP-10A	10/22/10	0.0	20.9	-0.1
GP-10A	01/24/11	0.0	19.7	-0.3

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-10A	04/29/11	0.0	20.9	-5.8
GP-10A	07/22/11	0.0	19.1	-0.2
GP-10A	10/26/11	0.0	19.6	0.0
GP-10A	01/26/12	0.0	21.0	-0.3
GP-10A	04/27/12	0.0	19.7	0.0
GP-10A	07/25/12	0.0	20.1	0.0
GP-10A	11/21/12	0.0	20.7	0.0
GP-10A	12/21/12 ³	0.0	20.3	-0.2
GP-10A	01/03/13 ³	0.0	20.6	0.0
GP-10A	04/26/13	0.0	20.4	-0.2
GP-10A	07/25/13	0.0	20.2	-0.1
GP-10A	10/23/13	0.0	20.7	-0.1
GP-10A	01/10/14	0.0	19.6	-0.2
GP-10A	02/07/14	0.0	20.2	0.0
GP-10A	03/12/14	0.0	19.8	0.0
GP-10A	04/14/14	0.0	19.0	-0.1
GP-10A	05/13/14 ⁴	0.0	17.9	-0.4
GP-10A	08/28/14	0.0	18.3	-0.1
GP-10A	10/24/14	0.0	20.3	0.0
GP-10A	01/21/15	0.0	21.1	0.0
GP-10A	04/17/15	0.0	20.4	0.0
GP-10A	07/31/15	0.0	20.7	-0.1
GP-10A	10/22/15	0.0	20.2	-0.1
GP-10A	11/12/15	0.0	20.3	-0.6
GP-10A	12/17/15	0.0	20.2	-0.7
GP-10A	01/21/16	0.0	20.6	-0.6
GP-10A	04/22/16	0.0	20.3	-0.4
GP-10A	07/27/16	0.0	18.3	0.0
GP-10A	10/26/16	0.0	18.8	-0.3
GP-10A	01/10/17	0.0	18.8	0.0
GP-10A	04/05/17	0.0	18.7	0.0
GP-10A	07/24/17	0.0	20.1	-0.2
GP-10A	10/30/17	0.0	18.9	1.0
GP-10A	01/24/18	0.0	20.2	0.0
GP-10A	05/17/18	0.0	18.9	0.0
GP-10A	07/31/18	0.0	17.6	0.0
GP-10A	11/16/18	0.0	19.5	0.0
GP-10A	01/23/19	0.0	20.3	0.0
GP-10A	04/26/19	0.0	19.6	0.0

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-10A	07/23/19	0.0	18.5	0.0
GP-10A	10/31/19	0.0	19.8	-0.1
GP-10A	02/18/20	0.0	16.9	-0.3
GP-10A	06/23/20	0.0	18.7	0.2
GP-10A	08/17/20	0.0	18.1	0.0
GP-10A	11/05/20	0.0	19.7	0.6
GP-10A	01/20/21	0.0	20.6	0.1
GP-10A	04/22/21	0.0	20.2	0.2
GP-10A	10/21/21	0.0	20.1	0.0
GP-10A	03/28/22	0.0	20.2	0.0
GP-10A	05/26/22	0.0	20.1	-0.3
GP-10A	08/23/22	0.0	19.6	-0.1
GP-10A	12/06/22	0.0	19.6	-0.2
GP-11	08/27/08 ¹	0.0	14.9	0.0
GP-11	09/23/08	0.0	15.3	0.0
GP-11	09/25/08	0.0	16.5	0.0
GP-11	10/02/08	0.0	19.2	0.0
GP-11	10/07/08	0.0	19.0	0.0
GP-11	10/15/08	0.0	19.3	0.0
GP-11	10/30/08	0.0	19.7	0.0
GP-11	11/13/08	0.0	20.2	0.0
GP-11	11/26/08	0.0	20.2	0.0
GP-11	01/22/09 ²	0.0	20.5	-1.0
GP-11	02/05/09	0.0	20.5	-1.0
GP-11	02/17/09	0.0	21.0	0.0
GP-11	03/16/09	0.0	20.7	0.0
GP-11	04/24/09	0.0	19.4	0.0
GP-11	05/20/09	0.0	18.9	0.0
GP-11	06/23/09	0.0	18.2	0.0
GP-11	07/23/09	0.0	18.6	0.0
GP-11	10/20/09	0.0	20.3	0.0
GP-11	02/01/10	0.0	19.6	0.0
GP-11	04/22/10	0.0	17.6	0.0
GP-11	07/23/10	0.0	15.5	0.0
GP-11	10/22/10	0.0	17.2	0.0
GP-11	01/24/11	0.0	17.0	0.0
GP-11	04/29/11	0.0	19.0	-14.2
GP-11	07/22/11	0.0	15.5	0.0

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-11	10/26/11	0.0	19.4	0.0
GP-11	01/26/12	0.0	20.6	0.0
GP-11	04/27/12	0.0	18.3	0.0
GP-11	07/25/12	0.0	13.5	0.0
GP-11	11/21/12	0.0	20.2	0.0
GP-11	12/21/12 ³	0.0	19.9	0.0
GP-11	01/03/13 ³	0.0	20.4	-0.3
GP-11	04/26/13	0.0	18.1	0.0
GP-11	07/25/13	0.0	17.5	0.0
GP-11	10/23/13	0.0	19.9	-0.1
GP-11	01/10/14	0.0	19.3	-0.6
GP-11	02/07/14	0.0	19.3	0.0
GP-11	03/12/14	0.1	19.9	0.1
GP-11	04/14/14	0.0	23.1	-0.2
GP-11	05/13/14 ⁴	0.0	17.7	-0.2
GP-11	08/28/14	0.0	14.3	0.0
GP-11	10/24/14	0.0	19.7	0.0
GP-11	01/21/15	0.0	20.5	0.0
GP-11	04/17/15	0.0	20.1	0.0
GP-11	07/31/15	0.0	11.3	0.0
GP-11	10/22/15	0.0	19.9	0.0
GP-11	11/12/15	0.0	17.5	-2.0
GP-11	12/17/15	0.0	19.7	-0.4
GP-11	01/21/16	0.0	20.6	-0.1
GP-11	04/22/16	0.0	17.4	0.0
GP-11	07/27/16	0.0	16.2	0.0
GP-11	10/26/16	0.0	17.1	-0.3
GP-11	01/10/17	0.0	19.9	0.0
GP-11	04/05/17	0.0	18.7	0.0
GP-11	07/24/17	0.0	20.3	0.0
GP-11	10/30/17	0.0	18.2	0.9
GP-11	01/24/18	0.0	20.8	0.1
GP-11	05/17/18	0.0	17.0	0.0
GP-11	07/31/18	0.0	17.5	0.0
GP-11	11/16/18	0.0	21.1	0.0
GP-11	01/23/19	0.0	19.7	0.0
GP-11	04/26/19	0.0	18.1	0.0
GP-11	07/23/19	0.0	15.2	0.0
GP-11	10/31/19	0.0	16.8	0.0

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-11	02/18/20	0.0	20.1	0.0
GP-11	06/23/20	0.0	15.0	0.2
GP-11	08/17/20	0.0	13.9	0.1
GP-11	11/05/20	0.0	19.0	0.4
GP-11	01/20/21	0.0	20.2	0.2
GP-11	04/22/21	0.0	18.0	0.0
GP-11	10/21/21	0.0	19.6	0.0
GP-11	03/28/22	0.0	18.9	0.0
GP-11	05/26/22	0.0	16.1	-0.1
GP-11	08/23/22	0.0	17.7	-0.1
GP-11	12/06/22	0.0	19.3	-0.2
GP-11A	08/27/08 ¹	4.1	0.0	0.0
GP-11A	09/23/08	3.4	0.0	-0.2
GP-11A	09/25/08	0.0	14.7	-0.6
GP-11A	10/02/08	0.0	19.1	-0.6
GP-11A	10/07/08	0.0	19.3	-0.4
GP-11A	10/15/08	0.0	19.5	-0.8
GP-11A	10/30/08	0.0	20.0	-0.8
GP-11A	11/13/08	0.0	20.2	-0.9
GP-11A	11/26/08	0.0	20.2	-0.9
GP-11A	01/22/09 ²	0.0	21.2	0.0
GP-11A	02/05/09	0.0	21.2	0.0
GP-11A	02/17/09	0.0	20.9	-1.2
GP-11A	03/16/09	0.0	20.8	-1.5
GP-11A	04/24/09	0.0	20.0	-1.3
GP-11A	05/20/09	0.0	19.6	-0.9
GP-11A	06/23/09	0.0	20.0	-1.2
GP-11A	07/23/09	0.0	19.9	-1.0
GP-11A	10/20/09	0.0	20.8	-1.2
GP-11A	02/01/10	0.0	19.4	-0.9
GP-11A	04/22/10	0.0	20.4	-1.1
GP-11A	07/23/10	0.0	20.0	-1.2
GP-11A	10/22/10	0.0	19.1	-0.9
GP-11A	01/24/11	0.0	19.4	-1.2
GP-11A	04/29/11	0.0	20.7	-8.6
GP-11A	07/22/11	0.0	19.1	-1.2
GP-11A	10/26/11	0.0	19.6	-0.7
GP-11A	01/26/12	0.0	20.7	-0.8

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-11A	04/27/12	0.0	18.5	-0.6
GP-11A	07/25/12	0.0	15.6	-0.4
GP-11A	11/21/12	0.0	20.6	-0.4
GP-11A	12/21/12 ³	0.0	20.2	-0.5
GP-11A	01/03/13 ³	0.0	20.2	-0.1
GP-11A	04/26/13	0.0	20.2	-1.0
GP-11A	07/25/13	0.0	18.1	-0.5
GP-11A	10/23/13	0.0	19.6	-0.4
GP-11A	01/10/14	0.0	19.6	0.0
GP-11A	02/07/14	0.0	19.7	0.9
GP-11A	03/12/14	0.1	19.6	0.0
GP-11A	04/14/14	0.0	19.0	0.1
GP-11A	05/13/14 ⁴	0.0	18.3	-1.2
GP-11A	08/28/14	0.0	16.1	-0.6
GP-11A	10/24/14	0.0	19.5	-0.3
GP-11A	01/21/15	0.0	20.5	-0.4
GP-11A	04/17/15	0.0	20.3	0.0
GP-11A	07/31/15	0.0	20.5	-0.7
GP-11A	10/22/15	0.0	19.6	0.0
GP-11A	11/12/15	0.0	19.2	-0.6
GP-11A	12/17/15	0.0	19.9	-0.4
GP-11A	01/21/16	0.0	20.1	-0.2
GP-11A	04/22/16	0.0	19.0	-0.2
GP-11A	07/27/16	0.0	16.1	-0.1
GP-11A	10/26/16	0.0	15.6	-0.4
GP-11A	01/10/17	0.0	17.9	0.0
GP-11A	04/05/17	0.0	16.4	-0.1
GP-11A	07/24/17	0.0	17.7	0.0
GP-11A	10/30/17	0.0	17.0	0.9
GP-11A	01/24/18	0.0	20.8	0.0
GP-11A	05/17/18	0.0	18.3	0.0
GP-11A	07/31/18	0.0	16.8	0.0
GP-11A	11/16/18	0.0	21.1	-0.1
GP-11A	01/23/19	0.0	19.7	-0.1
GP-11A	04/26/19	0.0	17.3	-0.2
GP-11A	07/23/19	0.0	15.0	0.0
GP-11A	10/31/19	0.0	16.8	0.0
GP-11A	02/18/20	0.0	20.4	-0.2
GP-11A	06/23/20	0.0	15.6	0.2

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**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-11A	08/17/20	0.0	16.9	0.0
GP-11A	11/05/20	0.0	17.3	0.2
GP-11A	01/20/21	0.0	19.9	0.4
GP-11A	04/22/21	0.0	18.5	0.2
GP-11A	10/21/21	0.0	18.2	0.2
GP-11A	03/28/22	0.0	19.7	0.0
GP-11A	05/26/22	0.0	18.8	-0.1
GP-11A	08/23/22	0.0	17.5	-0.1
GP-11A	12/06/22	0.0	18.3	NA ²
GP-12	08/27/08 ¹	0.0	18.2	0.0
GP-12	09/23/08	0.0	18.9	0.0
GP-12	09/25/08	0.0	18.4	0.0
GP-12	10/02/08	0.0	20.4	0.0
GP-12	10/07/08	0.0	20.4	0.0
GP-12	10/15/08	0.0	20.4	0.0
GP-12	10/30/08	0.0	20.1	0.0
GP-12	11/13/08	0.0	20.4	0.0
GP-12	11/26/08	0.0	20.4	0.0
GP-12	01/22/09 ²	0.0	21.1	0.0
GP-12	02/03/09	0.0	21.1	0.0
GP-12	02/17/09	0.0	20.8	0.0
GP-12	03/16/09	0.0	20.7	0.0
GP-12	04/24/09	0.0	20.2	0.0
GP-12	05/20/09	0.0	20.3	0.0
GP-12	06/23/09	0.0	19.5	0.0
GP-12	07/23/09	0.0	19.5	-0.1
GP-12	10/20/09	0.0	20.8	0.0
GP-12	02/01/10	0.0	19.7	0.0
GP-12	04/22/10	0.0	19.9	0.0
GP-12	07/23/10	0.0	19.5	0.0
GP-12	10/22/10	0.0	19.9	0.0
GP-12	01/24/11	0.0	19.5	0.0
GP-12	04/29/11	0.0	20.5	-8.4
GP-12	07/22/11	0.0	18.1	0.0
GP-12	10/26/11	0.0	19.5	0.0
GP-12	01/26/12	0.0	20.9	0.0
GP-12	04/27/12	0.0	19.1	0.0
GP-12	07/25/12	0.0	18.8	0.0
GP-12	11/21/12	0.0	20.5	0.0

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-12	12/21/12 ³	0.0	20.4	0.0
GP-12	01/03/13 ³	0.0	20.6	0.0
GP-12	04/26/13	0.0	20.1	0.0
GP-12	07/25/13	0.0	20.0	0.0
GP-12	10/23/13	0.0	20.5	0.0
GP-12	01/10/14	0.0	19.9	-0.1
GP-12	02/07/14	0.0	20.2	0.8
GP-12	03/12/14	0.0	21.1	0.1
GP-12	04/14/14	0.0	17.9	-0.2
GP-12	05/13/14 ⁴	0.0	19.8	0.0
GP-12	08/28/14	0.0	19.7	0.0
GP-12	10/24/14	0.0	20.3	0.0
GP-12	01/21/15	0.0	20.7	0.0
GP-12	04/17/15	0.0	20.0	0.0
GP-12	07/31/15	0.0	19.4	0.0
GP-12	10/22/15	0.0	20.3	0.0
GP-12	11/12/15	0.0	19.9	-0.1
GP-12	12/17/15	0.0	20.4	-0.6
GP-12	01/21/16	0.0	20.8	0.0
GP-12	04/22/16	0.0	20.0	0.0
GP-12	07/27/16	0.0	19.2	0.0
GP-12	10/26/16	0.0	20.2	-0.4
GP-12	01/10/17	0.0	20.4	0.1
GP-12	04/05/17	0.0	20.1	0.0
GP-12	07/24/17	0.0	20.2	0.0
GP-12	10/30/17	0.0	20.3	0.8
GP-12	01/24/18	0.0	20.3	0.0
GP-12	05/17/18	0.0	18.7	0.0
GP-12	07/31/18	0.0	18.1	0.1
GP-12	11/16/18	0.0	20.9	-0.2
GP-12	01/23/19	0.0	20.7	0.0
GP-12	04/26/19	0.0	19.2	0.0
GP-12	07/23/19	0.0	18.4	0.0
GP-12	10/31/19	0.0	19.7	0.0
GP-12	02/18/20	0.0	18.9	-2.1
GP-12	06/23/20	0.0	18.7	0.2
GP-12	08/17/20	0.0	18.0	0.0
GP-12	11/05/20	0.0	20.4	0.2
GP-12	01/20/21	0.0	20.6	0.2

Appendix E.4

**Historical Gas Probe Monitoring Data
New Richmond Landfill (#2492)
New Richmond, Wisconsin**

Location	Date	Combustible		Pressure (in H ₂ O)
		Gas (%)	Oxygen (%)	
GP-12	04/22/21	0.0	20.1	0.4
GP-12	10/21/21	0.0	20.6	0.1
GP-12	03/28/22	0.0	19.5	0.0
GP-12	05/26/22	0.0	19.7	-0.1
GP-12	08/23/22	0.0	19.8	0.0
GP-12	12/06/22	0.0	19.9	-0.3

Notes:

¹ Pre-startup readings

² System was restarted on 1-19-2009 after being down for a month for SVE well cleaning and condensate collection system installation.

³ System was shutdown on 11/21/12 following monthly monitoring for 1 month shutdown period. Post 1 month shutdown monitoring was conducted at startup (12/21/12) and two weeks after startup (1/3/13).

⁴ System was shutdown on 01/10/13 for 4 month shutdown period. Post 4 month shutdown monitoring was conducted at startup (05/13/14). Based on the results, gas probes were not monitored on 05/28/14.

⁵ Not measured. Unable to locate.

With approval from the WDNR on 10/21/15, System modifications occurred on 10/29/15. Modifications included operating the system on a part time schedule (16 hrs/day), turning off select SVE wells, and adjusting the LFG wells to focus extraction in the vicinity of the GP-2 nest.

Appendix F

Unscheduled LFG/SVE System Shutdowns

Appendix F **Unscheduled LFG/SVE System Shutdowns** **New Richmond Landfill (#2492)** **New Richmond, Wisconsin**

There were five (5) unscheduled LFG/SVE system shutdowns during 2022 (January 1, 2022 to December 31, 2022). They were as follows:

- On January 21, 2022, the system shut down due to a vapor/liquid separator high level alarm, because the large 400-gallon condensate storage tank within the building had become filled. The knockout tank was drained, the sump was pumped out, the peristaltic pump was moved back to the large storage tank after both condensate storage tanks were pumped out, and the system was restarted on January 31, 2022.
- On March 13, 2022, the system shut down due to a vapor/liquid separator high level alarm. The sump was full and iced over, the knockout tank was full, and the condensate peristaltic pump had a bad hose and belt which were replaced. The knockout tank was drained, the sump was pumped out, and the system was restarted on March 28, 2022.
- On May 8, 2022, the system shut down due to a vapor/liquid separator high level alarm, because the large condensate storage tank within the building had reached capacity. The knockout tank was drained, the sump and the condensate storage tanks were pumped out, and the system was restarted on May 26, 2022.
- On August 29, 2022, the system shut down due to a vapor/liquid separator high level alarm, because of a full sump. The knockout tank was drained, the sump was pumped out, and the system was restarted on August 30, 2022.
- On November 19, 2022, the system shut down due to a vapor/liquid separator high level alarm. The heater was not working upon arrival. The knockout tank was drained although ice remained, the sump was pumped out to ground, the timer was reset, and the peristaltic pump unplugged. The City of New Richmond were notified, and they brought out a portable electric heater and confirmed the baseboard heater is working. On December 6, 2022, the system was restarted after draining the knockout tank.